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THE LAND UTILIZATION PROGRAM IN THE SOUTHERN GREAT PLAINS[1]

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THE circumstances which have brought about the present distressing condition in which much of the Southern Great Plains region finds itself have, of late, received a great amount of publicity and are so well known that I shall content myself with presenting merely an outline of the chain of circumstances which have transformed some of the finest grazing land in the country into what is now being called the "dust bowl."

It has been said that the history of the Southern Great Plains region has been, for the past 60 years, a story of exploitation. A half century of over-grazing by some cattlemen was bad enough, but the damage they did was nothing compared to what happened during the 1920's. High wheat prices, favorable moisture conditions, and the introduction of farm machinery did the job. The residents were too busy making money to remember that earlier experiments in speculative dryland farming had not produced altogether happy results. The inevitable drought finally came, and with it came disaster.

The settlement of much of the Great Plains took place in accordance with a policy which was destined to place the largest portion of the area under private control as expeditiously as possible. The Federal Government, the state and territorial governments, the railroads and the multitude of speculators all desired to bring settlers into the country. The Homestead Laws have had a great deal to do with hasty settlement.

[1] Address at the meeting of the Southwestern Division of the American Association for the Advancement of Science, Albuquerque, N. Mex., April 25, 1938.

They propagated the idea that 160 or 320, and later 640, acres of land were sufficient on which to make a living. They placed stress upon "improving" the land which, in this case, of course, meant to bring it into crops. Thus, it was attempted—and, in the beginning with a measure of success—to produce crops on land that was suited only for pasture. The farming methods and the climatical conditions were such that this procedure became extremely hazardous, and finally led to severe depletion of the land resources. The results were disastrous, from any angle one chooses to look at them. The system of agriculture which has been put into operation disregards entirely the natural conditions. A few seasons with plentiful moisture will not bring prosperity back. The problem goes much deeper than that. It is necessary to restore the balance which has been upset—a balance which was disturbed in but a few years and which it will take a long time to restore. Droughts, with their consequences of erosion, have left in their wake hundreds of thousands of acres of damaged and abandoned land, and have brought about wholesale impoverishment of farmers in certain sections of the region. Great areas depend for their very existence upon government subsidies, and the old-time stockman, and even the old-time farmer who lived on his own homestead has largely disappeared. Instead, we find a new type of migratory tenant farmer whose principal means of subsistence is derived from federal subsidies—the average expenditure of federal monies has been in excess of $300 for every man, woman and child in the 14 southwestern Kansas counties alone.

During the years between 1890 and 1895, when a severe drought prevailed in these areas, attention was temporarily directed toward more sensible land-use practices. It was then realized that in the Great Plains an agricultural economy, based solely upon cash crops, was hazardous, if not hopeless. These lessons were forgotten only too soon. At present, popular opinion has again swung toward recognition of the fact that most of these areas are not suitable for cash crop production, although this popular thinking is very often obscured by the influence of certain commercial interests which favor the type of program which would immediately bring the greatest amount of money to the towns. Some of them favor continued loans for the planting of wheat in the hope that with good moisture conditions bumper crops may again be harvested. The argument is heard that one good crop would make up for many failures; that conservation policies such as return to grass would accentuate emigration, etc. Unfortunately, these interests are in a position to make their viewpoints prevail, in the face of evidence which nature accumulates on their very doorsteps. The long-range effect of the type of program that they would favor is apparently lost sight of now, as it was in the nineties.

Conditions are, of course, very dissimilar from what they were in the late nineties. Most of the land is in private hands and a great deal of it is owned by absentee landlords (in some counties, almost half of it), whose main income is derived from other sources. Community patterns, with their governmental and civic organizations, have been set up, and a great deal of capital has been invested. Real estate companies and their agents have sold vast tracts of land to investors as far distant as the Atlantic seaboard. Towns have sprung up and multitudes of services have been established. Lately many of these services have been withdrawn, including school facilities, postal service and certain local business enterprises. For a while, the contentions of the various promoters seemed to be borne out by a combination of bountiful crops and good prices which were obtained during the war and post-war years. The population increased very rapidly and so did the area under cultivation. Then the weather cycle moved and several dry years followed, with the resulting catastrophic conditions which are, in some instances, beyond the power of description. Crops became complete failures, taxes, mortgages, etc., became delinquent, and the highways were crowded with farmers who drifted away as they had drifted in. Fiscal conditions, while extremely precarious, do not present a real picture, since the federal land bank and the insurance companies keep taxes paid on all lands on which they hold mortgages. The true effects of the situation are cushioned to a very great extent by governmental policies which have put a stream of federal monies, subsidies, grants and loans of every description into these areas. What would have happened without them is hard to say. But there is no doubt that emigration and abandonment of farmsteads and towns would have been accentuated and that human misery would have increased immensely. Some authorities, as a matter of fact, insist that the relief of human misery is the only justification for the millions expended in these areas; they state, with considerable evidence to back them up, that much of this money served only to encourage harmful practices and that, from a purely physical point of view, the country would have been better off if it had been permitted to find its own level. Increased abandonment would have left the fields to weeds and grass, and some sort of cover would have been restored. Instead of that, various types of subsidies financed such practices as breaking up the land year after year in a futile endeavor to raise wheat.

At present, there are wide areas unfit for agricultural pursuits of any kind, and it is doubtful whether some of them would revert to grass or even weeds without re-seeding and mechanical assistance, even

under ideal conditions. Much more is now known about the soils of the region than was known a few years ago. The region as a whole contains approximately 100,000,000 acres, of which about one third have been put into cultivation. About twelve to thirteen million acres are deep, heavy High Plains soils, extending through sections of western Kansas, the Oklahoma Panhandle and the Plains of Texas. These soils are very fertile and of such a character that they respond readily to water-conserving and crop-management practices. In view of the extremely severe conditions that have prevailed, they have been only moderately affected by wind erosion. These soils could be brought under control by the use of contour tillage, summer fallowing or the use of proper crops, practices that would increase the rate of water penetration into the soil and would also distribute the moisture more equally. Even on such soils, farmers should take care that their economy is flexible enough to take care of the years when wheat crops would be a complete failure. Experiment stations have established the fact that it is folly to plant wheat when at the time of planting the soil moisture is less than 24 inches.

There are approximately six million acres of medium-depth sandy soils in the region. About 20 per cent. of these lands have been so seriously damaged that they will have to be retired from cultivation. If farmed properly, such soils are excellent for the production of row crops, but this type of land is extremely susceptible to wind erosion if not properly managed.

The third group of soils is the medium type, High Plains soil found in eastern Colorado and western Kansas. Such lands do not hold water well, and the run-off is very high. About four million acres of such soils are under cultivation now, most of them badly eroded. This land should be used for grazing purposes.

Finally, there are certain types of sandy soils which never, under any circumstances, should have been placed under cultivation. Some are too sandy for crop production and others are too shallow and have no capacity for water storage.

Thus, one of the primary tasks which confronts us is to retire some six million acres from crop production. There are considerable areas where mere retirement would be insufficient. Mechanical aid will have to be used to restore cover to these lands.

The Department of Agriculture has felt that a problem of such dimensions, which in its ultimate effects is bound to have wide repercussions upon the entire nation, could be properly handled only if the efforts of the department and its various agencies were combined and harmonized by a coordinator. A unity of program and the exchange of information among such agencies as the Soil Conservation Service, the Farm Security Administration, the Forest Service, the Bureau of Agricultural Economics and the AAA, is bound to facilitate this cooperation very greatly. Under this program other agencies, such as the Extension Service of the various state colleges and the various units of the Farm Credit Administration, are sending their representatives to planning meetings and conferences which already have brought about some very desirable results. Data have been secured by the research divisions of these many agencies pertaining to soil and land classification and to water resources. Economic and sociological surveys have been made by the former Land Use Planning Division of the Resettlement Administration, and innumerable maps, charts and data are available, giving detailed analyses of the land-use facilities, fiscal conditions and credit, school district and tax situations of the various counties of the Dust Bowl. Funds for the purchase of submarginal lands have been made available under Title III of the Bankhead-Jones Act. Under this program, the government purchases lands in the worst areas and retires them from use and, after cover is restored, permits them to be used by local grazing associations. Leases also will be granted to individuals, but governmental supervision will be retained. The Farm Security Administration, through its loans to farmers made contingent on a well-balanced farm plan, as well as upon sufficient soil moisture where loans are made for crop purposes, plays an extremely important rôle. This will be particularly the case when the long-term leases, which are designed to increase the size of units now too small to afford a living to a family, go into effect.

The machinery through which many of these adjustments are expected to be brought about is the Soil Conservation District, of which a number are being set up in the various states. It is the plan of the various agencies to fit their individual programs, with local cooperation, into the programs of these districts. The main obstacle will be overcome as soon as the public is educated to the ultimate benefits to be gained through cooperation. Through this democratic process, it is desired to make the program indigenous and adaptable to the area rather than have it imposed upon the population by Washington decree. Still, in some quarters, it is felt that real progress with respect to the necessary adjustments will be made only when either the local governmental units or the Federal Government will be in a position to control the land through ownership, lease or powers such as the Soil Conservation Districts exercise. Zoning laws, such as exist in Wisconsin, for example, are one approach which has proved effective. Although a great deal of further research is necessary, we have much of the technical knowledge necessary to rehabilitate the area, purely from a physical point of view. Great complications arise when we contemplate how to develop farm

units which will insure the farmers of the area at least a living, even during the bad years. The farm management experts of the department are devoting a great deal of effort to the solution of this problem. The Soil Conservation Service and the Bureau of Agricultural Economics are both endeavoring to bring about the necessary mechanical and physical adjustments at a cost which can be borne by the farmers.

The Bureau of Agricultural Economics which, through its Land Utilization Program, administers the provisions authorized under Title III of the Bankhead-Jones Farm Tenant Act, maintains regional offices at Amarillo, Texas. The region comprises the states of New Mexico, Kansas and Colorado, and parts of Texas and Oklahoma. Its Land Economics staff is engaged in research work to study the long-range phases of the program. It also functions as a service organization to assist those staff members who are engaged in action programs. Studies carried on include land classification, soil reconnaissance, range studies, public finance and agricultural credit, flood control and underground and surface water studies. A staff of state planning specialists, with offices in each state of the region, assists in keeping in close touch with local programs and with the state colleges. The Farm Management staff of the bureau conducts intensive studies designed to enable the bureau to present recommendations for well-balanced farm plans. The Project Organization staff prepares plans and submits purchase projects; the Land Acquisition staff secures options and acquires the land. The Land Development staff is engaged in supervising the building of numerous dams and will have charge of the development work on the purchase projects; at present it is also engaged in development work on the old land use projects.

The Agricultural Adjustment Administration can eliminate a great many of the present difficulties by making its payments contingent upon the performance of soil-conserving practices.

The states and local governmental units have a responsibility in this matter which, so far, many of them have failed to meet. Many land owners would restore their land to grass if they were not discouraged from doing so by the tax situation which prevails. There should be a wide differentiation between the tax rates on regular crop land and on that which is more suitable for grazing land.

A more responsible ownership of land must be brought about if any improvement in land use is to be achieved. The present pattern of ownership is conducive to the worst kind of land use. The proportion of non-resident land ranges from 50 per cent. in some of the southwestern Kansas counties to as high as 83 per cent. in others. Land operated by non-resident owners is generally abused. The same applies, to a certain extent, to the tenant farmer who, because of his short lease, must plan his operations on a year-to-year basis, and is not, therefore, interested in a sound and efficient farming program. These are important factors causing the exploitation rather than the conservation of the soil. The Farm Tenancy Program is expected to play a very important part in the restoration of land ownership. Although only a small beginning is being made at present, it is considered a step in the right direction. The delineation of problem areas is proceeding. Such areas are being designated on the basis of soil reconnaissance, present land use, underwater facilities and fiscal conditions. Much of the research is carried on in cooperation with the local state colleges. A wise use of the credit opportunities provided by the Federal Government and other agencies will be important in restoring the land to a self-sustaining basis. With land purchases within the Soil Conservation Districts as nuclei, with agreements with states and large landholders, with demonstrations to farmers of what a well-designed land utilization program can do, it is hoped that effective adjustments will be brought about. That this will take considerable time is obvious, but it is hoped that the lessons learned will not be forgotten too soon, and that the demonstrations will prove effective in bringing about improved land use adjustments.

OBITUARY

OTTO HILGARD TITTMANN

OTTO HILGARD TITTMANN was born at Belleville, Ill., on August 20, 1850, and died at Leesburg, Va., on August 21, 1938. He was buried at the latter place on August 24.

He entered the service of the U. S. Coast Survey (later designated the U. S. Coast and Geodetic Survey) in 1867 and was assigned to field duty. As a result of his strict attention to the tasks assigned him he rose to the position of superintendent of the survey in 1900 and remained in this capacity until his resignation in 1915, after 48 years of service.

Among his important assignments were those of assistant astronomer with the expedition sent to Japan in 1874 to observe the transit of Venus; in charge of the Office of Standard Weights and Measures from 1887 to 1895; assistant in charge of the office from 1895 to 1899; assistant superintendent, 1899 to 1900; member of the Permanent Commission of the International Geodetic Association from 1901 to 1915; and delegate, representing the United States, to the meetings of that association in 1895, 1903, 1906, 1909 and 1912.

In addition to his duties with the Coast and Geo-