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U. S. Department of Agriculture

**REPORT OF THE CHIEF**  
**OF THE**  
**BUREAU *of***  
**AGRICULTURAL ECONOMICS**  
**1940**

1939/40



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## REPORT OF THE CHIEF OF THE BUREAU OF AGRICULTURAL ECONOMICS, 1940

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UNITED STATES DEPARTMENT OF AGRICULTURE,  
BUREAU OF AGRICULTURAL ECONOMICS,  
*Washington, D. C., August 31, 1940.*

HON. HENRY A. WALLACE,  
*Secretary of Agriculture.*

DEAR MR. SECRETARY: I herewith present the report of the Bureau of Agricultural Economics for the fiscal year ended June 30, 1940.

Sincerely yours,

HOWARD R. TOLLEY, *Chief.*

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### THE YEAR

The outbreak of the European war was the major event affecting the work of the Bureau of Agricultural Economics during the year. It was at once apparent that the war would have serious effects, both immediate and far-reaching, upon the agricultural and total economy of the United States.

It was clear, too, that these effects would be translated, sooner or later, into new demands upon the programs devised by National and State Governments in recent years for agricultural adjustment, for rehabilitation and conservation of the Nation's physical agricultural resources, and for the security of farmers on the land.

The Bureau of Agricultural Economics is the medium through which the separate units of the Department plan the activities of the total Department of Agriculture. It is also the focus of the Department's social and economic research.

These twin activities, in practice, merge into a single endeavor, as do the Bureau's promotion of farmer participation in shaping programs and of cooperative program formulation in the Department in Washington; the former a responsibility shared with the land-grant colleges. The fact of war abroad, therefore, was bound to touch, directly or indirectly, almost every phase of the Bureau's work.

The democratic basis previously developed prepared the Bureau to

deal with the changed conditions, and was proved suited as much to the abnormal conditions as to peacetime; far from perfect, it has yet operated with enough efficiency to indicate that such a democratic medium can meet the urgent demands of a deepening crisis. In so doing, it can provide a means of effective governmental operation in a time of national emergency with a minimum loss of personal initiative and participation.

The succeeding pages discuss the Bureau's work in the fiscal year that ended June 30, 1940. The opening section of the report deals with some of the duties specifically related to national defense.

Vital information was furnished the National Defense Advisory Commission and the Nation's military establishment in reply to questions that ranged from the number of men who could be spared from agriculture to the possibilities of developing complementary agricultural products in South America, from decentralization of new industries to the adequacy of supplies of commodities needed for defense.

Within the Department, the Bureau undertook similar tasks. The Secretary of Agriculture was kept informed of the influence of war upon prices, supplies, and production. Services to other agencies multiplied as the war advanced.

But the Bureau's ultimate goals remained unchanged. These goals would have been much the same if the war had not occurred, and may be expected to be of importance after it ends. In defense activities, the view has been that a healthy economy and a healthy society are the surest bulwarks of the Nation. That view derives from the basic assumption of the Bureau, now as in the past, that it is in partnership with the people on the farms of this country—a partnership designed to bring more of the good things and ways of life to *all* farm people.

Outstanding in its efforts to keep translating this idea into facts is organized land use planning. This program is a joint effort by the Bureau, the Extension Service, and the land-grant colleges to set up committees through which farmers and agricultural agencies may assess their problems and proposals for solutions, and may originate their own recommendations for action. At the end of fiscal year 1940, approximately 10,000 such groups were engaged in the diagnosis of economic ailments.

As a part of this effort, the technical divisions of the Bureau supplied the facts and counsel needed by these committees. At the same time, these divisions were pressing research that in the future may supply similar materials for formulators of programs. Work of analyzing regional and other area needs continued. The process of cooperative formulation of programs in the Department was strengthened. And in a series of formal publications, in the nature of general reports to the Nation on matters of high public policy, the Bureau conducted its work of presenting for national discussion the facts out of which national policy grows.

### THE WAR AND THE BUREAU

When the European war broke out in September 1939, the Bureau was engaged with the land-grant colleges in sponsoring the land use planning activity which involves the establishment, at county, State, and national levels, of committees of farmers, technicians, and admin-



istrators. It was unfortunate that these committees should be faced thus early in their collective existences with problems posed by war. Few, however, have dealt directly with problems growing out of the European war, as such, during the year.

Nevertheless, the violence of the forces loosed was softened for most farmers by the Government programs that had been solidly built during the greater part of the previous decade. Some time thus has been allowed for land use planning procedures to develop and mature despite the war.

Significance of the land use planning effort in national defense is threefold: (1) Its outstanding possibility is that it will provide a means for effective participation by farmers themselves in action to deal with problems of emergency. In other words, the work may very well prove to be one of the devices whereby democracy can meet the challenge of other systems and still remain democracy in so doing; (2) this process offers a readily available means of welding diverse elements of a national effort, so far as agriculture is concerned, into a single effective whole; and (3) it offers a similar means of fitting a national effort to local conditions. It may be expected that in these respects the planning work will grow in importance.

The strengthening of this framework during the year, therefore, should be stressed in any consideration of the national defense. But meanwhile immediate demands were being made upon the Bureau in the day-by-day work of government, as a result of the war abroad, and efforts to meet these demands were vigorous.

The present conflict is so far-reaching in its effects that agriculture in the years immediately ahead is likely to be called upon to make extensive readjustments in the use of its plant and personnel. The type of production adjustments that may be called for may range all the way from drastic curtailment of output to considerable expansion. The changes that may be necessary, and the lines of action that should be followed to achieve these changes at the least social cost, may well be planned for all the major situations that are likely to arise.

Changes in agricultural production and resulting incomes to farmers and to farm labor have important repercussions on the whole national economy, and the effects of unguided adjustment have proved costly and prolonged. The plow-up, during and after the World War, of many acres of submarginal land in the Great Plains is an instance. This plow-up laid the foundation of our present soil erosion problem in this region.

With such examples in view, the Bureau has studied probable effects, area by area, if it becomes necessary either to expand or to contract agricultural production. This study involves an inventory of our present productive capacity.

As an integral part of the national defense activities of the Bureau, the production, domestic and foreign trade, surpluses, and prices of 92 important products have been summarized and carded for the use of the National Defense Commission. Brief statements concerning 18 essential commodities also were supplied, and special analyses were prepared, among them a report on the world tin situation, and one on dehydration of fruits and vegetables.

The Bureau is actively participating in the study which is now under way by a number of governmental agencies relating to the

location of vital industries. Coordinate with this type of national defense planning is hemispheric defense planning, and studies are being made of agricultural trade between South America and the United States with a view toward planning for the extension of that trade and for the self-sufficiency of the Americas. Price relationships of competitive and noncompetitive products in the United States and other American countries are a part of this study.

Working both with the War Department and the Defense Commission, the Bureau has helped to develop information about the availability of rural manpower for military as well as nonmilitary purposes. Much was done to develop the relationship of rural unemployment to defense measures.

During the year studies have been made showing the number of men that can be released from farming and the number needed to operate the present farm plant; regional differences in the volume and rate of growth of farm youth not needed for agricultural production; and numbers, characteristics, and distribution of farm workers in the several parts of the country.

Studies have been made of farm labor requirements and means of adjusting the supply of farm laborers to the demand. On the basis of information furnished by such studies, it is possible to develop plans for estimating the need for workers, for directing their movements in response to emergency changes in labor supply, and for expediting information and placement activities of the national employment service.

The Bureau is making a study of the mechanical aptitudes and skills of rural people now available for work. Similar studies being conducted on housing, health and welfare, and standards of living of farm people will provide additional information which will be of use in the defense program.

#### ECONOMIC RESEARCH PROJECTS STARTED

More specifically adapted to meet needs within the Department was a series of other activities, notably a group of economic research projects instituted to contrast by commodities the agricultural situation at the outbreak of the World War with conditions at the outbreak of the present European war. Whereas in the earlier period the United States had been favored with good export prospects, the situation now is very different on account of the stringent political and economic controls being exercised by the nations at war. The United States has supplies of food, feed, and fibers in abundance for export, but so have other countries more closely allied with the warring powers. Instead of increasing, it appears that our exports of agricultural products may decline.

A collateral line of research dealt with the behavior of farm-commodity prices at the outbreak of the European war, and special reports on this development and the spread between farm and retail prices of foods were prepared. At the outbreak of the war there had been an advance of about 10 percent in the average of prices of all farm products, and this gain was being held through the close of the fiscal year covered by this report. Not all agricultural products shared equally in the rise—the principal exception being hogs. Hogs during the summer of 1940 sold for lowest prices in 5 years.

These studies revealed in brief that, beyond a slight flurry that soon subsided, retail prices of foods were reflecting in the main the higher prices received by farmers.

Continuously through the year, the Bureau's specialists have kept closely informed as to the relative changes in farm and retail prices, and as to the current and prospective effects of the European war upon both the domestic and foreign demand for farm products. These specialists have been in constant consultation with the Secretary of Agriculture and, with the officials administering the various agricultural conservation, security, and other programs, performing a variety of services.

Secretary Henry A. Wallace said that national defense rests on three major bases, "military preparedness, economic adjustments, and on the morale of the people." So high an estimate of the importance of morale seems amply supported by past experience and by recent foreign events. The Bureau accordingly has conducted two major lines of investigation related to this phase of defense. Carried on through the regular channels for study of factors affecting farmers' reactions, these investigations are:

(1) A comprehensive study of the present status of morale and the most important factors affecting it; (2) continuous determination of the specific effects on morale of the usual major governmental activities, of the various operating and projected defense measures, and of other foreign and domestic developments.

Information of this kind is important both to the special defense organizations and to the other Government agencies, and the Bureau has tried to supply both with the facts needed.

Without such study, all of the means of building morale toward national unity cannot be used. The greater the adequacy with which such work is conducted, the more positive will be the influence of all Government work toward national solidarity. Moreover, during the strenuous period ahead, efficiency in administration will call for thorough and continuous information as to the problems and the attitudes of farm people.

#### FARMERS' REACTIONS TO WAR STUDIED

The Bureau has made studies of the type indicated above for various of the farm programs. In order to enhance the practical usefulness of these studies to administrators, it was necessary to throw the research net wider so that farm problems and farmers' reactions to them could be viewed in terms of the larger setting of national problems, nonfarm reactions to farm problems and programs, and non-agricultural concerns of farmers themselves. This has been done.

Reactions to war and defense developments have been studied continuously since September 1939. The following groupings suggest the main lines:

(1) Anticipated effects of war and defense on agriculture and the farm programs; (2) expectations regarding nonagricultural effects of war and defense; (3) reactions to defense measures; (4) expectations concerning foreign developments and reactions as to what the United States should do about them.

Considerable effort has gone into trying to learn what people really feel, by avoiding artificially focussed alternatives as the basis for noting their responses. Furthermore, a major objective has been to

round out understanding of *how* they feel about some problem by seeking to determine in addition *why* they feel that way, the *importance* of the matter to them, *what* they know about it and *what action* they think should be taken.

Success is not uniform in all these directions, but much progress can be reported in a field where precedents are few. Judged in terms of the value of results to administrators, these efforts are not merely interesting or desirable. They are important both because they help to suggest what reactions may appear with new developments and because, by helping to explain what factors account for present views, they provide some definite bases for taking action to remedy the causes of unfavorable attitudes.

No work of this kind has been done west of the Rockies. Most of the material has been collected from farm men, although some has been obtained from farm women and some from urban residents. Analyses include consideration of such factors as economic levels, age, education, crop region, tenure, size of farm, type of farm, and several more.

The work of the Bureau in sponsoring schools for agricultural workers and discussion groups touches this matter of morale at two important points. The first of these is the reexamination of democracy. The attitude taken in this work is that democracy is a way of life so desirable and justifiable as to allow any criticism of it to be freely expressed. In the schools the whole problem of individualism, democracy, and social control, and of unity and diversity in our society and government are discussed. In the discussion groups, farm people are encouraged to begin with the statement of their local problems and the ways by which they may themselves solve these problems. With the strengthened conviction of the worth of democracy that has resulted from this process, the morale of the participants has been strengthened. People who attend the schools and take part in the discussions have indicated that such activity has helped them to consider realistically the economic and social policies which are being imposed on us by the effects of the war. Moreover, these schools and discussions contribute to the professional morale of the Department staff.

#### CREDIT POLICIES CONSIDERED

Since the outbreak of the war, the Bureau has been making an intensive study of those credit policies that seem best designed to assure ample food supplies and fair prices without leading to overproduction and excessive farm debt. An especial effort has been made to devise credit policies that would permit a considerable temporary expansion of agricultural production to meet possible war needs without creating a carry-over of heavy indebtedness or necessitating the increase of land under cultivation. Such developments would be oppressive to farmers and would obstruct the adjustment of production after the war. In such analyses it has been necessary to consider the possibility that the war and its outcome may bring drastic changes in our export trade. This has led to the consideration of credit policies that might be used as positive directional measures to encourage the adoption of substantial changes in our agricultural production.

Taxation, public finance, and local government have been studied by the Bureau as important to defense planning in at least three ways: (1) Tax measures may be used as controls or stabilizers of incomes, values, and economic activity; (2) the need for raising emergency Federal revenue; and (3) the desirability of presenting data to State and local governments to enable them to prevent undue expansion which would cause high tax rates, both current and future.

Considerable study has been given to the potentialities of certain types of tax measures and economic controls in time of stress. The particular aspect receiving the greatest attention is that related to "runaway" land values. Various types of taxes that might be effective in restricting such value increases have been considered. Specific measures include combinations of real-estate turn-over and capital-gains taxes, with rates graduated to provide higher rates for the greater percentage increases at successive sales, but with these rates modified as the period of ownership increases. Experience with high land values and the accompanying chain of developments in the form of high taxes, heavy debt, and subsequent distress following the last war illustrate the need for preventive measures.

The Bureau has an interest in the types of taxes used by the Federal Government in financing an emergency because of the possible direct and indirect impacts on farmers. The studies which it is conducting will enable the Department to analyze quickly the effects on farmers and farming of any type of tax. In many cases, research already completed will supply the necessary information.

The high level of incomes and prices during and just after the last war led to a great expansion in the cost of local government. Tax distress and a heavy burden of debt was a subsequent result. Careful attention to ways of avoiding such consequences is a part of the program of the Bureau. The studies being carried on of tax delinquency, tax administration, and local government may help to point the way to improvements that will permit the same amount of effective government, but with less danger of subsequent undesirable developments.

Important to the national defense program is an economical and efficient system of distribution for our agricultural output. Congestion and break-down in the distributive system, restricting the movement of needed supplies, cause violent price fluctuations and impede the attainment of desired national objectives. The Bureau is investigating, therefore, the facilities used in transporting, storing, processing, and otherwise handling the Nation's immense output of agricultural products; the mechanism of pricing and effective transfer of ownership; the various services involved in performing these functions, together with their costs; and the effect of changes in economic conditions and governmental policies on the whole problem of marketing and distribution.

This study is divided into six major projects: (1) Land and water transportation facilities; (2) the adequacy and efficiency of existing marketing systems and facilities; (3) the price structure and margins and costs in marketing; (4) internal trade barriers; (5) policies and developments affecting our agricultural export trade; (6) the effective utilization of our surplus agricultural products to insure the maximum physical well-being of our population and the greatest net returns to producers.

The period of readjustment which has followed wartime conditions in the past has also presented many perplexing problems of marketing and distribution, problems the Bureau is deeply interested in trying to anticipate. War demands tend to stimulate the output of some products and to restrict that of others. Some of the problems which are likely to need special consideration are those of finding outlets for surplus commodities, preventing violent fluctuations in prices, adjusting transportation facilities and rates in accordance with peacetime needs, and developing new trade relations with other countries. In planning for these future developments, factual information obtained through basic research is the method of approach used by the Bureau.

Of especial interest was the creation of an Interbureau Coordinating Committee at the close of the last fiscal year. This body was organized at the suggestion of the Agricultural Program Board for the purpose of weighing the effects of the national defense program and of certain alternative outcomes of the war on American agriculture. The committee was divided into three subcommittees: One to examine the probable effects of the defense program on agriculture; another to study the probable effects of changes in foreign demand and in world trade methods under alternative outcomes of the war; and a third to consider ways of informing farm groups and others cooperating in the various agricultural programs of the alternatives ahead and of the changes that may be necessary in these programs.

As this report is being written the findings of the Interbureau Coordinating Committee are being drafted. In brief, the resulting report will consist essentially of a consideration of the defense program and its effect upon national agricultural income, the extent of manpower to be withdrawn for military training and service and the effect of this upon productive activity and national income. The report will also examine the effect of the defense program upon prices, the distribution of income and its effects upon the demand for farm products, and the effects of the program upon agricultural production, prices, and income of farmers.

#### BUILDING PROGRAMS IN A DEMOCRACY

This fiscal year was the first full year of operation for the cooperative land use planning activity, a part of the broad national effort to provide a well-rounded program of adjustment, conservation, and rehabilitation for agriculture. It is designed to attain four objectives that cannot be realized by agencies or farmers acting alone: (1) more effective and economical ways of adapting public agricultural programs to diverse local conditions within States, counties, and local areas; (2) better coordination of the several Department action programs as they are carried out in the field; (3) clarifying the working relationships of the Department and land-grant colleges in light of the new responsibilities placed upon the Secretary of Agriculture for the administration of action programs; (4) attacking the farm problem on all fronts simultaneously. Closer correlation between the activities of Federal, State, and local governmental agencies is necessary so that measures of action taken by one agency will complement

and fortify related lines of action taken by other units of government. Of fundamental importance in attaining all four of these objectives is the requirement that farmers participate actively and fully in building programs and making policies for agriculture.

Planning for action is the keynote of this cooperative program. Better coordination and more effective application of action programs result as farmers, technicians, and administrators reach a common understanding and agreement on the needs of agriculture and the measures most likely to fulfill these needs. Thus farmers, agency representatives, research technicians, and extension workers function as a team on community, county, and State land use planning committees.

They first seek to establish the facts through study of agricultural problems in local areas and for the State as a unit. They ascertain what improvements are needed and agree upon agricultural adjustment and rehabilitation goals. They consider the effects of such adjustments upon rural institutions and their benefits to rural families. Having agreed upon the goals, cooperation is continued in the examination of specific measures and programs which can contribute to the attaining of the objectives. Each agency's activities are examined to determine how far its program can go toward supplying the needed local adjustments. Farmers consider where their operations can be improved. If this analysis reveals that certain problems cannot be met by existing programs, consideration then is directed to new policies and new types of public, group, or individual action. Thus various funds of knowledge and points of view are brought together in this process of inventory, planning, and action.

Excellent results have been attained in many of the 1,540 counties where the work had been started by July 1, 1940. These results indicate that the method adopted is a sound one, that the program is developing in the right direction, and that farmers are willing to assume the responsibility and local leadership necessary for the work.

State committees, too, have made marked progress during the last year. Most of them have passed through the orientation stages and are directing their attention to the task of building State-wide plans and unified programs. Many of the committees that a year ago required stimulation have now assumed leadership of the planning work and are requesting assistance and cooperation from State and Department agencies.

#### STATUS OF ORGANIZATION AND PARTICIPATION IN LAND USE PLANNING

The cooperative land use planning program has shown steady expansion during the last year. At present, State land use planning committees have been established in 46 States, and in 1,540 counties local committees are carrying on planning work in varying degrees of intensity.

The membership of State land use planning committees varies in size from 16 in Maine to 49 in New York, with an average of approximately 28 members. About 50 percent of the membership is composed of farm men and women, distributed within their respective States and in close correspondence with the major type-of-farming areas. Regular meetings of the committees have been held at least three or four times during the fiscal year, with many more

meetings of the executive committees or various subcommittees. In addition, the joint land-grant college-BAE committee in most States held regular meetings on an average of twice a month with frequent other informal conferences to consider current problems arising from the planning work in the field.

Upwards of 125,000 persons were active as members of State, county, and community planning committees during the past year. Of these approximately 34,600 persons were members of active county land use planning committees.

A typical county committee is composed of about 27 members, two-thirds of whom are farm men and women, and the remainder representatives of agencies conducting programs within the area. A total of 5,571 meetings of organized county planning committees was held in 1,433 counties. These were supplemented by series of from 1 to 5 community committee meetings in many of the counties. In some counties, community committee meetings only were held.

Community land use planning committees in 7,311 communities reported a total of over 16,000 planning meetings held during the year with an attendance ranging from 5 to 30 farm men and women per meeting. In an effort to develop widespread understanding and cooperation in planning, 32 States reported holding 10,500 open community meetings which were attended by rural people.

The type of work being done by planning committees varies in accordance with the length of time in which the program has been under way. In 61 counties emphasis has been placed by planning committees on the formulation of an integrated agricultural program for the county. This involves putting into effect improved practices and defined courses of action agreed upon by the several agency representatives and individual farmers or groups of farmers through their discussions and deliberations as members of planning groups. The planning committees in 544 counties were primarily engaged in the analysis of land use problems as they relate to social and economic conditions existent in the county, in agreeing upon the nature of adjustments needed, and in recommending general lines of activity which in their judgment will contribute to more effective land use in maintaining satisfactory standards of living. In 935 counties the work so far has been largely of a preliminary character, such as organizing planning committees, outlining community and neighborhood boundaries, assembling and reviewing basic information for the use of planning groups. Over 200 progress reports submitted by county land use planning committees presenting the results of the various planning groups have been reviewed by State Land Use Planning Committees and are being utilized in the day-to-day operation of agricultural agencies, both in the field and in Washington.

Among policy and procedure items that have been emphasized among planning groups and upon which progress has been made during the year, the following should be noted: (1) more complete farmer representation on planning committees; (2) greater participation by farm women; (3) more attention to natural neighborhood and community groupings as basis for planning committee organization and operations; (4) emphasis on formation of State-wide land use planning development by State committees; (5) attempt to obtain action in all planning counties in some phases of needed adjustment as a result of planning.



Since the planning process emphasizes coordination and action in local communities, it is impractical to bring together complete information on the results obtained in all the counties. The reported instances of progress and accomplishments, therefore, are merely representative of a much greater number of direct and indirect accomplishments, many of which never will be reported outside the county or community, but which, together, constitute a major part of the constructive results of the planning program. It should be borne in mind also that the Bureau is but one of many agencies that have contributed to the progress in land use planning work. The land-grant colleges in each State share with the Bureau the responsibilities for sponsorship of the program. Likewise the cooperative participation of each Department agency has been vital to the success enjoyed in this endeavor.

#### PROGRESS IN DEVELOPING UNIFIED POLICIES AND PROGRAMS

Northern Minnesota provides an example of a unified program that is being developed for an entire region as a result of planning work in communities and counties of the area. In the cut-over region of this State cooperative land use planning has been effective in reconciling a fundamental difference of opinion which had existed for more than 10 years over what should be the land policy. Extension coordination and reorientation of public policies and readjustment of programs is resulting from the new agreement and understanding that has developed.

The original settlement in this region was based on a widespread belief that all of the timber and swamp lands might eventually be developed for farming. Since the 1920's, land economists and other technicians have seen that much of the land either was not adapted to farming or was not needed for farm use at the present time, and that it logically should be devoted to timber, wildlife, recreation, and related uses. Many of the local people, including township and county officials, and others, however, opposed this recommendation. Maps prepared by the technicians showing large areas as unsuited or unneeded for farming were bitterly criticized as an unsound attempt by outside "experts" to dictate a policy which would stifle a sound and logical development of the region.

Continuing to follow the earlier policy, widespread settlement was encouraged with little discrimination as to the suitability of the land. Primarily responsible for management and disposal of some 6,000,000 acres of land that were forfeited for nonpayment of taxes, county officials offered for sale all such land for which a buyer could be found. Aiming to get the land back on the tax rolls, little thought was given to its suitability for farming, or to the reasons why it did not stay on the tax rolls in the first place and the unlikelihood of its remaining there if resold. In doing this, the county authorities were merely carrying out the views of a majority of their constituents. Public debts, relief rolls, and demands for Federal and State aid mounted as the resources on these lands were further depleted and vast acreages became idle and nonproductive.

When land use planning work was started in these counties, beginning in 1938, one of the first steps was area mapping, analysis, and classification. In this process the local people themselves came to the

conclusion that certain areas were unsuited or unneeded for farming at the present rate of settlement in that region. They concluded that the soundest policy would be to limit settlement to some of the best areas of land and to prevent isolated and indiscriminate settlement in other areas. Area classification maps were developed which were very similar to the earlier maps prepared by technicians. But these new maps were the result of local thinking, and the local people believed in their recommendations. Thus, in the eight counties of the Minnesota cut-over region in which cooperative land use planning has been carried on to date, the conflicting views of land use policy have been reconciled.

With this general and popular understanding of land use problems, the county boards have adopted a progressive policy of withholding from sale tax-forfeited lands in areas which have been agreed to be unsuited or unneeded for farming at the present time. In the eight counties 4,800,000 acres have been so classified. Most of this is tax-forfeited land. This land will remain in public ownership and be dedicated to some form of conservation use.

In addition to the results obtained in the handling of tax-forfeited lands, three of the county boards have adopted rural zoning ordinances which prohibit further settlement of certain areas of privately held lands which have been classified as unsuitable for farming. The zoning enabling act, itself, under which the zoning ordinances were adopted, probably would not have been passed, except for the interest in and desire for such authority, which grew out of land use planning.

Credit was needed by the farmers to enable them to take advantage of modern land-clearing equipment and to use their own labor in improving their farms rather than in work relief projects off the farm. There was a question of whether land clearing could be aided under the national farm program without conflicting with national objectives of agricultural adjustment. The matter was referred to the Interbureau Coordinating Committee.

After considering the problem it was decided that clearing of lands well suited for farming is comparable to the development of new irrigation lands. Carefully planned improvement of such lands provides opportunities for farmers who are being displaced from sub-marginal farms or whose farms contain too little cleared land to provide a satisfactory family income. The program provides for loans for clearing and improving especially designated tracts of land. To encourage people in the region to become more self-supporting in this way the program makes not only owners but tenants and farm laborers eligible for the loans.

In carrying out the program the committees' land use maps will be used in selecting the lands which are to be cleared under a carefully planned program in each locality.

Savings in road and school costs, the building up of forest resources on the poorer lands, helpful guidance and assistance to settlers—avoiding the wastage of energy, the discouragement and the poverty that result from settlement on poor soils—and getting a distressed region back on its own feet, are among the long-time benefits which will accrue from the new understanding, new policy, and new programs which were established as a result of cooperative land use planning in this area.

## CASWELL COUNTY, N. C.

Caswell County, N. C., furnishes an example of the effectiveness of land use planning as a means by which farmers participate in planning the improvement of what may appear to be the most difficult of agricultural situations. Caswell may be regarded as typical of the "one-crop" region of the South faced with the crisis of failing markets for cotton or tobacco and with serious soil depletion.

Caswell County's "one crop" has been tobacco. After 76 years of experience with this crop as their one and virtually only source of cash income, Caswell County farmers found themselves with a system of farming unable to withstand the shocks caused by a fluctuating and unsympathetic market and depleted soil resources. The land use planning committee took hold of this situation, and as a result the development of a system of farming designed to withstand these shocks and to make a better use of the county's resources is under way.

Since March 1939 the land use planning committees, Negro and white, have taken a wholehearted interest in the opportunity afforded them to work out cooperatively with representatives of the Department's action programs, a better future for the families and the communities of the county. The program they are working out includes planning by individual farms and land use areas for erosion control, increased use of cover crops, housing, purchase of better farming equipment, greater use of lime and phosphate, development of more home gardens, encouragement of more livestock and dairy cattle, land drainage, and a number of other things.

The committees decided that one of the first problems was soil conservation and that a county-wide terracing program was a practical way to start.

The Extension Service and Vocational Education staffs agreed to carry on a special educational program with vocational teachers functioning both through the classroom and through field activities, and the county agent working through field demonstrations, community meetings, and the distribution of printed matter. The Soil Conservation Service agreed to stake terraces to be constructed on 1,500 acres by the county terracing unit and on 300 acres to be built by farmers and to train two crews of N. Y. A. boys to stake out additional terraces. Farm Security Administration agreed to sponsor 12 community service loans for purchase of terracing equipment and to stake and supervise construction of terraces for 50 farm operators. The Soil Conservation Service offered to provide the facilities of a C. C. C. camp in assisting farmers to build terrace outlets and meadow strips and in making available light terracing equipment on a rental basis. All of these agencies agreed to cooperate in the educational phases of the program and to coordinate their work in such a way as to provide the best possible service. A professional workers' council was organized to meet monthly and discuss a plan of work for the following month.

Other tangible results that may be credited to the activities of the planning committees in Caswell County are a greater and more widespread use of lime and phosphate, the establishment of a milk route as an outlet for surplus milk, extensive purchase of lime spreaders, stalk cutters, purebred bulls, combination plows and harrows, tractors,

and combines. Often these goods are purchased and owned by groups of farmers.

The most important result of the land use program in Caswell, as in other counties, is its stimulating effect on the psychology and morale of the people. This is not a measurable quantity, yet the development of this latent energy among the people of the South, coupled with the opportunities offered them by the land use planning program, both in the field of education and cooperative effort, has tremendous promise in lifting Caswell County and the South up to a more adequate living standard for the majority of the people.

*Type of farming changed in dry-farming area.*—"Can people make a living on farms in our community, or should we move out and turn the county back to range?" was the question facing the Dixie Community Land Use Planning Committee of Washington County, Idaho, at its first meeting. Since the area was broken out of sod about 25 years ago, dry farming had predominated, with wheat as the chief source of cash income. However, changed conditions in recent years resulted in such low incomes that land abandonment and tax delinquency had become prevalent, and it was questionable whether the community could continue as a farming area.

At the request of the community committee a farm-management study was made by the Department of Agricultural Economics of the University of Idaho. This study showed that a few farmers were doing quite well because they had changed over from cash wheat to hay, pasture, alfalfa seed, and livestock, and that there was a good chance that other farmers could do the same thing. The data developed by the farm-management specialists, together with their conclusions and recommendations, were carefully studied by the committee and formed the basis for a comprehensive plan which the committee developed. This plan provided for the cooperation of Federal, State, and local agencies.

The Extension Service has arranged budgeting schools to help farm operators work out improved farming systems in line with the proposed shift in type of farming. The Extension Agronomist is cooperating in establishing test plots of grasses and other pasture and forage crops in order to determine their adaptability to the community. The county extension agent is developing a program for improving the quality of livestock, and the Extension Poultryman is working with the local people on a poultry-improvement program. The county A. A. A. committee limited the practices for which payment would be made so as to encourage the seeding of legumes and grasses. A conservation survey was made and a C. C. C. spike camp established by the Soil Conservation Service to assist in erosion-control work. The Farm Security Administration is loaning money to help farmers make needed changes on their farms. Included are loans for the development of water facilities, for establishing seedings of pastures and alfalfa, and for purchasing livestock—including loans to 4-H Club members for the purchase of ewes and dairy heifers. The county is improving the main road into the area.

As a result of the activities of the land use planning committee, the entire community is facing a brighter future. The committee's program will bring increased security for farm families and conservation of soil resources. Cooperative planning unified the efforts of

farmers and of local, State, and Federal agencies to bring this about, and a new Dixie community will be the result of their combined efforts.

#### WARD COUNTY, N. DAK.

The continuing experience of Ward County, N. Dak., in land use planning is an example of cooperation in developing a long-range program to improve difficult and adverse conditions. Located in the central portion of the northern spring-wheat area, Ward County has suffered from drought and from too great a reliance upon wheat as a single cash crop. This situation of a type of farming not entirely fitted to local conditions, together with high costs for public service in relation to a limited tax base, inequitable distribution of the tax burden, heavy tax delinquency, and a high proportion of tenancy were among the major problems which planning committees recognized.

As a basic adjustment, the planning committees concluded that it was desirable to shift to a more diversified type of farming through expanding the livestock enterprises, building up feed reserves, and "live at home" farming. The desirability of these changes recommended by the planning committees has been pointed out in newspaper releases, radio talks, and in public meetings with the cooperation of the county agent, the Agricultural Adjustment Administration, the Farm Security Administration, local farm organizations and other agencies. The farmers generally have recognized the soundness of the program and are building up livestock herds largely through natural increase rather than by purchases of additional animals. Realizing the necessity of safeguards against drought years and poor feed crops, the policy has been adopted of building up feed reserves in advance. As a result there has been an unusually large acreage of feed crops and a favorable year has resulted in large supplies of feed.

In furtherance of this program which involves adjustments in individual farm units, a reallocation of A. A. A. soil-depleting allotments is being worked out and increased emphasis is being placed on A. A. A. water conservation practices in order to provide adequate water supplies for expanded livestock production. Members of the planning committees have also assisted the agricultural conservation program committees in using land use planning material to revise A. A. A. productivity indices which has been effective in fitting the A. A. A. program more closely to the actual conditions in about 2,000 farms in that county. The Farm Security Administration is cooperating with the county land use planning committee in determining the size and type of operating units which are being established under the tenant-purchase program, involving nine loans that have been completed and others which are proposed. It is working with the planning committee in a similar way in developing farm plans for the different areas in which rural rehabilitation loans are made. This has been done in connection with 14 new loans and with the renewal of 203 old ones.

Another measure adopted in furtherance of the livestock program is the addition of 10,000 acres of new restoration land to the A. A. A. program as a result of planning committee recommendations, together with the withdrawal of 1,000 acres from previously incorrectly designated restoration lands.

Feeling that a savings in public costs would be possible through reorganization of the school system, the assistance of the Bureau of Agricultural Economics was enlisted by the land use planning committee in making a thorough study of the present school system. The county superintendent of schools is cooperating wholeheartedly with representatives of the Bureau of Agricultural Economics in this study and in developing possible procedures for rearranging the school pattern on a more efficient basis.

The planning committees worked with the local taxing authorities on the problem of adjusting tax systems according to the productive capacity of the land. Land use planning data and A. A. A. wheat yield data are now being studied by taxing officials in the county as a partial basis for adjusting the assessments at the first legal opportunity to do so, which will be in 1941.

As a first step in dealing with the tax delinquency problem the land use planning committee recommended to the county commissioners a plan of impounding rents on tax-delinquent lands. This plan was adopted and a total of 490 legal actions initiated, with the result that the county is now collecting rentals on about 350 to 400 additional items of real estate.

Other problems on which the committees are working as part of the long-time adjustment program include longer term leases better adapted to conditions in the different land use areas, problems created by competition between small operators and the larger ones for available farm land, and long-term policies regarding tax-delinquent lands. An agreement previously reached that the planning committee would work with the county commissioners in designating appropriate tax-forfeited lands for development as public recreation areas has been deferred temporarily pending legal interpretation and clearance of the pertinent State laws.

#### PROGRESS IN A RANGE LIVESTOCK COUNTY

Box Elder County, Utah, is typical of the development of a unified land use program in a range livestock county which has problems of deleted range lands, soil erosion, floods and watershed protection vitally affecting the welfare and security of the people.

In the extreme eastern part of the county, the Wellsville Mountain separates Box Elder and Cache Counties, lying partly in each county. The mountain slopes are in forest cover but are used as summer range for sheep. These slopes have been overgrazed for a number of years and considerable erosion has taken place, doing damage not only to the mountain area itself but to the rich, irrigated land at the base of the mountain. Overgrazing has resulted in heavy spring run-offs, causing flood damage to irrigation channels and draining the water-storage basins and threatening both irrigation and domestic water supplies of the communities which depend upon these watershed lands. A considerable part of the land is now owned by the Union Pacific Railroad and the State land board and the two county committees acting together have obtained agreement from both the railroad company and the State land board to encourage conservation practices through their leasing policies; to withhold lands from leasing for a time when present leases expire in order to allow natural restoration of grasses; and to cooperate closely with the Forest

Service in developing a definite erosion-control and fire-prevention program in the area.

Cooperating with the adjoining Cache County land use planning committee, the Box Elder County committee has obtained approval for adding this misused area to the Cache National Forest. This action was undertaken so that the Forest Service could undertake better fire-control methods for the entire area and could initiate a program of land purchase of the private lands as they are offered for sale in order to control grazing in the area.

In the western part of the county a vast area of open grassland presented another problem on which coordinated action was needed. The area provides winter range for livestock operators from several counties and from adjoining States. The heavy trailing of sheep and cattle to and from this area causes extensive damage and depletion of summer and winter range lands in addition to the damage in the dry-farming and irrigated areas which lie between the summer and winter range.

Aiming to improve this situation the county land use planning committee prepared maps showing the present and recommended use of various range areas and also prepared a chart showing livestock movements in the county. On the basis of these data, definite recommendations are developed which provide for maximum use of the range with minimum amount of damage and erosion. For example, the county committee is now negotiating with the State roads commission, Work Projects Administration, and other agencies concerning the construction of a special livestock road through Box Elder Canyon and the development of a proper trail with feed and water facilities through the dry-farming and irrigated areas in the county. Plans have also been developed for a more adequate control of predatory animals and to establish proper control of big game through cooperation of the State Fish and Game Department, United States Forest Service, and the Federal Fish and Wildlife Service. An educational program has been inaugurated by the Extension Service and the Soil Conservation Service to encourage reseeding of depleted private range lands.

Soil erosion is a serious problem in dry-farming areas in the county. To cope with it, the committee promoted the establishment of a soil conservation district and has since participated in developing the district program and work plan.

Other activities now being carried on by the Box Elder County Committee include: (1) Study of several areas in the county for possible irrigation development—this is being done with the cooperation of technicians from several public agencies. (2) Development of a long-time program of health improvement in the county. (3) Cooperation with local grazing operators to develop a plan for the cooperative purchase of 20,000 acres of grazing land upon which the operators are dependent for the existence of their livestock business. They are threatened with losing the use of this land because it is owned by a bank in receivership which is now liquidating its holdings. (4) Study of excessive farm-mortgage debt in the county. (5) Development of a program to eliminate noxious weeds. (6) Studies leading to the possible development of additional agricultural processing industries in the county.

## PROGRESS IN OBTAINING COORDINATION THROUGH COOPERATIVE PLANNING

Unified action of all agencies operating in each county and State is the ultimate aim of land use planning. Progress in developing such programs is indicated by the examples which are given of certain unified program counties. As the planning activity progresses, the achievement of coordination and unification is, of course, a gradual process. Much of the progress so far, therefore, has been in connection with a specific situation or problem rather than with the entire program in the county or other area. Some of this coordination results more or less automatically as an outgrowth of cooperation in studying and analyzing the conditions in the county or State. In other cases it results from a deliberate cooperative attempt to achieve an agreed-upon objective or to unify a certain set of activities.

*Coordinated action for soil conservation.*—A number of agencies either have major responsibility for soil-conservation work or are in a position to contribute to it, as a part of their activities. Obviously, the maximum of results can be obtained only if all of these agencies work as a team. Cooperative planning has been successful in bringing about such teamwork in a large number of instances.

Okfuskee County, Okla., provides an example. An erosion survey made by the State agricultural experiment station indicated that approximately 40 percent of all cropland in the county was suffering in some degree from water erosion. The county land use planning committee decided that this condition should be dealt with immediately on a county-wide basis and appointed a soil and water subcommittee to develop a plan. The subcommittee sought the assistance of all agencies that could make a contribution toward the control of soil erosion.

The desirability of close cooperation between the Farm Security Administration and the Soil Conservation Service in preparing farm plans was recognized. The subcommittee also came to the conclusion that efforts should be made to better fit the agricultural conservation program to the county by promoting the use of those A. A. A. soil-building practices which were best adapted to local conditions and placing less emphasis on other practices. At the same time, the subcommittee discovered that a county soil-erosion fund, made up of proceeds from a tractor tax, was not being used.

Through the planning process a plan was developed in which the activities of all cooperating agencies were integrated to deal more effectively with the erosion problem. The county agricultural conservation program committee agreed to make available to the county F. S. A. supervisor and the secretary of the board of supervisors of the Okfuskee Soil Conservation District the A. A. A. farm-plansheet for each of their cooperators. The county F. S. A. supervisor agreed to encourage each F. S. A. client to earn the conservation payment under the A. A. A. program. The supervisors of the Soil Conservation District agreed to assist each of their cooperators to make full use of the opportunities provided in the A. A. A. program to make conservation adjustments on their farm. The subcommittee met with the county commissioners for the purpose of explaining the land use program and to present the recommendations of the committee. The commissioners agreed to use the county soil-erosion fund made up of proceeds from a tractor tax to further the terracing program, and to



utilize the services of the county agent in loaning the county terracing machines.

The Okfuskee County soil conservation district, in cooperation with the Soil Conservation Service and other agencies, agreed to develop and initiate a complete soil conservation farm plan on one demonstration farm in each land use area. The Extension Service will use these farms as the basis for an intensive educational program emphasizing the need for soil conservation, demonstrating practicable conservation methods, and informing the people of the assistance which is available from the various agencies. The District supervisors also agreed to establish a W. P. A. project to utilize available relief labor to do soil-conservation work.

The vocational agricultural teachers agreed to stress soil conservation in their night classes with adults, and to teach conservation principles to the high-school students enrolled in their classes. County and State road officials agreed to provide adequate protection against water erosion in roadside ditches.

A. C. P. committeemen are encouraging farmers to make use of particular practices which are most needed in various areas. Farmers having allotments of 20 acres or less are being encouraged to apply for nonallotment status so that adequate feed grains may be produced on these small farms, and so that these operators may carry on more ambitious conservation programs by means of soil-building practices.

This work in Okfuskee County illustrates the way in which cooperative local planning can take the results of experiments and demonstrations and develop a coordinated program of many agencies to extend the improved practices to the farms where they are needed.

*Coordination of land policies in Teton County, Mont.*—Continued experience of Teton County, Mont., in land use planning helps to illustrate the effectiveness of land use planning in coordinating the policies and programs of various public agencies and in fitting them to widely varying land use conditions. In this county, the land varies from rich irrigated land through several grades of dry-land farming lands and range lands, to steep mountainous forests. After the land use planning committees had mapped the boundaries of these different areas, one of the first things they agreed upon was that some 20,000 acres used for wheat growing was really unsuited to such use and should be restored to grass. It was also decided that many of the farm units in the county are too small to provide a satisfactory livelihood to the farm operators. More adequate water supplies for the irrigated lands, control of erosion on dry farming and range lands, the depletion of range lands through over-grazing and weed, rodent, and insect pests, were among the other problems considered by the planning committee.

In planning to carry out the various recommendations which were made, the committees found that coordination of the activities of many different agencies and individuals was necessary. Each was responsible for a different class of land ownership in the county or for different agricultural activities. The wholehearted cooperation of the numerous agencies involved indicates the way in which cooperative planning can achieve coordination and give general direction to many varied activities in achieving the goals and objectives upon which mutual agreement has been reached.

*A. Progress in changing from wheat to grass and in keeping low quality lands sodded.*—The local A. A. A., through encouraging the retirement and reseeded of low-grade croplands, has obtained the retirement of 2,500 acres which have been planted to crested wheat grass during 1940. The lowest grade lands have been made ineligible for wheat allotments under the A. C. P. program, to the extent of 2,000 acres, with more acreage which will probably be controlled in this way in the near future. The land use recommendations and land classification prepared by the planning committees is being used at all times in the A. A. A. program in the county in adjusting the productivity ratings and in other ways. Coordinating its work with tax policies of the county government, the A. A. A. is furnishing information to the county assessor on sod lands that are plowed up. Particular attention is being given by the A. A. A. to the control of erosion on dry farm lands by requiring stripcropping as a basis of payment on lands which are eroding injuriously. A further adaptation of the Agricultural Adjustment Administration A. C. P. program to local conditions and to the objectives of the county planning committee's program is the requirement that grass planted under the agricultural conservation program must remain in 2 years or a penalty of \$3 per acre is charged against the operator. This discourages the planting of grass on good lands for the purpose of obtaining the benefit payment and tends to concentrate the planting on lands which should be in grass permanently. The local F. S. A. supervisors are cooperating in the adjustment between wheat and grass through the farm management plans developed for local clients. The State land department is cooperating through stipulations in leases of State-owned lands. It refrains from leasing sod lands for cultivation purposes, and in the leases it now reserves the right to cancel the lease for over-grazing or other misuse of land. Likewise, summer fallowing is made a lease requirement, together with stripcropping of any lands which are subject to soil blowing. This Department is interested in all of the data prepared by the planning committees and has stated that its program would be adjusted to fit the different local conditions when they are informed of local situations that call for variance of general policies.

*B. Adjustments in size of farm units.*—In a similar way, several agencies are cooperating in an effort to enlarge small farm units to a more satisfactory size. The F. C. A. has adjusted its policies toward this objective and is cooperating with the land use planning committee in deciding upon economic-sized units both in the granting of loans and in the resale of lands which have been foreclosed. Farmers with tracts that are too small are being aided in acquiring or renting additional land. Farms owned by the Farm Credit Administration that are too small have been withheld from sale as individual units and plans developed for reorganization of holdings into more economic units. In one case, the county officials and the F. C. A. cooperated by combining their tracts for sale to a single operator in order to establish an adequate-sized unit. Individual farmers on small units have been encouraged to take advantage of better opportunities elsewhere and the units which have been vacated in this way are used to increase the size of other small units. The State land department is cooperating in this size-of-farm program.

through consultation with planning committees in developing plans for the sale and lease of State lands.

Following recommendations of the planning committee, the original plan of subdivision for a new irrigation project is to be revised in order to provide farm units of a more satisfactory size.

*C. Irrigation water supplies conserved.*—The recommendations of the land-use planning committee pertaining to irrigated farms have resulted in arrangements whereby an irrigation company furnished materials and F. S. A. clients on the irrigated lands have provided labor for cleaning and preparing ditches and constructing new laterals, resulting in a more efficient use of the available water. To assist in providing more adequate water supplies, the Forest Service is cooperating in a program of transplanting and protecting beavers in the streams of the national forest from which the water supply comes. Construction of a new reservoir to supplement the existing irrigation water was recommended by the planning committee and the project has now been approved for construction.

*Readjustment of real estate taxes.*—Readjustment of real estate taxes, based upon the productive power and use of the land, was recommended by the committee and is being worked out by the county officials on the basis of the land planning data. A reclassification of lands for taxation purposes has already been worked out, and the county assessor is now working on a revaluation based on this new land classification. The assessor has met with planning committees, and in response to his request for assistance in revaluation, a special subcommittee representing all areas of the county has been appointed to assist in this work, which the assessor hoped to complete in October or November. The new assessment will be based in part on land use as well as land productivity, with differential assessments for grazing—plow land. The lowest grade of plow lands will be given a grazing classification when reseeded to grass to encourage the maintenance of that cover and grazing lands plowed up will be given a plow land classification.

*Public land administration.*—The management of public lands has received increased attention as a result of cooperative land use planning and coordinated action has been developed to obtain more effective management of such lands. Perkins County, S. Dak., is an example. At present, 37 percent of the land in this county is owned by public agencies and an additional 22 percent is subject to tax foreclosure. The Bureau of Agricultural Economics is studying certain phases of the problem. The Extension Service has assumed responsibility for educational work to create a better understanding of the management problems presented by this land. The public land agencies, including the Department of School and Public Lands, the Rural Credit Department, the Federal land bank, and the Perkins County commissioners have agreed to cooperate in a block system of leasing in order to stabilize farm and ranch units.

Purchase and development of certain lands for community and other public purposes is another type of action in which planning committees have been successful in obtaining coordinated action. In the Grouse Creek area of Box Elder County, Utah, for example, a plan was developed to purchase and improve a large area of range land that was needed for the continued welfare of the community.

Option to purchase the land through an F. S. A. loan has been taken pending appraisal, and it is expected that the loan will be completed as soon as final arrangements can be made. A cooperative livestock association is being organized in the community to underwrite the loan on an individual allotment basis. A study has been made and a report prepared by the Bureau of Agricultural Economics and Utah Experiment station as a basis for the F. S. A. loan. The Agricultural welfare committee of the Church of the Latter Day Saints is supplying the services of an irrigation engineer to supervise the construction of needed reservoirs and other water facilities and has offered to provide funds and relief labor to assist the local people in constructing a small reservoir.

*Coordinated planning and action for farm forestry.*—Through the coordinated efforts of State and Federal forestry agencies operating as a subcommittee of the State Land Use Planning Committee, comprehensive farm-forestry programs have been formulated in 42 States. These programs are used as the basis for establishing intensive farm-forestry demonstration projects under the Norris-Doxey Cooperative Farm Forestry Act. Following the recommendations set forth in the State programs, 33 intensive farm-forestry demonstration projects have been established, and, in areas where farming is incidental to forestry, 6 intensive forest-farming projects have been undertaken. These demonstration projects are designed to assist woodland owners in determining and following sound management practices.

In addition to cooperating in developing the broad State farm-forestry program coordinated action has been developed in administering the intensive demonstration program with the State foresters, Extension forester, United States Forest Service and Soil Conservation Service participating in the coordinated program.

Local coordination of effort in farm forestry is exemplified by results in Ross County, Ohio. The land use planning committee of this county had previously decided that a large part of the land in the county is suited only to the timber growing and related uses. (See December 1939 report.) Getting this land to its proper use is a major problem facing the planning committees.

It was found that the forestry agencies did not have the time and facilities to give the necessary assistance and guidance to individual farmers which would enable them to carry on proper forest management practices. Since the agricultural conservation program included woodland practices and community committeemen provided a means of reaching all farmers in the county, it was decided that the most feasible way to give guidance and assistance to farmers in proper forest management would be to give all community A. C. P. committeemen special training in woodland management practices so that they could pass the information on to individual farmers.

Arrangements were made to conduct a forestry training school for all community committeemen. The agencies dealing with forestry in the State—the Agricultural Extension Service, Ohio Division of forestry, Soil Conservation Service, and the Federal Forest Service—cooperated in organizing and conducting the school. Representatives of these agencies presented information on methods of determining applicable forest practices for various areas, and described good procedures of woodland management. Tree planting was emphasized

with particular attention being given to desirable species, selection of planting sites, and methods of planting. Three field demonstrations were held in various parts of the county where the committeemen were given an opportunity to apply their newly learned technique.

The increased interest in proper forest management resulting from the training school was so great that by mutual agreement of all agencies concerned it will be continued this fall. As a result of the training school the forestry agencies were asked to prepare a handbook on woodland management practices for the use of A. C. P. committeemen, vocational agricultural students, and farmers generally. This is now being prepared.

*Farm programs inside national forests.*—Within most, if not all, national forests there are areas of good farm lands. The policy of the Forest Service is to encourage the development and use of these lands for farming as part of a comprehensive land use program in which forestry and farming, together, will bolster the economic life and opportunities of the individuals and communities of the national forest areas.

Until county land use planning was started the local representatives of a number of farm programs did not fully understand this policy. Some of them assumed that the establishment of a national forest meant that all of the land in its boundaries was regarded as sub-marginal and would eventually be acquired by the Forest Service. The result was that local administrators of farm programs sometimes automatically eliminated farms within national forests from consideration in planning an individual agency's activities. This occurred in various localities in connection with such programs as those dealing with farm credit, rehabilitation, rural electrification, and soil conservation. In this way, farmers within national forests were unwittingly deprived of the opportunity to benefit from such programs.

Local administrators of the various farm programs meeting with farmer committeemen and with the local forest administrators in cooperative land use planning obtained a fuller understanding of the land use situation in the national forests and of the Forest Service's land use policies. The land use planning maps prepared by the community and county committees began to show the specific areas, within as well as outside of the national forests, which are considered suitable for long-time farm use, together with the areas that are regarded as unsuited to farming. This information is used in the national forests not only by the Forest Service in carrying out the forestry program but also by the farm program agencies in applying their activities to the farming areas.

An example of this type of coordination is that which occurred in connection with rural electrification in Brown County, Ind. In considering a proposed rural electrification project in that county, it was planned to eliminate a portion of the projected line which extended into the Pleasant Run National Forest Purchase Unit. The county land use planning committee turned to the local forest supervisor and to the land classification map prepared through cooperative planning to show that the area to be served within the forest unit is good farm land which should be continued in farm use and in which the construction of rural electrification lines is perhaps as economically justifiable as in the farming areas outside of the forest. In this way not

only rural electrification but the other farm programs are being applied to various farming areas within national forests, and a start is made toward actually putting into effect the policy of an integrated forestry and farming program in the national forests.

*Coordination of farm planning.*—Coordination of the activities of several agencies in preparing farm plans for farmers, and coordinated efforts in developing farm plans suited to different land use areas are major contributions of cooperative planning. Four agencies, especially, are engaged in farm planning work, namely, the Soil Conservation Service, Extension Service, Agricultural Adjustment Administration, and Farm Security Administration. Through cooperative planning, arrangements have been worked out in many counties whereby a single farm plan is developed for a farmer who happens to be receiving aid or assistance from each of these agencies. Agreement was reached between the local representatives of each agency as to what would constitute a satisfactory farm plan from the standpoint of its program. The Soil Conservation Service and Farm Security Administration have cooperated in the preparation of such plans for farms of their clients or cooperators, and in Yell County, Ark., as an example, the Agricultural Adjustment Administration and the Extension Service have cooperated in preparing plans for all farms.

Other agencies have also participated in this coordinated program of farm planning, through use of committee recommendations in developing credit plans and policies for Farm Credit Administration clients, and in determining logical farm units and types of farming in the leasing and sale of State-owned lands, as occurred in Teton County, Mont.

*Farm women's cooperative market established through coordinated effort resulting from land use planning.*—Inadequate farm income was the label attached by the Atlantic County, N. J., land use planning committee to a group of interrelated problems. Farms are small and the soil is generally poor in this county and with low vegetable prices and a lack of industrial employment, there has been considerable financial distress. In Gallaway Township, for example, nearly 75 percent of the families are supported by W. P. A. or direct relief at least a part of each year. As one means of augmenting farm income the planning committee decided that it would be desirable to establish a cooperative farm women's market. To this market, farm women would bring home-grown vegetables and fruit, kitchen-made bread and pastry, and farm-fresh dairy products, poultry, and eggs. The sale of these products would mean new income to farm families.

The home economics extension group and farm women had been talking about this project for more than 2 years, but were unable to go ahead with the establishment of the market because of a lack of information, lack of capital, lack of business experience on the part of the women, lack of confidence, and particularly a lack of local leadership. Some of these obstacles were removed through the formation of the county land use planning committee which included both farm men and farm women in its membership. The planning committee furnished the needed leadership and developed the confidence necessary to undertake the establishment of a market, and proceeded to obtain the necessary information from available sources. The com-

mittee believed that a larger farm income could be provided for the farm families cooperating in the marketing venture, and felt that the increased income would eventually result in raising standards of living, improving health conditions, and providing new social contacts for the farm people. They, therefore, lost no time in seeking the assistance of groups and agencies which they believed could be of assistance in establishing the market.

A subcommittee of the land use planning committee, including representatives of the F. S. A., Extension Service, women's extension groups, and others, visited farm women's markets in Bethesda and Salisbury, Md. At these markets careful studies were made of their organization, management, and marketing methods. Other agencies such as the Atlantic City Chamber of Commerce, women's clubs, and consumer organizations were consulted by representatives of the subcommittee. Also, records were secured on automobile travel in an effort to determine the best location for a market.

The State bureau of markets cooperated in developing the market plan by providing information on types of cooperatives and standards for commodities to be handled and methods for establishing prices, and assisted in getting the necessary incorporation papers. The Farm Security Administration furnished information with reference to capital set-up, loans, and schedules of repayment. The Extension Service supplied information concerning the standards for use in the kitchen, kind and variety of vegetable crops to be grown, and types of displays for fruits and vegetables. The State department of health furnished information concerning standards for displaying and handling certain perishable products. The Extension Service and Farm Security Administration developed a system of bookkeeping for the market. The Atlantic County board of agriculture helped in securing data and in getting plans for the building and its construction and advanced funds for incorporation. The Farm Security Administration loaned the necessary capital for the establishment and operation of the market and together with the Extension Service cooperated in getting 30 women to join the market, and to adopt the approved standards in their homes and kitchens, and inspected the homes and kitchens. These two agencies also worked out plans for producing poultry and eggs, growing crops suitable for cooperative market outlet and in giving talks to women's clubs and civic organizations to acquaint them with this type of marketing. The State department of health set up the standards for the conduct of the market itself.

Teachers of vocational agriculture are cooperating with instruction on those farms where there are students taking a course in vocational agriculture; the production credit association of Bridgetown is encouraging and advising its production credit clients in producing for the market; the Pomona Grange is serving as an educational outlet. The Forest Service and other agencies have assisted by furnishing information and giving advice on various points.

As a result of the operation of the market, adjustments have been noted in the programs of the Extension Service, Farm Credit Administration, and Farm Security Administration on those farms where the farm women are members of the cooperative market. The farm families participating in the market are being encouraged and sup-

plied with information on the production of those things which they can sell in the market and which will bring in a real income. This has made it necessary to make changes and adjustments on some of these farms as to variety and quality of crops produced for sale. In short, the market has become the focal point toward which the individual farm family and agency representatives are cooperatively directing their thinking and efforts.

*Coordination resulting from cooperative area analysis and study.*—Cooperation in identifying the different land use areas and agreeing upon the broad, over-all objectives for the different areas, aids the individual agencies and farmers in directing their operations. Committee members and farm people generally—through public meetings—gain an understanding of the specific nature of local conditions and of changes that are practical and feasible to improve conditions in the community and on the farms as they vary from one area to another. Similarly, a useful understanding is gained of the purposes and operations of the different public programs operating in the county or State, and of the efforts which farmers themselves are making. Understanding is developed of the applicability and the functioning of different programs in varying local situations. Better coordination, and better fitting of activities to local conditions is a natural outgrowth of such improved understanding.

Many examples could be cited of benefits resulting in this way, but a few will serve to indicate the effectiveness of the work. Assistance in selecting land for farming is one of the most humanly significant benefits of the cooperative studies. The information developed on the conditions in the different land use areas provides a basis for selecting the areas where farming efforts have a reasonable chance of success and for avoiding settlement in locations where conditions are unfavorable. County agents use the reports of the studies in advising prospective settlers.

Similarly, land owners and credit and investment agencies use the information in determining policies which fit the differing local conditions.

In a number of counties, local taxing authorities find the maps and reports valuable as a basis for revising assessed land valuations, and achieving a distribution of the real-estate tax based on the productive capacity of the land.

The maps are used in a similar way in developing programs for tax-forfeited lands. The area classification is used as the basis for deciding which lands are to be sold for farm use and which are to be retained in public ownership and developed for forestry, wildlife, recreation, or some other use to which the land is better suited than to farming.

The secondary road-planning program, carried on by the various State highway departments in cooperation with the Public Roads Administration, has included the use of area maps and reports in many ways. They are highly regarded by highway planners. From them, determination can be made of areas where future development and use of the land probably will be more or less intensive than at present.

A basis is thus provided for gauging the desirable intensity of road development, including not only the areas needing more or better



roads, but also those where some of the existing roads might be discontinued or be less intensively maintained. Because of this utility of the land use maps and reports in their work, the Public Roads Administration and the State highway departments in nearly all States are actively cooperating with the land use planning committees by supplying them with the detailed base maps used in mapping land use areas.

Agencies of the Department, after cooperating in the area study and analysis, use the resulting information in many different ways, as in selecting areas for tenant purchase, in determining credit policies for different areas, in developing farm plans with farmers who are participating in certain programs, and in determining boundaries for forest acquisition projects. Flood-control planning, water facilities development, soil conservation, and rural electrification are other activities to which the intensive study and analysis has contributed.

County agents are aided in developing their programs of education and service so that they are more closely fitted to the varying conditions in different areas of the county.

In carrying on from intensive study and analysis to the systematic work of developing unified-action programs, the findings of this earlier work provide a common basis of agreement as a starting point. Beginning the "unified program" phase of planning with a set of agreed-upon conclusions and objectives, the consideration of ways in which each agency can help in achieving the objectives can be approached logically and systematically.

#### WAYS IN WHICH VARIOUS AGENCIES HAVE BENEFITED FROM PARTICIPATION IN THE LAND USE PLANNING PROGRAM

Along with the interest in and the support given by administrative, research and educational agencies in the land use planning program, there have been substantial benefits to these agencies in making their various programs more effective. Beginning their participation in planning with a healthy skepticism, many agencies have found by experience that cooperative planning is a successful way, not only to obtain coordination but also to facilitate the application of individual programs and to make various programs bolster each other in dealing with complex and interrelated problems. In this way the programs of Federal, State, and local agencies—administrative, research, and educational—have found that participation in cooperative planning helps them to improve the quality and effectiveness of the service they render.

Among the major benefits that accrue to all agencies are the area mapping, analysis, and classification data, which provide a common factual basis for each agency to use in fitting its program to the actual conditions as they vary from one land use area to another. Previously, the preparation of comparable maps and reports, as a technical survey job, had cost many thousands of dollars per county. Through cooperative planning, highly useful land-use-area maps and reports are prepared at a cost of only a few hundred dollars and at no special cost to most of the agencies which cooperate in the process. The participating agencies benefit in numerous other ways, such as gaining a more widespread farmer understanding of their program, better understanding of the programs of other agencies operating in

the county, and better working relations with such agencies. In the process of working together to translate planning recommendations into action and to develop unified programs, agencies find that they are enabled to increase the effectiveness of their programs in ways which would have been difficult if not impossible to discover without the cooperative, over-all planning in which they participate on the various committees.

Because of the informal nature of land use planning work, and because of its emphasis on local problems of adjustment, its more important benefits probably are those which arise indirectly, and which cannot be described as tangible results. Many improvements have been made in the administration of individual programs and in the coordination of various programs without any specific changes in policies or procedure.

Many specific examples could be given of the ways in which a large number of agencies have found the planning program helpful to them, but space prevents including them here. Mention of some of the agencies which have benefited in various ways will help, however, to indicate the wide usefulness and helpfulness of the cooperative planning process as a means of assisting agencies in directing their various programs. The agencies which have benefited include Agricultural Adjustment Administration, Farm Credit Administration, Farm Security Administration, Soil Conservation Service, Soil Conservation Districts, Forest Service, Rural Electrification Administration, Water Facilities Program, Flood Control Planning Program, Surplus Marketing Administration, various research agencies, State agricultural extension services, State highway departments, State departments of land, forestry, and conservation, State departments of agriculture, State health departments, local government, and numerous field offices of Interior Department agencies.

In addition to this benefit obtained by governmental agencies, the planning process has proved helpful to local people in working out solutions to problems which do not require the aid of Government agencies or the expenditure of public funds. Sometimes the action developed in this way has been individual action. In other cases it has been group action taken through cooperative associations or by less formal types of group organization. In the long run it may be that aids to and stimulation of private action of these types will be a greater contribution of cooperative planning than its effectiveness in connection with government programs.

#### PARTICIPATION OF AGENCIES IN LAND USE PLANNING

Cooperative planning has been increasingly successful in bringing together representatives of Federal, State, and local agencies as members of land use planning committees. Participation of these agencies is an integral part of the planning process. Without it, successful cooperative planning would not be possible. Working side by side with farmers, these representatives have become better acquainted with the total agricultural program and with local situations. Better understanding and cooperation have resulted. Overlapping or counteracting of governmental effort has been substantially reduced. Participation in these committees has given the employees of each agency a better perspective of their own programs and how they can fit into a unified agricultural program.

In addition to the representative farm men and women who comprise approximately one-half of the members of the State land use planning committees, these planning groups include officials from many agencies.

Department of Agriculture agencies are represented on the 45 State land use planning committees as follows: Farm Security Administration on 45 committees, Bureau of Agricultural Economics on 44, Soil Conservation Service on 44, Agricultural Adjustment Administration on 43, Forest Service on 42, and Farm Credit Administration on 35. In addition, Federal agencies other than those of the Department of Agriculture are represented on some of the State committees. Among these are included the Public Roads Administration on 37, Fish and Wildlife Service (formerly Bureau of Biological Survey) on 13, Bureau of Indian Affairs on 6, Grazing Service on 5, and Bureau of Reclamation on 4.

Membership from State agencies on the 45 State committees is also strong. In each of these States the State director of the agricultural extension service is a member and serves as chairman of the committee. The director of the agricultural experiment station is a member on 40 committees; and the State highway commission is represented on 29, department of conservation on 26, State planning board on 22, State department of agriculture on 20, State department of vocational agriculture on 16, and State college of agriculture on 12. In 29 States, 1 or more other agencies or institutions within the State have representation on State land use planning committees. Among these are such agencies as department of health, State land office, department of development, milk commission, and others.

*Participation of administrative agencies.*—In their capacity as members of the State and county land use planning committees, representatives of Federal, State, and local administrative agencies are contributing in major degree to the success of the planning work. They have furnished important land use data and maps, have participated actively in analysis of local conditions, in drafting recommendations, and in supplying information on what their agencies could do to carry out agreed-upon recommendations.

In addition to attending regular planning committee meetings, and contributing various types of basic data, agency representatives have served on numerous subcommittees dealing with special problems. Their contributions to the program through these working committees and through individual consultation with other committee members and with local farmers have been of immeasurable value.

Then, too, land use planning committees and agency officials not represented on the planning committees, sometimes have held joint meetings to discuss particular problems or proposals. In this way, final recommendations could be drafted that had the combined support of all parties concerned.

By explaining details of their respective programs and the legal limitation involved, the agency representatives contributed much to a better understanding of the public services now available. Empowered with public authority, these agency representatives have been able to implement recommendations of planning committees and to give great help in the development of coordinated land use programs.

Interchange of ideas among the agencies themselves and the increased understanding and good will resulting therefrom has been another significant contribution of the participating agencies.

While contributing to the development of comprehensive county and community programs of agriculture and to the work of the State committees, the administrative agencies also have themselves benefited from the work.

*Participation of research and technical agencies.*—One of the major problems confronting State and local planning committees is to obtain authentic data on which to base land use recommendations. Such information is being contributed from a wide variety of sources, including the Bureau of Agricultural Economics, the State agricultural experiment stations, the Forest Service, Soil Conservation Service, and other agencies.

The outstanding agricultural research organization at the State level is, of course, the State experiment station, which is regularly represented on the State land use planning committee, and on the land-grant college-BAE joint committee. These State experiment stations generally help to supervise several cooperative employees who give full time to land use planning work. Working cooperatively in most instances with the several divisions of the Bureau of Agricultural Economics and the State agricultural college, the State experiment stations have helped to sponsor numerous short-time research projects designed to service State and local planning committees. In addition, they have conducted their regular programs of basic scientific research, much of which has contributed directly to the land use planning program. In both types of activity, the experiment stations and the research units of the Bureau have continued a friendly collaboration of many years standing. For convenience, specific Bureau research work, however, is treated elsewhere in this report.

Not only did the State Experiment stations and other research agencies do a large amount of research work themselves to assist planning committees, but they have frequently used their personnel to train land use planning committeemen and other local leaders in the art of interviewing and data gathering to the end that they could conduct some studies on their own initiative.

*Participation of education agencies.*—The planning work, can obtain best results only when accompanied by a broad and comprehensive educational program for all concerned. The Agricultural Extension Service, through its regular educational activities, has carried most of this responsibility. It has served also as a clearing house and distributor for much planning literature published by the Department of Agriculture.

Most of the action agencies also have contributed educational material for State and local committees. A number have developed film strips, lantern slides, and moving pictures describing and illustrating various phases of their programs.

In many States the planning committees are turning increasingly to the public schools for educational assistance. School officials, agricultural teachers, and home-economics teachers are serving on many planning committees. Some public schools are making wide use of land use maps and planning reports in their class work and

are assisting with the vocational education program. Progress has been made also in extending the adult educational opportunities in rural areas. In several communities, land use planning committees have met jointly with agricultural evening classes for discussion. Local school officials, in a number of instances, have cooperated with planning committees to adjust school districts in accordance with future land use, to prevent the erection of unnecessary school buildings and to effect desirable school-district consolidation.

Some States are beginning to give special emphasis to land use planning in their preemployment and in-service training programs for extension workers, vocational teachers, Farm Security supervisors, and other agricultural leaders. Several are sponsoring special land use planning schools, State and district conferences of professional agricultural workers, and special college courses with the specific purpose of training efficient leaders for the land use planning program. Such training activities naturally have far-reaching significance for the future development and success of land use planning and other programs for agriculture.

### GETTING FACTS TO FARMER PLANNERS

The fiscal year 1940 witnessed a steady realignment of the Bureau's technical and research activity. The paramount reason for this shift of emphasis was the need for a sharper focus of this kind of work upon specific concrete conditions. In two major ways, the 1938 reorganization made heavy drafts upon the time and energy of members of the Bureau's research staffs.

On the one hand, there was an immediate pressing requirement for quick research jobs. Requests for help arose directly from the need of county and community committees for expert advice on local conditions and proposals for solution. But the planning work in the States also increased calls for services to other Department organizations, the activities of which were affected by the planning program.

A second principal line of work developing from the Bureau's responsibility as the central planning agency of the Department was that called for in the formulation of programs at the national level. Performed mainly for the Interbureau Coordinating Committee on widely divergent types of problems, this research and service activity covered multifarious fields and involved performance of numerous services for other Department agencies.

And meanwhile the Bureau continued its more traditional fundamental research, both economic and social. Considerable advances were made during the year in the improvement of methodology in several research fields, advances that were of special importance in view of the rapid expansion of research related to immediate problems. Long-range studies of farm income, areas of land use adjustment, interregional competition, financial trends, and others continued.

Separation of such functions for the purpose of a report is always somewhat artificial. Indeed, all chapter divisions of this report must be regarded as arbitrary, since it is fundamental to the Bureau's work that all of its activities be closely meshed and part of a single effort. Yet for purposes of discussion, such groupings are attempted.

## RESEARCH AND LAND USE PLANNING COMMITTEES

Development of the Bureau's research work related to land use planning during the year was of special interest. This was the first full year during which the effects upon research of a cooperative planning program involving farmers could be gauged. Covering conditions and places so diverse as to make it impossible to do more than mention a few examples, research of this kind occupied a very large part of the efforts of the Bureau's research staff during the year.

One example of this service research, singled out here because it has enjoyed such a remarkable growth during the year, is the help rendered land use planning committees in delineating the natural boundaries of communities. The plan of work has been, on request of a committee, to map neighborhoods and community areas for the county as a demonstration. The findings have then been discussed with the State BAE representative, State project leader, and land-grant college-BAE committee. In every State in which this work has been done in one county and the basis for it as well as its practical utility presented, the planning work for the future is being set up with communities and neighborhoods as basic units.

Culpeper County, Va., affords an instance. Early in September 1939, the members of the land use planning committee of the county invited a technician in community organization to participate in their meetings because they were encountering organizational problems. While those farmers who could be reached were becoming interested, the questions of how to get more farmers interested in planning and later how to get plans put into action became important. Representative community committees also were needed.

It was agreed that if committees were to be representative and planning done most democratically, each rural community should have a representative on the county committee and that each community committee should be composed of representatives of the small neighborhoods within the community.

In cooperation with the county committee, all the neighborhood and community areas were identified and mapped. Now each natural neighborhood group can have its own representative on the community committee, and each community can designate one of its own members to represent it on the county committee.

Based on the experience there, district agents, county agents, and planning committees throughout Virginia asked similar assistance. During the year, 600 neighborhoods and 142 communities were identified and mapped in 14 Virginia counties. In every county where this work has been done, the county agent has reorganized his extension work to conform to the community scheme, and planning committee set-ups have been revised.

## HAND COUNTY, S. DAK.

The work in community organization in Hand County in South Dakota is another instance. The 40 townships previously used by the Hand County extension agent in calling group meetings were resolved into the 12 coherent community areas now being used in land use planning and extension work. The county committee and

the county agent recognized that it would be impossible to set up 40 planning committees and expect the county agent to meet with each group several times during the year.

How to get fewer and more effective planning units was answered by a cooperative research study. The Hand County planning committee set up a subcommittee to make a careful study of community organization and to map the community area for the county.

This subcommittee, with the aid of a technician in community organization, pursued the work in Hand County by first asking farmers to map out areas within which people had common interests. All the church, nationality, school, and trade areas were mapped. The technician then developed one county map showing these areas. He asked the farmers to indicate the limits of each neighborhood: Those within which people "neighbor" with each other, children attend the same school and Sunday School, men "exchange work," contacts are frequent and personal, and there is a sense of belonging. The farmers also defined areas within which people from more than one neighborhood had sufficient common interests to meet together if questions should arise involving a larger area than one neighborhood. In this way the larger community areas took shape.

Now the county agent can work with 12 community groups instead of the 40 townships. This means that he will now be able to meet with the people more frequently. What is more important, he will probably find the people showing more interest in community planning activities as a result of working with a living and functioning organism instead of an area artificially created and bounded.

This work has already been done in 40 counties where 480 communities and 3,600 neighborhoods have been studied and outlined during the year. State workers have requested similar services in counties in which the program had not yet been started, in order that it might begin on a more effective organizational base. As the volume of demand for this type of service increased, arrangements were made to train local personnel in the simple techniques required, and in some counties techniques were evolved whereby the work was done directly by the county committee.

#### EFFECTS OF COUNTY RECOMMENDATIONS ON FARMS STUDIED

An important technical contribution to land use planning has arisen from studies of the effects on individual farms of broad county recommendations. For example, county committees have learned from such studies that recommendations as to appropriate size of farms would, if carried out, result in one out of three of their neighbors moving out of the county. Alternatives to such situations have been worked out for many committees.

In the Southeast, farm-management studies in intensive counties in the planning program are under way in Greene County, Ga.; Marion and Henry Counties, Ala.; the Gaston-Lincoln area of North Carolina; and the Pennyroyal Plains area of Kentucky. An additional study is planned for a coastal plains county, probably in eastern Georgia. These studies are essentially similar. The farm-management aspects of planning were carried to the recommended-adjustment state in Ward and Sargent Counties, N. Dak., where the more intensive studies of the Northern Great Plains were concen-

trated. These studies included analysis of background material in relation to farm-management problems and assistance to planning groups in determining through the budget approach adjustments required in various problem areas.

Quay County benefited also from an analysis of small ranches in northeastern New Mexico which was continued during the year. The effort here is to determine sizes and types of small ranches most likely to succeed in those portions of the Southern Great Plains where an attempt is being made to shift from crop farming back to a grazing economy. A presentation of the organization, operation, and earnings of small ranches, together with suggestions for organization and operation of various types of ranches, was released as a preliminary report for the Quay County, N. Mex., land use planning committee. On the basis of this report, the county committee revised its recommendations as to the size of ranches which all State and Federal agencies should encourage.

Groups of farmers were assisted in preparing income estimates of recommended systems of farming in problem areas in these counties at meetings where Bureau representatives assisted with the technical phases of budgeting, supplying the necessary forms, explaining significance of background data, and assisting in budget calculations.

Somewhat similar to these North Dakota studies are studies in Box Butte and Boone Counties, Nebr., and Teton County, Mont. These studies in the Northern Plains have resulted in the development of objectives, procedures, and methods that can be used by county committees in other areas with a minimum of technical assistance. This desirable objective is partly achieved already in North and South Dakota.

In the southern Great Plains, intensive studies of this kind are under way in four counties: Young County, Tex.; Hempstead County, Ark.; Washington Parish, La.; and Okfuskee County, Okla.

The demands of county planning committees are not always for background information. For example, although committeemen in Nemaha County, Kans., were interested in situation reports similar to those forthcoming in the above studies, the committeemen of Quay County, N. Mex., were interested in specific answers to questions of organization and operation of wheat and row-crop farms. A special study was made to that end.

Additional studies designed especially for quick answers to planning committee questions on farm management are under way in Lee County, Ala.; Sumter County, Ga.; Columbia County, Fla.; Hopkins County, Ky.; Caswell County, N. C.; Roane County, Tenn.; Platte County, Wyo.; North Dakota; South Dakota; Chase County, Kans.; and Covington County, Miss.

Numerous intensive local land utilization investigations also were conducted during the year. The areas studied have been selected, as a rule, on the basis of their representativeness of recognized major land use regions. But consideration has been accorded to the requests of county planning groups. These investigations are generally cooperative with the State experiment station and carried on in close contact with the county or other local planning groups. During the year 13 such projects were active in 11 States. Some of these have been completed, others are approaching completion, and will



be in the report stage within another 1 or 2 months. Although expense restricts conduct of this work on the scale called for in the land use planning program, much can be done through the selection of representative local areas and publication of the findings.

Progress was made in relating to the land use planning program the studies of the effects of various types of control over land.

In addition, studies of grazing associations were completed, an example of collective control by voluntary associations, which is another field of the directional measures research program. In cooperation with the State experiment station, the application of rural zoning to land problems in three widely separated sections of the country was investigated—in the foothills of the Sierra Nevada Mountains of California, in the coastal region of Oregon, and in the northern Great Plains. Administrative problems of zoning were studied in Wisconsin where the measure has been in use since 1933. These research activities were all related to the planning program in the various States where work was done.

Research studies of problems of local government organization and finance auxiliary to land use adjustments and agricultural planning continued in cooperation with experiment stations and in response to requests of planning committees. Farm property is the fundamental source of most local taxable values, and changes in relationships between population and land resources involve changes in needs for public services, and the amount, kind, and distribution of fiscal resources that may be drawn upon to support them. Changes in intensity of land use and changes in settlement pattern, as in the case of shifting from a dry-farming to a grazing economy, mean drastic revisions in tax base and in costs and location of such public services as schools and roads as well as in methods of supplying these basic needs. Similar changes accompany extensive tax delinquency and programs for management of county-owned lands.

A number of specific county analyses have been completed and more are under way or requested. Surveys made, or under way, many of which are being made available to county land use planning groups, deal with such specific matters as (1) reorganization of local units (Ward County, N. Dak.; 14 southwestern counties of North Dakota; Roosevelt, Daniels, and Sheridan Counties, Mont.; Duchesne and Uintah Counties, Utah; Covington County, Miss.; Whatcom County, Wash.; Wayne, Iron, and Madison Counties, Mo.); (2) programs for use and disposal of chronically delinquent-tax-reverted lands (14 counties of southwestern North Dakota); tabulation of data for North Dakota; 300-page report for National Resources Committee; report on improvement of tax-title procedure in North Dakota; and (3) assessment of farm, ranch, and irrigated lands, Young County, Tex.; Pinal County, Ariz.

#### TWO TYPES OF RESEARCH AND PLANNING ACTIVITIES

Research and planning activities on land tenure aspects of land use planning are of two general types: (1) detailed studies in selected counties; and (2) the development of a work outline and information leaflets to be used next year in unified counties where tenancy is prevalent. Detailed studies on farm tenure in connection with the land use planning program were undertaken in North Carolina, Nebraska, and

Arizona. These studies have been completed and the information has been presented in preliminary form. The development of a work outline and information leaflets has been completed only in preliminary stage and will involve considerable time during the coming fiscal year. This requires only a small amount of research as most of the information that is immediately necessary has been obtained in earlier studies.

Much attention has been given to developing for land use planning committees information dealing specifically with social, cultural, and population problems. Reconnaissance surveys have been undertaken to provide county committees with a rapid over-all summary of the major social problems in the counties as related to the planning work. These surveys have been based on published sources, as well as field interviews with local leaders. On the basis of these quick surveys, county committees are requesting additional surveys of specific problems. Information linking one county to others in the immediate vicinity or in the entire region has been provided in many instances.

Studies of levels of living have been requested and carried on in Maine and in Caswell County, N. C.; the survey in Maine being done by homemakers' clubs who themselves collected the schedules. This survey has already shown the wide variations in levels of living in the rural areas of Maine. Further analysis is in progress. In Caswell County, the purpose was to make an intensive study of relatively few families in order to understand interrelationships in levels of living of the people, and to relate the variations to differences in land use and tenure.

Field studies of the relation of farm population to resources have been made in Washington County, R. I.; Warren County, Iowa; Nemaha County, Kans.; and Ward County, N. Dak. In Washington County, R. I., an attempt was made to determine the trends of population and the relation of these trends of land use. In Warren County, Iowa, technical assistance was given in a study of trends in population and opportunities for absorbing young people in agriculture. In both Nemaha County, Kans., and Ward County, N. Dak., detailed studies of trends of rural population, especially as they relate to the school age population, have been made. Assistance in analyzing population trends has been given county committees in South Dakota, Colorado, and Kansas.

In five counties in Colorado, arrangements were made with school officials to take the annual school census in such a way as to provide additional information on population and migration which was desired by the county committees. In Ross County, Ohio, and in two counties in Wisconsin, studies have been undertaken to obtain effectual bases for the building of programs for rural youth.

#### INFORMATION COLLECTED ON NEED FOR PUBLIC ASSISTANCE

One of the major questions on which land use planning committees have sought information has been that of need for public assistance and characteristics of groups receiving assistance. Planning committees in Carleton County, Minn.; Boone County, Nebr.; Hand County, S. Dak.; and Belknap County, N. H., have raised such questions and the Bureau has afforded aid in gathering information

for them. In Teton County, Mont., after the planning committee made preliminary recommendations concerning the minimum size of farm unit, further study showed that more than 200 families who apparently were self-supporting were living on farms below that minimum size. The work done so far to find the reasons for this paradox indicates clearly a need for an appraisal of factors other than size of farm in determining subminimum farm units.

In a number of counties, requests have been made by the county planning committees for analyses of the rural leaders in the county in an attempt to determine the sources of these leaders, the extent to which they represent the more important groupings within the county, and their fields of activity, as well as the manner in which they exercise this leadership. Such a study has been under way in Adair County, Iowa, and in a number of counties in Kentucky.

Near the end of the year arrangements were being made with the Extension Service for a more comprehensive study in a Nation-wide sample of counties in an effort to find the extent to which leaders in the planning program are representative of all groups within the county and the manner in which they perform their functions both as representatives and as leaders, as well as the reasons for variations.

In Box Butte County, Nebr., the land use planning committee requested assistance in making a study of land tenure and its relation to land use and community activities. This study, although not yet complete, has shown a high mobility rate among farm tenants, low levels of living, and greater depreciation of land and improvements on tenant-operated farms.

One of the major problems confronting the Wayne County, Mo., land use planning committee was that created by construction of a dam on the St. Francis River by the United States Army Engineers. It appeared that the dam would displace 450 families. About 300 of these families lived on farms, and it was evident that location outside the county must be considered. In cooperation with the University of Missouri, a house-to-house survey of the families located on the land was made, and the data were turned over to a joint committee set up by the land use planning committee. The latter arranged for assistance to families.

In connection with the work done at the request of county land use planning committees, attention has been given to participation by farmers and homemakers themselves in the making of the studies. This has sometimes proved more effective than having someone else do the job for a local committee, and has made a genuine contribution to the work of the whole planning program.

### MATERIALS OF POLICY-MAKING

In the broad fields of fundamental social and economic inquiry, analysis, and interpretation, the Bureau continued to make progress. Changing emphases necessitated by farmer participation in planning in the field and by cooperative policy determination in the Department, went hand in hand with a strengthening of more traditional research activity.

Pointing of research to more specific goals, with the changes in techniques and attitudes involved in that effort, has aided in this

strengthening. Too, it has provided new materials for researchers. An instance of this was given in the discussion of the land use planning work of farmers. It was pointed out that the mapping work of local committees has expanded tremendously the basic data available for research workers in related fields.

This progress has been confined to no one phase of the Bureau's activity. In studies of production, income, and prices, of distribution, and of the land and the life of people on the land, encouraging forward strides were made.

Substantial work was accomplished in research on farm income. A series of farm-income estimates covering the years from 1909 to date was completed. New series of estimates of income from individual commodities were published during the year for corn, oats and barley, flaxseed, rye and buckwheat, potatoes, and chickens and eggs. These publications bring the commodity estimates almost to completion. Estimates of expenditures for farm machinery and for fertilizers also were completed.

In order to compare estimates of incomes of persons on farms with incomes of persons not on farms, it is necessary to review and to reconstruct some measures of income from nonagricultural sources. To this end, the Bureau with the aid of the Department of Commerce and the National Bureau of Economic Research prepared a preliminary series of annual estimates of income from nonagricultural sources, designed to be comparable with the agricultural estimates. The preliminary estimates were brought to virtual completion during the year.

Reports from farmers included in the eighteenth annual inquiry on returns of the farm business reflect somewhat better conditions for farmers in 1939 than in 1938; and, rather generally among the group, 1939 was the best year since 1929. The group reporting from the North Atlantic States showed increases in expenses exceeding the increase in receipts from sales, and attendant decrease in cash balances or net result, which dropped from \$902 in 1938 to \$739 in 1939. In all other divisions, net results were larger in 1939 than in 1938 through larger cash balances rather than through increases in inventory values.

Examples of the results of long-time analysis submitted for publication during the year included a bulletin on the production and consumption of manufactured dairy products which supplies information concerning the relationships between production, foreign trade, and consumption of individual products, as well as all combined. The facts presented in this bulletin are necessary in appraising the outlook and in making plans for agricultural adjustments.

Another bulletin dealing with trends in production and foreign trade for meats and livestock in the United States presents a thorough treatment of important aspects of the livestock industry, and is an invaluable contribution to farmers and agricultural planners who must base their plans for production and marketing on expected trends in production, trade, population changes, etc. Important conclusions of this study are that meat production in the United States probably will increase further over a period of years, but that the rate of increase in production is likely to be less than the rate of increase in population. Exports of meats and lard have been greatly reduced during the last 40 years, and there is little likelihood that exports will again become important to the livestock industry.

"Wholesale Prices of Fats and Oils in the United States, Index Numbers, 1910-39" presents a scientific basis for measuring price changes, and is a real contribution to the method of price analysis.

#### NEW YORK CITY MILK MARKETING PROBLEMS STUDIED

Effective work was done in the field of milk marketing problems, including help in the supervision of projects conducted by the New York State College. The New York project was a study of the demand for dairy products in the New York City market, and a study of milk prices in the New York metropolitan milkshed. The facts brought out by this study supply basic data relating to the basing of prices for fluid milk and cream. The project with Pennsylvania State College is a similar study which deals with the receipts from and utilization of milk, cream, and fresh condensed milk at the Philadelphia market. At the request of the Northeastern Dairy Conference a representative of the Bureau has been developing a report on the consumption of milk and cream in the Northeastern States in cooperation with a conference committee.

Costs and returns studies included continuing projects on farm business analyses, records of tobacco farms in south-central Virginia, and costs of producing corn, wheat, oats, and cotton. Special studies were completed during the year on the cost of producing hogs in the Corn Belt, trends in cotton costs, and the development of a technique for classifying and sampling farms.

Studies of farm returns by specific farm types involved construction of indexes for specific types and sizes of farms. Only major types—types which are significant and which differ materially from each other—have been considered. Emphasis has been placed on the model-sized farm that in most instances is the family-sized farm and represents the central tendency in the area. Indexes have been developed for Virginia tobacco farms from 1922 to 1948, for general corn-hog farms in southern Iowa from 1924 to 1939, and for each of six major types of farms in the Corn Belt from 1910 to 1939.

Curves of diminishing returns were constructed for dairy-cow feeding in a preliminary analysis of the experimental data on the input-output relationship between feed and milk. The curves express in condensed form the return in output for additional units of feed intake at various levels of feeding.

It is considered a significant result that the response to increased feeding appears to be only half as great as it has so far been tacitly assumed to be in the use of the feeding standards. Results indicate that there is a very large elasticity in dairy feeding. It may be possible to use large quantities of additional feed with only small loss in the efficiency of converting this feed into milk. Also, if subnormal grain crops or increased demands for grains for other uses under wartime conditions should make a reduction of grain feeding necessary, the effects of such a reduction on milk output will be considerably less severe than has so far been assumed.

#### INFORMATION ON PRICE SPREADS ISSUED

Work on price spreads between farmers and consumers for 58 food products has been continued and brought up to date. Previous publications on "Price Spreads Between the Farmer and the Consumer"

have shown what the margins have been over a period of many years. A 1940 supplement to this report was released. This brings to date the original report issued in July 1936 and contains some discussion of developments following the outbreak of the European war in early September 1939. Monthly statistical summaries on food-price margins are released regularly. Estimates of millers' margins for white wheat bread are calculated each month and distributed upon request.

For all important food products as a group, the farmer's share of the consumer's dollar remained unchanged from 1938 to 1939 at 40½ cents, following a high of 45 cents in 1937. In 1939, the retail value of the quantity of 58 foods consumed by a typical workingman's family was \$311. This was a decline from a value of \$321 in 1938. The farm value of these foods dropped from \$130 to \$126 in the same period while the margin for marketing charges dropped from \$191 to \$185.

Information showing price spreads between producers of lint cotton and consumers of finished cotton products is being compiled. Special problems encountered include the determination of prices received by farmers for cotton of a specific grade and staple length in order to make valid comparisons with specific classes of finished products. Break-down of the farm to retail price spreads is being developed to show the amounts going for the different functions such as storage, processing, transportation, and retailing, and for the various cost items such as wages, rents, interest, taxes, and profits.

Substantial progress has been made in a special project relating to processing-tax refund cases of the United States Bureau of Internal Revenue. The files of these cases contain much information on margins, processing costs, processing methods, materials used, and conversion factors, for the first processing of the several commodities upon which processing taxes were levied under the original Agricultural Adjustment Act. A large amount of statistical material relating to margins and costs has already been obtained for firms processing cotton and wheat, and data for other commodities are being collected.

Steps have been taken to enlist the cooperation of trade groups and other interested agencies in a broad survey of losses through waste, spoilage, and enforced mark-downs incurred in the marketing of agricultural products. From a few data presented by the Federal Trade Commission it is estimated that waste, spoilage, and mark-down losses on fruits and vegetables alone amounted to about \$300,000,000 during 1939.

Detailed summaries have been made of consumer-dollar break-downs for a large number of fruits and vegetables sold in New York City, showing all important charges between shippers and consumers.

Continuous progress is being made in the important work of assembling data and source reference on factual costs of marketing with a view to classifying all material bearing on marketing costs by commodity and by marketing function. These studies of marketing costs and charges have been of considerable interest and value in giving an estimate of the current marketing bill and in indicating general trends in marketing costs. It is an obvious fact that since 1922 a number of expensive services have been added to the marketing system partly, at least, at the demand of consumers. It is important that low-cost methods of processing and distribution be kept in existence as long as there are low-income families who must pay as low a price as possi-

ble for food, who do not expect to get the highest quality so long as the food is healthful, and who are willing to forego a large number of marketing services.

In an agricultural system in which the bulk of production is for market and in which prices are depended upon as a regulator of quantity produced, constant attention and scrutiny should be given to the price-making mechanism to see that it is functioning properly. Developments that affect price making should be studied and opinions reached as to their desirability. Particularly in periods of economic uncertainty and unsettled world conditions is it necessary that close observation be given to the workings of these price-making forces.

At present, prices for agricultural commodities are established in a number of ways, some of which are rather new developments. For instance, some commodities are moving around the established markets directly to large buyers who pay for them a price that is based on the price established in the market. It is important that the effect of this movement upon the price-making mechanism within the market itself be known. In many other instances the methods of marketing are having a vital effect on the prices that are established.

Although some Bureau studies during the year were concerned with price-making aspects of the market, the only studies concentrated especially on this subject were those dealing with tobacco-price variations, with the effect of recent developments on cotton prices and on the welfare of the cotton farmer, and with future price relationships.

In recent years, the tobacco trade generally has recognized the need for control of certain selling practices. One of its recommendations has been that no sales be conducted at rates exceeding 360 piles an hour. The State of Kentucky has passed a law which contains a regulation of this type. The Bureau carried forward a study which shows that this kind of regulation is beneficial to tobacco growers, and that more orderly sales in auction warehouses should lead to fairer pricing of tobacco and a more equitable distribution among growers of the total returns for the crop.

One brief analysis showing the bad situation in regard to pricing which has existed on some markets has been completed and turned over to the Agricultural Marketing Service. This analysis contained data which showed that a considerable number of tobacco growers were accepting prices less than those received by others for the same kind of tobacco.

#### SURVEY MADE OF PREMIUMS AND DISCOUNTS IN CENTRAL COTTON MARKETS

An effort was made to find to what extent premiums and discounts in central markets for grade and staple length are reflected in the prices received by cotton growers. An effort was made during the year to find out just how successful each kind of classification service has been.

Price data were collected on 32,600 bales of cotton in 34 local markets in which no public classification service was available to growers, on 3,600 bales in 3 markets in which a public classer was stationed at the local warehouse, and on 2,400 bales in 9 organized communities in which a Government classification service was made available to growers. The results brought out the following conclusions: Premiums and discounts to growers for cotton sold without a classification

service often represented only a small proportion of those quoted in central markets. Premiums and discounts to growers for cotton sold on the basis of the classification of a public classer stationed in the local warehouse compared favorably with those quoted in central markets. The information on cotton sold in the 9 organized communities, in which a Government classification service was available to growers, indicates that in most instances the information on classification either was not available to growers at the time the cotton was sold or, if available, the cotton was not sold by growers on the basis of this information.

A study of cotton price relationships and outlets for American cotton was made in an attempt to provide information useful in formulating plans for production and distribution of American cotton. The results of this study are now being published. Among other things, the study brought out the following points: The market value of a large total world supply of cotton was considerably less than that for a small supply. During the years 1921-38, American cotton, on the average, amounted to about 54 percent of the total world supply. During the first part of this period the immediate effect of the decrease in the supply of American cotton was to increase its total market value and vice versa, but with the marked expansion in cotton production outside the United States and increase in carry-over of American cotton in recent years the situation has changed considerably. The proportion of the world supply represented by American cotton has decreased to about 50 percent of the total in the last 6 years. With carry-over making up on the average 44 percent of the world supply of American cotton during this 6-year period, 1933-38, the immediate effect of a decrease in the size of the American crop was to reduce gross farm income from cotton, not including Government payments, despite its strengthening influence on prices.

Changes in cotton prices, in incomes from cotton in relation to production costs and incomes from available alternative enterprises tend to affect cotton acreage and production and to bring about an adjustment in supplies to consumer demand. But, with attractive alternatives to cotton production limited, such adjustments may be attained at relatively low levels of prices for cotton.

Changes in relative prices brought about largely by changes in the relative supply materially affect the outlets for American cotton. Results of analyses indicate that more than four-fifths of the shifts in recent years from American cotton to foreign cotton consumed outside the producing countries is accounted for by changes in the prices of American cotton in relation to prices of cotton produced elsewhere.

#### FUTURE PRICE RELATIONSHIPS STUDIED

Studies were started of future price relationships for the purpose of showing: (1) The relationship between cash prices and futures prices; (2) the amount of hedge protection afforded by futures; and (3) the effects of futures trading on prices and on costs of marketing. Analyses have already been made of data on cotton and wheat. The results show that generally a large proportion of the losses from changes in prices of the commodity in the cash market could have been offset by the use of the futures market for hedging purposes.



Work in marketing trends has just been started. The objective is to trace the development of the marketing system and institutions to provide a more rational basis for marketing analysis, a better background for research and action programs, and an indication of what may be desirable future developments.

Much of the current research reportorial work involved analysis of the economic situation in relation to agricultural commodities and farm incomes, and periodic outlook analyses. Thirteen monthly or quarterly reports were published covering all the leading commodities. Each report contained a summary of the current situation in regard to weather and crop conditions, supplies, probable demand, and various trade factors. Current supply, production, and trade data were dealt with in the reports. Contained in each of the reports was information concerning the outlook for the various commodities.

The Bureau had major responsibility for the conduct of the annual outlook conference at which representatives of the Department of Agriculture, the extension services, and the land-grant colleges meet in Washington for discussion of probable economic developments in different phases of agriculture for the ensuing year.

#### PLANS FOR WHOLESALE MARKETS WORKED OUT

Concern over high distribution costs appears to be growing, and the Bureau was much concerned during the year with research designed to develop concrete plans for reduction in the spread between the price the consumer pays and the return that the farmer gets.

Among a group of related studies was one of the wholesale fruit and vegetable markets of New York City, carried on at the request of the Mayor of the city of New York, members of the trade operating in its markets, and shippers from States as far away as Maine, California, and Florida. In the nature of a special report to the public, the results of this study are discussed in the final section of this report. Much work of a similar nature was carried on.

The Bureau cooperated with the Georgia State Department of Agriculture, members of the trade, growers, city officials, and college representatives in working out means of reorganizing the Atlanta, Georgia, wholesale fruit and vegetable markets by building a new, complete facility adequate for present needs and capable of expansion to meet future needs. The organization to construct the market has been set up. Tentative arrangements for financing have been made. Options have been obtained on suitable sites at satisfactory prices. The Bureau has aided in the drawing up of plans, and members of the trade in the various markets are in accord on the desirability of the plans.

Present plans would make the market self-liquidating, and would call for operation by a nonpolitical board which would function in the interest of the public. This does not mean that the board would actually buy and sell produce, but that it would provide the necessary facilities for dealers, farmers, truckers, and others to carry on their business operations.

Working with the University of Missouri, the Bureau studied the marketing system for handling fruits and vegetables and allied perishable farm products in St. Louis. Existing facilities for the wholesale handling of these products in the city are very old, have no rail-

road connections, and are located in an area which may be used in the near future for some other purpose.

As in the New York study, an effort is being made to find out the cost of every operation involved in the handling of the products from the time they reach the city limits until they are delivered to the retail stores. Attention is also being given to the possibility of reducing or eliminating any items of cost in which such reductions are possible.

In carrying on this work, close relationships are being maintained with all the railroads which should have equal access to the market; with the Mayor of St. Louis and other city officials; the city planning commission; members of the trade and trade organizations; growers; and retailers.

In the spring of 1940, the Chicago Market Service Association, an organization made up of all the dealers operating in the market, requested that the Bureau study the wholesale handling of perishable farm products in Chicago, with a view to recommending improvements in functioning of existing facilities and the type of development that should be planned for the future.

As a beginning, a survey of the traffic situation has been completed, in cooperation with the University of Illinois, and a mimeographed report issued. It was recommended that the practice of selling from trucks as they stand in front of the stores be discontinued by unloading in the stores promptly all trucks that haul to the market, and that the time that vehicles may stand in the market be limited to one hour or less. It was found that, if this were done, the market would not only be freed of present traffic tie-ups but could actually accommodate a greater number of trucks than at the present time.

The study of concentration markets in producing areas of the Southeastern States—North Carolina, South Carolina, Georgia, and Alabama—has been continued in cooperation with the agricultural colleges of those States. With the rapidly expanding production of fruits and vegetables in this area, there is a definite need for planning a marketing system for the products. The general purpose of this study is to determine how many markets are needed; where they should be located; and how they should be laid out, equipped, and operated.

Information has been assembled on the production of fruits and vegetables by counties; the volume moving out of each of these counties by rail, by truck, and by boat; and the extent of movement over each of the highways of the State has been determined, as has the general destination of all produce marketed.

Each county in every producing area in each of the four States has been visited to verify the statistics assembled and to find out exactly how products of that county are marketed, what the weaknesses are in the present marketing arrangements, and what improvements may be desirable. Where organized markets exist, they have been visited and a great deal of information about them has been obtained. A considerable part of the field work on this study has been completed.

This study is an illustration of research on the producing end of the marketing channel. That described above deals with the wholesale markets in consuming centers.

At the request of the Governor of the Virgin Islands, a study was made during the fall of 1939 to find out what could be done

to improve the situation, particularly on the Island of St. Thomas. The study indicated definite possibilities of selling greater quantities of locally produced food on the Island. Market arrangements were not at all satisfactory to large buyers and to those buyers who demand high-quality food handled under the best sanitary conditions. If a more satisfactory marketing system could be developed, it would be possible to expand agriculture considerably in the Virgin Islands, to attract more tourist trade, and to improve the diets and health of the population.

Detailed plans have been drawn up for new market facilities including cold storage, a small slaughter plant, a fish-cleaning house, and retail food-display space. The Farm Credit Administration assisted in drawing up these plans, particularly for the cold-storage facilities. Government funds have been obtained for building the market, a site has been acquired and present prospects are that the new market will soon be built.

As no central agency is in position to put market-research findings into effect, the Bureau has found it necessary to devote time to follow-up work after research has been completed.

For instance, in an earlier cooperative study with the Virginia State Bureau of Markets and the Virginia Polytechnic Institute, it was decided that some agency should be created which would be in position to bring about the desired improvements in the markets of the larger cities in the State, and that provision should be made for the chartering of public corporations known as "Market Authorities" to build and operate markets in the large cities. The Bureau cooperated with State officials in drawing up such a bill to present to the State Legislature. This bill was introduced into the General Assembly in the early part of 1940 and passed, with little or no opposition, in the same form in which it was introduced.

After a report 3 years ago on the wholesale fruit and vegetable markets in Philadelphia, a joint committee of growers, dealers, and consumers was established to consider ways of bringing about the desired improvements. Bureau representatives met many times with this committee. As an outgrowth of this work, the joint committee requested the agencies which made the original study to analyze the merits of each of three different areas as a site for a complete, centralized wholesale fruit and vegetable market and to find out what it would cost to provide the proper type of market in each area. In line with this request, a mimeographed report was issued, showing five complete plans for an adequate market of this type and comparing the costs of putting them into effect.

Attention was given to research in poultry and livestock marketing. Considering their importance as a source of farm income, less attention has been given to the marketing problem for poultry and eggs than for any other group of farm products. Eleven of the State colleges in the Great Lakes and Corn Belt regions decided to undertake a coordinated program of research in poultry marketing and requested help. A tentative program of research has been outlined. As now planned, the studies will include a consideration of terminal and retail operations of poultry marketing, an aspect of the problem upon which very little work has heretofore been done. Some work in poultry marketing is being done in cooperation with the Farm Credit Administration and with some of the State col-

leges in the Northeastern States. Considerable interest has been aroused on the part of producers in this area as to the feasibility of cooperative poultry-dressing plants.

A growing interest has been noted among experiment stations in the North Central States in the possibility of achieving greater coordination of research in livestock marketing. At a regional committee's request, the Bureau has undertaken a preliminary study covering the present status of livestock marketing research and the benefits to be obtained through planning this work on a long-time regional basis. The objective is to obtain a definite statement of the problems that need study and to formulate tentative plans for the research required to give them adequate treatment.

One of the most important marketing developments in recent years is the growth of large-scale food distribution. Two reports were published, additional to those of previous years in this field. The first of these was a printed bulletin prepared in cooperation with the University of Wisconsin on "Large-Scale Organization in the Dairy Industry." The second dealt with the "Patent Situation in the Food Industries."

The purpose of the study of large-scale organization in the dairy industry was to show the effect which the growth of chain store systems and large dairy systems was having on plant ownership and marketing methods for dairy products. The study brought out the fact that many of these handlers operate local manufacturing facilities and that ownership and control of these facilities is slipping away from the producer cooperatives, which formerly operated a large proportion. However, the changes brought about by large-scale organization in dairy marketing have been even more important than the changes in dairy manufacturing. Here the tendency has been toward a shortening and broadening of marketing channels by mass distributors as they have integrated their systems toward the farmer and toward the consumer.

In some phases of the dairy industry, large-scale organization appears to have resulted in a significant reduction in marketing costs, although apparently certain offsetting disadvantages arise out of monopolistic elements and patent control. In a special section of the study reflecting personal beliefs of the writers, the opinion is expressed that where large-scale organization has advantages from the standpoint of efficiency but may also have certain elements of monopoly, Government intervention should take the direction of regulation and control rather than the dissolution of these monopolistic factors.

#### PATENT CONTROL IN FOOD INDUSTRIES STUDIED

Another important problem in the food industries, and one which is often neglected, is that of patent control. The patent system of the United States was designed to benefit the public by providing greater stimulus to technological progress, but it is becoming increasingly apparent that the system as now operating contains certain imperfections. The Bureau completed a study of patents for dairy products, quick freezing, breakfast cereals, flour milling, and meat packing and issued a report. The study indicated that most of the more important food patents are now held by the large food con-

cerns, although in only a few outstanding cases is the nature of the patent grant such as to result in anything approaching full monopoly of a basic food process. Many important food patents, notably those for breakfast cereals and processed cheese, have expired in recent years, although many of the advantages they once gave their holders still inhere through trade-marks and established trade connections. In the report suggestions made for patent reform were: (1) A shortening of the patent period (now fixed at 17 years); (2) greater equality of access to patent processes on a royalty basis to all who choose to use them; (3) improvements in the patent procedure itself; and (4) either the limitation of the patent grant to basic and important innovations, or the granting of two types of patents—one for major and the other for technical discoveries.

#### NEW USES FOR FARM PRODUCTS CONSIDERED

Considerable work was done on new and extended uses of farm products. That relating to cotton consisted of study of the development of new and improved cotton fabrics and other cotton products by technological means, and the collection, summarization, analysis, and interpretation of statistical, economic, and technological information on the uses of American cotton and various competitive fibers. Cotton bags designed especially for sacking Austrian winter peas and hairy vetch were developed during the year, and it is estimated that approximately one million such bags will be used during the current year. Burlap bags previously had been used for this purpose. One of the key features of the cotton bag is that it permits sampling by means of a "probe" without breaking the fabric and consequent loss of the bag's contents. A technological study was made of the requirements for use of cotton membranes in building material and specifications were drawn up for five experimental types of fabric. Small quantities of the fabrics were made available for experimental purposes.

Research on cotton sheep blankets was conducted in cooperation with the Wool Laboratory of the University of Wyoming. Service testing of experimental cotton bags for packaging raw sugar in Cuba was continued. Two economic studies on the utilization of cotton and competing materials were completed and reports issued relating to (1) utilization of cotton and other materials in cordage and twine; and (2) trends in consumption of fibers in the United States, 1892-1939. It was concluded in the former that, generally speaking, cotton is not technologically suited for use in heavier types of cordage but that it could be used, under sufficiently favorable economic conditions, for binder twine and for a considerably greater quantity of tying twines than is now the case. Any decrease in the price of cotton relative to other fibers would increase the quantity used in tying twines, but its price would have to decrease to a level of 4 or 5 cents a pound before it could be considered as competitive in binder twine. The other study showed that fibers of foreign origin comprised 31.1 percent of the total quantity of fibers made available for use to ultimate consumers during 1935-39, as compared with 39.9 percent during 1920-24. Of the fibers of foreign origin used during 1935-39, 47 percent was jute; 28 percent, hard fibers; 11 percent, wool materials;

7 percent, cotton; 4 percent, silk; 2 percent, flax; and 1 percent, rayon. The percentage given for cotton includes American cotton processed abroad and returned in manufactured form.

Close relations were maintained with the Southern Regional Research Laboratory of the Bureau of Agricultural Chemistry and Engineering, which was authorized to conduct an enlarged program aimed at the development of new and extended uses for cotton. Assistance was given in outlining its program of research.

Annual estimates of the volume of farm-mortgage debt by States for the period 1910-39 were completed. Following a revision of the previous census year estimates on the basis of a special survey, intercensal year figures from 1910 to 1939 were computed from known farm-mortgage holdings for certain lenders and from farm-mortgage recording and extinguishment for other lenders. Farm mortgages outstanding as of January 1, 1939, are estimated to have totaled \$7,070,896,000. This compares with \$7,214,138,000 at the beginning of 1938, \$7,785,971,000 in 1935, and \$9,630,768,000 in 1930.

Annual estimates of the average rates of interest charged on farm-mortgage loans outstanding have been prepared, both by States and by lenders, back to 1910. These data along with those on farm-mortgage debt have made possible a revision of the Bureau's estimates of farm-mortgage interest charges for the period 1910-38. On the basis of these data the preliminary draft of an income report dealing with farm-mortgage interest charges has been prepared and will be available in 1941.

Work of consolidating the farm-mortgage recording data into regional and National totals and averages has been completed. In addition to combining the State data for the period 1917-35, the series on lender distribution and average interest rates of mortgages recorded have been extended back to 1910. Annual estimates of the volume of farm-mortgage recordings both by States and by lenders are now available.

Data indicating farm real estate holdings of selected lending agencies have been carried forward to January 1, 1939. These figures show an increase in the farm real estate holdings of Federal land banks, the Federal Farm Mortgage Corporation, and the three State credit agencies, and a decline of real estate held by life insurance companies, joint stock land banks, and commercial banks. The net change for the group as a whole during 1938 was a decline of about 1 percent.

#### FARMER BANKRUPTCIES CONTINUE TO DECLINE

A compilation of the number of farmer bankruptcies during the fiscal year ending June 30, 1939, indicates a further decline. The number of cases reported was 21 percent below that for the previous year and was at the lowest point in 18 years. The 1,422 cases of farmer bankruptcies recorded during the 1939 fiscal year compares with 1,799 in 1938, 5,917 in 1933, and 7,872 in the peak year 1925. During 1939, 2,607 cases in which farmers' debts were adjusted without declaration of bankruptcy also were concluded.

Progress has been made in a study of mortgage risks.

Results of a study of country banking in Wisconsin in the depression years were made ready for publication, progress was made on a

similar study of country banking in Utah, a study of the progress of 38,000 low-income farmers under the rehabilitation loan program of the Farm Security Administration was started, and considerable work was done on a series of reports for the Interbureau Coordinating Committee of the Department on the credit policies and operating problems of the public and private agencies that finance the short-term credit requirements of farmers.

The studies of country banking in Wisconsin and Utah were begun several years ago following completion of a similar study of country banking in Arkansas. These studies form a series which analyzes the functioning of country banks during the depression in several of the principal type-of-farming areas. In measuring the strains to which country banks were subjected and in showing the performance of various classes of loans and investments under depression conditions, the studies indicate what changes are required in loan and investment policies to make country banks more capable of supplying a dependable credit service in future periods of difficulty.

Research and planning work on insurance of cotton, corn, and fruits continued. A county actuarial basis for cotton crop insurance in more than 900 cotton-growing counties is almost completed, and plans and procedures for use in a crop-insurance program for cotton have been drawn up. "A Suggested Plan for Cotton Crop Insurance" was published in 1939 as House Document 277, Seventy-sixth Congress, first session. Legislation providing for a cotton-insurance program in 1941 was subsequently approved by Congress, but was vetoed by the President pending the accumulation of additional experience in the wheat-insurance program and the development of plans and actuarial bases for insurance of other crops. Substantial progress has been made in research work for corn and citrus crop insurance.

Work on insurance and risks relative to fires, windstorm, hail, floods, livestock losses, farm accidents, and liability for accidents has gone forward.

#### FARM REAL ESTATE TAXES RELATIVELY STABLE

Farm real estate taxes, both on a per acre basis and in relation to farm land values, have been relatively stable in recent years. Although some individual State series fluctuated rather widely, these tended to offset one another and the average for the country changed very slowly.

An important measure of tax burden is the relation between taxes and income. This received statutory recognition in the Agricultural Adjustment Act of 1938 which provided that parity computations shall include the effect of changes in farm real estate taxes. In line with this requirement a special report was prepared, which includes a discussion of the tax series, data used, methods of construction, and comments on the significance of the series, as well as a discussion of considerations involved in introducing the tax element into parity computations.

Homestead tax exemption has continued to receive attention as additional data on the operations of the various laws become avail-

able. The data show, in general, an increase in the property coming under the exemption provisions but the fiscal readjustment required to meet the situation of reduced revenues has not been fully worked out. Estimates are being prepared for major taxes paid by farmers. Taxes on the farmer's personal property are tentatively estimated at figures that have been from 9 to 13 percent as much as taxes on farm real estate. Poll or per capita taxes levied against farmers amount to some \$6,000,000 a year.

The Bureau has intensified its study of farm real estate tax delinquency in an effort to measure its trend and extent and to throw some light on the inevitable problems that accompany it. For a group of 9 sample States it was found that delinquency on current levies increased from about 5 percent on the 1928 levy to 19 percent on the 1932 levy. The corresponding figure for the 1937 levy was 13 percent. The trend of tax delinquency in the 9 States followed fairly closely the relationship between tax levy and farm income. The taxpayer's payments are increased greatly when he postpones meeting his taxes until delinquent charges accumulate. Work is continuing along these lines on additional States in an effort to throw further light on tax delinquency of farm real estate.

In the field of land values, a report on the farm real estate situation for the period 1936-39 was published during the year. This publication indicates that the general upward movement in values following 1933 continued until 1937. Since that year values have remained substantially unchanged at a level approximately 85 percent of the prewar average, although about 15 percent above 1933 low. For the years ended March 1 in both 1937 and 1938, the Bureau's index of average value was 85 percent of the 1912-14 level. As of March 1, 1939, the index was 84, a slight decline from the previous year. The publication also shows that the frequency of distress transfers resulting from mortgage debt difficulties declined to new low levels, while the frequency of voluntary sales was at levels higher than those prevailing during the 1926-30 period.

A preliminary report on estimated value per acre of farm real estate as of March 1, 1940, showed an increase of one point from the level reported the previous year. This marked the fourth consecutive year that values were virtually unchanged. Data on various types of farm real estate transfers, average consideration in voluntary transfers, and ratio of assessed value to sales value were released for several hundred counties.

In general, it was felt that the changes since 1914 that may be expected to limit or curb value increases appeared to outweigh the changes that were likely to support value increases.

#### LAND UTILIZATION RESEARCH CONTINUED

Research in land utilization, in regional analyses, and related fields continued on an expanded scale. Special investigations in land utilization have been directed toward such problems as the grazing capacity of Arkansas lands, land use problems incidental to subsurface exploitation, and speculative rural subdivision. For the purposes of this report a single instance will be given in some detail as indicative of the studies generally.



The culmination of the work of many men over a period of several years—a map, Land Use Adjustment Areas of the United States—was published. Regional aspects of various factors pertaining to American agriculture have been under analysis for approximately 20 years. Results of earlier efforts appeared from time to time in the Graphic Summaries of American Agriculture, through four successive publications since 1915, and in the Atlas of American Agriculture, which appeared in the form of separates, beginning in 1918. Four of these were brought together in a single volume in 1936. Another landmark near the end of this earlier period appeared as a map, Natural Land Use Areas of the United States, which is largely physiographic in nature.

These earlier efforts were of a research character, dealing with certain specific phases of agriculture and making no great effort toward correlation of factors. Thus, a wealth of information was developed regarding physiographic and other characteristics.

With the appointment of State Land Use Planning Specialists in 1934, attention was given to the correlation of all available data, State by State and area by area, which threw some light on the problems incidental to rural land use. Under general supervision and leadership from Washington, and with a broad base of consultation with agricultural agencies in the field, the State specialists in 1934–35 prepared State problem-area maps, which were submitted to Washington for use in preparing a national problem area map.

A subsequent outline of instructions was prepared, setting forth more definite categories and providing detailed instructions as to materials, criteria, and procedures. In accordance with these instructions, modified problem-area maps were prepared, together with detailed reports emphasizing (*a*) areas in which land should be retired from arable farming, (*b*) areas in which were located a large number of farms of uneconomic size, and (*c*) areas suitable for more intensive use and settlement, with explanation of the reclamation or other measures necessary.

These reports and maps have constituted a major source of the information that went into the preparation of the map—Land Use Adjustment Areas. In addition, other agencies in the Department, notably the United States Forest Service and the Office of Land Use Coordination, contributed to this map.

The initial preliminary work map was submitted for critical appraisal and suggestions to a wide range of authorities in the States and in Washington. As a consequence, in its published form the map may be considered to represent the best information and judgment now obtainable. The presentation of an understandable map on this scale (1:5,000,000) has necessitated the selection of very broad categories both as to present land use and types of adjustment needed. Final adjustment categories included are: (1) Internal farm adjustment; (2) minor farm reorganization; (3) major farm reorganization; (4) irrigation adjustment; (5) grazing-farming reorganization; (6) grazing adjustment; (7) forest-farming reorganization; (8) forest adjustment; (9) rural-urban adjustment; (10) nonadjustment. Obviously, the areas are not strictly homogeneous, nor will the adjustments indicated as needed in a particular area be found

necessary for all land within it. Likewise, the necessity of holding the number of categories within readily comprehensible limits necessitated the combining of certain areas, where, although the major type of needed adjustment is similar, the measures necessary will vary.

The urgency of the demand for the map has caused it to be released without the usual accompaniment of an explanatory text, but work on this text is going forward as rapidly as circumstances permit. The immediate value of this map lies in its presentation of a generalized view of land use adjustment needs in a broad regionalized setting, thereby providing a basis of interpretation and orientation.

#### INTERREGIONAL COMPETITION STUDIED

Interesting in the light of the regional adjustments indicated in such studies as this are the Bureau's studies of interregional competition. So many of the agricultural programs affect or are affected by competition between regions that farmers everywhere are keenly aware of regional changes in production. Eastern Cotton Belt farmers view with misgiving the upward tendencies in cotton production in Texas. Wisconsin dairymen are concerned about Southern competition in dairying. Maine potato growers are alarmed about expanded potato acreage on new Federal irrigation projects in the West. Hog producers in Iowa fear that corn and hog production may expand outside the Corn Belt as a result of restrictions within.

Studies in dairy production may be taken as an example. Individual farm and area dairy production estimates have been prepared for 10 selected areas in detailed form. Not all of the analysis is yet completed, for several of the areas definite conclusions can now be drawn.

Looking ahead over a 10-year period, it appears that normal milk production in nearly all these areas will rise if prices remain near the 1936 level. If milk prices become relatively more favorable an even greater rise will take place as resources are shifted from supplementary enterprises into dairying. With less favorable milk prices there will still be expansion in some areas, although not so much as with undisturbed price relationships. In other areas there will be actual contraction.

The estimated upward tendencies in milk production are related first of all to technological changes in dairy farming resulting in an enlarged food supply. Improvements in liming, fertilizing, and re-seeding hay and pasture land are noted in New England. In the Great Lakes States similar changes are under way, although further expansion in alfalfa acreage is perhaps the most important single factor. Some additional dairy feed is expected to be released by further replacement of horses by trucks and tractors.

Preliminary conclusions point to increased milk production nationally. Unless this is met by increased consumption, dairy prices and incomes to dairy farmers seem likely to be affected adversely. In addition to the increase in consumption that would result from a general advance in consumer income, increases in consumption of dairy products through less expensive distribution channels would seem desirable.

## BUREAU CONDUCTS RESEARCH ON SHEEP MIGRATION

As an example of still another type of Bureau research, that dealing with the specific problems given regional importance because of association of a particular industry or commodity with that region, the study of sheep migration in the intermountain region may be cited. Because a large part of the range forage in the West is capable only of restricted seasonal use, and because these ranges often lie at considerable distances from other seasonal ranges, livestock migration is necessary. Topography and other natural and institutional conditions force the movement of these livestock along some definitely established trails. In some of the narrow passes in Utah more than 100,000 sheep are concentrated twice a year. This movement results in complete grazing of all forage, in serious trampling of vegetation, and frequently in soil erosion. Sheepmen realize that the long migration saps the strength of the sheep and results in high mortality, low lamb crop, and high operating costs. The problem to administrators of public lands is one of restricting the overstocking of particular ranges. Resident stockmen are faced with consumption of forage by migrating animals which may cause a feed shortage and consequent loss in their own flocks and herds.

Preliminary conclusions of the study point to the advantages of an exchange of holdings by operators, and, through reallocation of permits and licenses to use the public range, eliminating or shortening the need for trailing animals. By development of watering facilities, relocation of trails, and arrangement for specified feeding places, the effect of concentration at certain seasons may be diminished. Range cover thus would be protected and the quantity and quality of range forage improved.

Climatic and topographical conditions divide the intermountain range into three major classes: winter range, summer range, and spring-fall range. The summer range cannot be used in winter because of snow, and the winter range cannot be used in summer because of lack of water. Animals cannot be moved to summer range until forage is ready. The plants must be given time to develop leaves and store food in the roots. Thus the sheepman is at the mercy of climate in the use of his range.

In many ways the spring-fall range, the stopping place between the summer and winter ranges, is the buffer or critical portion of the year's operation. This spring-fall range has become depleted to comply with the physical limitations of the summer and winter ranges and the protection necessary for their proper forage production.

In this study, grazing districts set up by the Grazing Service were used as a basis for delineating 37 grazing areas. Most of these grazing areas include one grazing district and the enclosed or immediately adjacent national forests, patented and other lands.

Some of the grazing areas under study contain as much as 13 million acres, the average of all grazing areas studied being about 6 million acres. The average area may be compared to such States as Massachusetts with approximately 5 million acres, and Vermont or New Hampshire with about  $5\frac{3}{4}$  million acres each.

Of the 37 areas, it was found that sheep located in the average area depend upon 4.5 additional grazing areas for the yearly forage requirement. Or conversely, the average grazing area furnishes

forage to sheep coming from 4.5 additional areas. Twenty-six percent of the operators, or 1,321 out of 5,031, depend upon two or more grazing areas for sheep forage. In general, these are the larger operators.

The volume and length of some of these seasonal sheep migrations are great. Of 100,000 ewes which pass twice each year over parts of these trails, many have young lambs which add to the movement. Throughout the intermountain region are numerous trails with 50,000 or more breeding animals moving over them twice annually. In some places the sheep are forced into narrow trails, because the mountainsides are steep and the canyons narrow, or because only the roadway is a public thoroughfare. In other places the sheep can spread out over wide areas, and can graze as they travel.

Most of the small band operations do not travel over 50 miles, but as the number of sheep per operation increases, the travel distance becomes greater. When owners of small bands must drive their sheep far they combine their bands into units of at least 1,500 for economic trailing. Of 804 operators who have more than 2,250 sheep, 369 or 46 percent travel more than 100 miles twice each year. When the sheep reach their grazing locations additional movement takes place in securing the daily ration of forage.

The general public is concerned with sheep migrations because, first, sheep are often a nuisance and a hazard to traffic on the highways, and, second, the depletion of plant cover in drainageways often creates a serious flood hazard. Towns in the intermountain region are often located at the point where a stream emerges into a larger valley. The increased volume of floods, resulting from the depletion of forage cover along trails, can do great damage under these conditions.

Several possibilities for improvement are already evident. Often the length and volume of sheep migrations could be reduced by exchange of private holdings and better allocation of permits and licenses to use public ranges. For instance, two bands may meet and pass each other going to their respective seasonal ranges. An exchange would eliminate trailing for both.

Most of the sheep trailing of the intermountain region is inevitable as long as the ranges are used. Trails can generally be improved. Careful relocation can reduce the hazards to soil and vegetation. Water can be developed, to lessen the death losses en route. It may be necessary to arrange for feeding hay or grain at places along trails.

Trucking instead of trailing sheep is another possibility. Lambs ready for market are frequently trucked, but, as yet, few operators are convinced that this will pay for the breeding animals. One difficulty is that many roads are poor, and even impassable to trucks during stormy weather. Some sheep are shipped by rail, but again, most operators are not convinced that this pays. Few of the railroads parallel present trails, or even lead from summer to winter range.

Feeding of hay on farms may prove more economic than trailing, at least to some winter ranges where the forage obtained is hardly worth the cost of going to it. This would not lessen trailing to and

from summer ranges. At present many parts of the intermountain region produce insufficient hay to feed range sheep in winter, even if operators were convinced it paid to do so.

This study is continuing in an attempt to furnish additional needed information.

Numerous studies of area and regional adjustment were in progress. In Hand County, S. Dak., for example, a study was undertaken to determine to what degree agriculture has paid its way in the county, and what adjustments in farm organization and management are needed. Results should be applicable to a considerably larger area of similar soils, topography, and agricultural problems.

The Yakima Valley farming problems investigations concern an area of intensive fruit production. High costs have been incurred with the expectation of securing high earnings. Land has been over-capitalized, and much of the area cannot produce fruit economically. In this study it was found that when orchards are developed it is important that they be located where natural factors are favorable, and that the irrigation system and the orchards be so laid out as to prevent soil erosion and take advantage of air drainage and different altitudes.

It was also reported that in this area present land values as estimated by farmers cannot be supported by the incomes derived from fruit production in recent years. Other enterprises may develop in the area as orchards are removed.

#### HEREFORD, TEX.

Irrigated farms around Hereford, Tex., were the object of an inquiry that indicated some of the many alternative uses farmers may make of the supplemental irrigation water, and the relative value of each of these alternatives. It indicates how combinations of these alternatives will fit into some selected sizes and types of farm organizations.

Because the gross amount of water available to be recovered for all future uses has definite limits, if a more conservative type of farming is followed in which the water is used effectively on feed crops and some wheat is combined with livestock, the area can maintain a stable farm income for many years in the future.

Potato and onion acreages increased rapidly in the Hereford area from 1936 to 1940. There is strong evidence that a complete change in type of farming may take place in this area during the next 4 or 5 years, accompanied by an immigration of potato and onion growers from other established commercial potato and onion areas. This overdevelopment of the water resource may cause serious economic distress within the next 10 or 15 years.

Apparent increases in sheep growing in the northeast and farm adjustments in Montana also drew attention. In the latter, each of 9 areas is being studied separately, with special emphasis placed on differentiating the areas of continuous low-income expectancy, determining adjustments needed and appraising the extensiveness of these adjustments under various price and production assumptions.

## RESEARCH ON LAND TENURE EXPANDED

Land-tenure research continued on an expanded scale during the year. Particular emphasis was given to the development of improved lease forms and to detailed studies of the farm-tenancy problem and possible remedial procedures in connection with the land use planning program. Other studies sought to develop basic information concerning landownership and farm tenancy. These studies have been concerned chiefly with: (1) The relation of landlord and tenant law to the operation of the tenancy system; (2) the delineation and description of types of tenancy areas; (3) the economic and social impact of the tenure system upon farm people; and (4) the problems of conservation and flood control arising out of maladjustments in the farm tenure system.

Studies on the legal-economic aspects of landlord-tenant relations have continued on a somewhat expanded scale for the States of Arkansas, Kansas, Kentucky, Oklahoma, and Virginia. This work involves library investigation of present constitutional provisions, State statutes, and court decisions relating to landlord-tenant law; a field survey in each State to determine how present law influences the operation of rented farms; and the development of possible remedial measures to improve the present legal structure.

Types-of-tenancy studies under way represent an example of basic research on land tenure. These studies have been carried on in Alabama, Georgia, Illinois, Kansas, Louisiana, Missouri, Ohio, Oklahoma, and Texas. They are designed to delimit the various types-of-tenancy areas in these States and to describe in some detail the tenancy situation in each area. Information supplied through these studies will make it possible to orient research and planning activities with more exactness by indicating more clearly areas in which certain conditions are found and areas to which certain remedial measures are applicable.

Studies designed to indicate the economic and social impact of the tenure system upon farm people have been continued in selected localities in cooperation with local agencies. The tenure system under which farm operators hold their land has a significant influence upon the manner in which the land is used. The nature and extent of this influence has been the subject of several research studies of particular importance in our endeavor to conserve soil resources and to reduce flood hazards and damages. Numerous research studies were continued for the purpose of maintaining a current analysis of the farm-tenancy situation. These studies involve consideration of the land-tenure improvement program for foreign countries, relations between land tenure and land use among selected cultural groups in Tennessee and Alabama, changes in tenure and labor organization in selected counties in Arkansas, and the nature of landownership and operating units in Pinal County, Ariz., and Imperial County, Calif.

Work in farm labor and tenancy has included the completion of a study of changes in economic and social status of share tenants, sharecroppers, and wage hands in six counties in Arkansas, and the completion of a similar study in two counties in South Carolina. A study of harvest labor in Kansas and North Dakota, made in

cooperation with the Farm Security Administration and the North Dakota and Kansas Agricultural Experiment Stations, has been completed. The purpose was to determine volume of demand and local supply of harvest laborers in the northern Great Plains; duration of employment, living conditions, characteristics of laborers, and extent of their migrations.

#### RESEARCH STUDY OF MIGRANT PROBLEMS

Population studies constituted an important group of research projects. At the request, and with the financial support, of the National Resources Planning Committee, a study of migration from the northern Great Plains area was carried on. Field work has been completed and a preliminary summary of findings turned over to the committee. It has been possible to show that the pattern of population change in these areas during the 1930's was one of increase during the first few years of the decade, followed by an out-migration of such volume that there was a net loss for the entire 10 years.

In other field studies, major emphasis has been placed on studies of migrants to the Pacific Coast States—Washington, Oregon, Idaho, and Arizona. Questionnaires were submitted to all school children who had come into these States before April 1939 (1940 in Arizona) and since 1930, and on the basis of these, studies showing the origin and present location of the migrants and some of their characteristics have been prepared. It has been shown that migration into California during the 1930's was considerably less than during the 1920's, and that the volume of migration into the Pacific Northwest States during the 1930's was about the same as that during the 1920's. The majority of the migrants into these States have obtained employment and only a small proportion are receiving public assistance. Distribution of the migrants in these States, as between city and country, is about the same as that of the total population in 1930.

Another source of information concerning migrants is provided by the county and covers persons "in need of manual employment" moving into the State. This information is furnished by the Bureau of Plant Quarantine which has inspectors at points of entry into California. Current tabulations from this State are now being prepared and arrangements have been made with Arizona authorities for a similar count from which current tabulations are being made. In addition, arrangements have been made with the California and Arizona Divisions of Vital Statistics to insert "length of residence in the State" on the birth and death certificates, and arrangements are being made for tabulations of these materials.

Annual estimates of farm population have been continued. They show that on January 1, 1940, 32,245,000 persons were living on farms. This is close to the all-time high record of 1916. Work was continued during the year on the relation of population to resources and the development of population pressure.

Opening up of new lands in the Mississippi Delta area and infiltration of people from the uplands into these areas has created a number of problems. In connection with the Yazoo-backwater area survey, field studies have been undertaken to determine the volume of migration and the characteristics and adjustments of migrants into

lands now being converted from timber to agricultural uses. In cooperation with the Louisiana State Agricultural Experiment Station, two small field studies of migrants to these new land areas have been undertaken.

#### SURVEYS OF RURAL YOUTH CONDUCTED

Surveys of rural youth include four major lines of inquiry: (*a*) The number, age, education, work experience, occupational preference, attitudes, capital accumulation, etc., of rural youth; (*b*) the openings on farms of the county during the last 5 years for youths as hired man (or girl), tenant (including partnerships), owner, and estimates of such openings during the next 2 years; (*c*) the openings in non-agricultural employment in the county; and (*d*) the occupational and migrational history of young people who have left the area in comparison with the history of those who have remained there.

For some time it has been apparent that there was a considerable need for an index of levels of living based on information that could be collected quickly and inexpensively over a wide area. In the fiscal year 1939, work was begun on the construction of an index and during the last year a careful study of the statistical methods involved has been made. Results indicate that the correlation approach to this problem is not only good, but is absolutely necessary in the development of a good index; and that such an index should include not only the possession of material facilities but also such subsistence farm resources as milk cows, hogs, chickens, home gardens, and orchards.

An important activity involving several branches of the Bureau was a study in the southern Great Plains of the socio-economic characteristics of farm operators and their families, as related to land use and farm organization.

A community study of stability and instability was begun in seven rural communities scattered from New Hampshire to New Mexico. A well-trained individual has lived in each of the communities selected for a period of 4 months or more, studying the cultural and psychological aspects of community life. The purpose is to investigate the cultural, community, and social-psychological factors in land use and rural life, with special reference to those factors which either facilitate or offer resistance to change, contribute to adjustments and maladjustments, and to stability and instability in the individual and community life. Special attention is given to cultural patterns having to do with land use, physical and biological phenomena, economic techniques, values as to basic matters such as hard work, thrift, fortitude, and other virtues; formal and informal organization of the local community; leadership with particular reference to officers of various organizations; their role and status in the community and with regard to other leaders; and to various classes in the community. The communities range from those with a high degree of stability (an Amish community in Lancaster County, Pa.), to those with a high degree of instability (a community in the Great Plains).

Recognizing the importance of a knowledge of trends which might be obtained by a restudy of a situation originally studied some years ago, a cooperative study with the Wisconsin Agricultural Experiment Station was begun of local farm organizations and important



shifts in the organized life of rural people in the last 15 years and, in cooperation with the University of Connecticut, a study of disorganization in a Polish community has been carried on. The latter emphasizes the social disorganization arising out of the Americanization of Polish emigrants at the expense of their traditional customs.

### TRANSPORTATION RESEARCH

Transportation research has been carried on along three general lines: (1) Freight rates and other problems of railroad transportation; (2) studies of various aspects of motor transportation; and (3) studies dealing with water transportation. The Hoch-Smith Resolution enacted by Congress in 1925 directed the Interstate Commerce Commission to afford preferential treatment to depressed industries in general and to agriculture in particular, and to make freight rate adjustments to the end that commodities may move freely. A large number of original and supplemental reports have been issued by the Commission, one as recently as spring of this year. Each of these reports is being analyzed to determine what effect the resolution has had upon rates for agricultural products and for other commodities. A considerable number of Commission cases have been decided which relate to the mandate in this law to prescribe promptly the lowest possible lawful rates for agricultural products. All of these cases also are being analyzed.

Some of the Commission's decisions have been challenged in the courts. The court decisions have become redirections to the Commission in the application of the provisions of the legislation. These cases are being studied to determine their effect upon rates charged for agricultural products as well as for their interpretations of the value of service principle. When their study is completed, it is expected that constructive criticism and evaluation will be made of the Congressional-mandate method of securing Commission action with respect to rates on agricultural products and of the value of service principle in rate making. Recommendations for future policies with reference to transportation rates on agricultural products will be developed.

Freight-rate indices on shipments of perishables have recently been completed. These index numbers relate to shipments of fresh fruits and vegetables in the United States for the period 1913-39. They are computed to two base periods, 1913 and 1924-29. There are five groupings of commodities, citrus fruits, apples, other deciduous fruits, potatoes, and other truck crops. The report of this study will not only consider the trend in freight rates on perishable farm products, but it will also compare the trend in these rates with the trend of nonagricultural commodities. Comparisons will likewise be made of the trend in freight rates and the trend in prices of the commodities, and will explain the methods of estimating and weighing utilized in the calculation of the freight-rate index, so that technicians and others will be able to make a more accurate interpretation of these indices. The need for these freight rate indices is evidenced by the relative importance of the traffic with which they are concerned.

This is the latest completed project in a series of index-number studies in the field of freight rates which have been conducted over a

period of time by the Bureau. Rate indices have previously been made available for rail shipments of wheat, cotton, and livestock.

One of the most outstanding recent developments in the field of transportation, so far as agriculture is concerned, is the great increase in the use of the motortruck in the transportation of agricultural products. The expanded use of this means of transportation has brought with it a number of problems which are of great importance to farmers. As yet very little study of the effect of motortruck transportation on the farmers' welfare has been made and the truck transportation system is still in an unsettled state. For these reasons, there is much work to be done in this field and only a small beginning has been made.

Study was undertaken of regulation of motor-carrier rates by the Interstate Commerce Commission to ascertain the directions of policy of the Commission with respect to control of motor freight rates and to trace out analytically the principal economic implications for agriculture of policies established during the early years of regulation.

This is a pioneering study. The procedure involved includes: (1) Reading, digesting, and classifying each case that has come before the Interstate Commerce Commission before further analysis; (2) the drawing of generalizations from these digests with respect to the principles established by the Commission which bear upon each of the prominent economic issues involved in the regulations; (3) reviewing the legislative history of the Act in order to determine the true social policy adopted by Congress with respect to motor-carrier regulations; and (4) comparing the policies of the Commission with the general intent of Congress and subjecting these policies and the principles applied in carrying them out to critical economic analysis in terms of the general public welfare. This work is well under way.

Exemptions of farm products under the Federal Motor Carrier Act of 1935 have been studied also. This study covers the character and extent of farm exemptions under the Motor Carrier Act, the extent to which products of agriculture move over regulated motor-carrier routes in interstate commerce, and the effects of applicable regulation upon the economy of using farm trucks. Considerable progress on certain phases of the problem has already been made.

The Bureau prepared one part of a report on the St. Lawrence Seaway. This part dealt with the following topics: (1) Evaluation of the importance of transportation costs and services with regard to effect of past charges and freight rates upon volume of traffic and development of markets and sources of supply; (2) a general picture of transportation as related to agricultural, industrial, and mineral development; and (3) relation of the St. Lawrence waterway to the problem of preserving economic advantages of each agency of transportation under Government regulation. The Department of Commerce, which has taken the initiative in this project, has not yet published the report; but it seems likely that it will be submitted to Congress some time in 1941.

In August 1939, the United States Maritime Commission requested the Department to prepare a report on Agricultural Aspects of the Economic Survey of Inland Water Transportation. The report which was prepared in response to this request, covered the following topics:

(1) Movement over leading inland waterways of principal farm

products and articles consumed by farmers, in both domestic and foreign trade, showing principal items and volume; (2) extent to which lower freight rates, resulting from inland waterway services, contribute to a wider domestic and foreign distribution of farm products; (3) extent to which abuses in the nature of rebates, refunds, and cut-throat competition exist in the transportation of farm products by inland waterway carriers; (4) adequacy of present waterfront facilities for interchange of farm products between land carriers and inland waterway carriers; (5) comparative analysis of port-to-port and joint inland waterway rates and land rates in effect on principal farm products and articles consumed by farmers; (6) probability of a greater utilization of inland waterway services for the movement of farm products when present improvements are completed and the channels are fully integrated; (7) incidence of benefits accruing from freight-rate savings which result from low inland waterway transportation costs in connection with the distribution of farm products.

### THE BUREAU AS SERVICE AGENCY

Since its organization, the Bureau of Agricultural Economics has been accustomed to perform a considerable amount of service work for other agencies. In its present role of central economic research and planning medium of the Department, however, this function has assumed more importance than before.

This development was inevitable, when the nature of cooperative planning is considered. In this kind of planning, emphasis is upon mutual agreement of organizations and individuals upon workable programs of action. In such a process, it is the Bureau's role to sponsor proposals for consideration, to place proposals of one agency before other agencies, to enable farmer and technician to profit from each other's knowledge.

In a word, it is the vehicle through which the planning gets done, not a planning agency that develops recommendations in a seclusion unshared by the people who must carry out those recommendations.

This calls for mutuality of work and harmony of understanding between all of those involved in the process, and naturally the Bureau as the medium through which these relationships function must undertake a wide variety of servicing jobs.

These jobs are on many levels and of many kinds. All of them cannot be treated here. Assistance to land use planning committees, for instance, already has been discussed. The place of the Bureau's technical staff in the formulating of programs and recommendations by the Interbureau Coordinating Committee for the Department will be discussed in a later chapter.

But the Bureau also serves in diverse other ways. It provides current or basic information needed by operating agencies. This information may deal with the factors outside the operating program that affect the operation of the program, or with the effectiveness of the program, or with changes in the problems with which the program is designed to cope. They may cover small localities or large regions.

Moreover, much of the service work of the Bureau grows out of its research nature. In other words, its continuing research furnishes facts that are on constant call from other agencies. Service work

of the Bureau thus cannot in reality be segregated from other functions. Just as the research and planning activities, as has been shown, merge into a single function, so the service function ultimately merges with the other two.

In treating some of these service responsibilities in this report, services in fields of interest rather than to particular agencies have been used as the logical units of discussion. It should be remembered, however, that it is sometimes difficult to draw hard and fast distinctions even of this kind, and that much work of a general nature is performed.

For instance, much time is devoted to the assembly and preparation in usable form of material having a wide variety of uses. A special compilation of data on consumption of agricultural products affords an instance, special break-downs of this material having been made for such agencies as the Food Research Institute, Department of Commerce, Bureau of Public Health, Central Statistical Board, Surplus Marketing Administration, and the Consumers' Counsel of the Agricultural Adjustment Administration. Other work of this type included analysis of relative living standards of urban and rural people and of upper and lower income groups in agriculture, imports and exports, availability of secondary fibres, numerous acreage studies, and a host of other topics.

Some work is thus by nature general. Exemplifying this are the studies of farmer attitudes regularly conducted by the Bureau.

A continuous system of field reporting is maintained through which administrators can obtain directly a wide coverage of representative farmer reactions bearing on the effectiveness of programs and farmers' acceptance, elements felt to be strongest and those least liked, and modifications felt to be needed.

One source of administrative problems is that national farm programs, like all relatively general or standardized measures, are not equally fitted to specific needs of each of the many local situations or population groups to which they are applied. Or their applicability and value may increase or decrease in the minds of those affected by them as prices and market conditions change. In either of these cases, special conditions may necessitate special treatment. Administrative changes can probably be made most effectively and most democratically if based on a continuous, accurate expression of needs and difficulties of those affected—the farmers.

Regional differences are part of the analysis of these reports. In addition, however, two specialized regional jobs have been undertaken. One study now under way is concerned with problems in the cut-over areas of Minnesota, Wisconsin, and Michigan, and the relation of Departmental programs to the needs of the residents. A different type is represented by the Bureau's periodic summaries of all studies done on a regional basis, thereby providing for any given region full information on farmers' reactions to the farm programs.

#### BUREAU MAKES MANY GROUP STUDIES

Studies are conducted of population groups such as the aged, youth, Negroes; geographical groups divided according to crop regions, terrain, rainfall, or degree of erosion; economic groups at different tenure levels; or program groups, that is, those participating or not.

participating in any given program. One set of studies has been concerned with reactions of farm women to specific programs. Another series has studied reactions of urban residents to farm programs and other problems. The Forest Fire study mentioned earlier bears on this subject as it is concerned primarily with a particular cultural group whose members are the result of a long intermixture of Portuguese, Indians, and Negroes.

One study was concerned with farmers' awareness of and reactions to problems of growing tenancy—material closely associated with the work of the Farm Security Administration. Another touching on F. C. A. problems, covered farmers' views as to what their most important credit problems are, their experiences with credit agencies, and their suggestions for Government activities in this field. Still another is one under way for the Forest Service concerned with factors affecting frequency of man-made fires in National forests.

A study, results of which are of interest to nearly every agency of the Department, is one concerning the things that have made it hardest for farmers to get along and the things that have helped them most. The results present a picture of Departmental programs as they appear to the farm operator and their relation to the problems he finds most urgent.

Studies have been made of the A. A. A. control programs, the Food Stamp Plan, F. S. A. homestead communities and tenant-purchase operations, and soil conservation work. In the latter studies, for example, the objective was to determine farmers' reactions to soil conservation needs in general, their understanding of the roles of the Soil Conservation Service, the Soil Conservation Districts, and the A. A. A. in contributing to such work. It was hoped also to elicit suggestions for making the programs more effective. One program study which is in process concerns the land use planning program. The problems involved here include determination of the extent to which the program's existence is known to farmers, what they know of its activities, and what they think of its purposes and achievements.

A similar general activity of the Bureau is the conduct of schools for agricultural workers held for all bureaus and agencies of the Department. Of the 24 Schools held during the fiscal year, 7 were held primarily for State Extension workers, 3 for State extension workers and farmers, 7 for rural teachers and pastors, 4 for Department field staffs and farmers, and 3 for Department field staffs.

In the case of the latter 7 Schools, representatives were present from A. A. A., B. A. E., S. C. S., F. S. A., F. C. A., Extension Service, Weather Bureau, and the Bureaus of Animal, Plant and Dairy Industries. The work at these Schools is in furtherance of the in-training program developed by the Office of Personnel. That Office is now cooperating in developing such schools more directly in connection with the professional activities of U. S. D. A. clubs.

Periodical reports on conditions, including price forecasts, were made at Departmental and Interdepartmental agricultural conferences. These reports were confidential in nature. In addition, from time to time, the Bureau was called upon by the Secretary or by other agencies to make special interim analyses of the situation for various agricultural commodities, usually for the purpose of determining some administrative or legislative policy such as commodity loans or purchases.

## BUREAU STATISTICS SERVICE

An innovation was the provision of statistical experts for consultative service concerning statistical problems of the Department. Many agencies, even outside the Department, availed themselves of this service. Staff members not only aided in determining the best statistical methods to be used in a given situation but have also been engaged in devising new and better methods.

The nucleus of the statistical informational service of the Bureau is the Statistics Service which keeps currently several thousand series of data relating to agricultural economics. The Service has answered a multitude of requests from the Bureau, the Department, other governmental agencies, Members of Congress, and citizens. A corps of statistical clerks has been continuously engaged in keeping records of data up to date and in working up new series helpful to the thousands of users of the service.

During the year the work of the Bureau library increased as a result of reorganization of the Department and increasing decentralization of the research work of the Bureau. The library continues to serve not only the Bureau of Agricultural Economics but the Agricultural Marketing Service and the Office of Foreign Agricultural Relations. Books and periodicals are currently circulated to all three of these groups. Reference work is performed for them and special services provided for them and for the other economic units of the Department.

The tendency toward decentralization of the research work of the Bureau has given emphatic emphasis to the need of field offices, especially Regional Offices, for the services of the library. In response the librarian visited two of the Regional Offices—Lincoln, Nebr., and Milwaukee, Wis. The research staff was acquainted with the aids provided by the library as an arm of the research work of the Bureau, whether this research is done in the field or in Washington. Similar conferences on manuscript preparation and editorial work were held by another Bureau staff member.

The reference work of the library is constantly growing. Many requests come from other Federal agencies whose work is economic in character. As might be expected, many questions during the year related to the European war. Extensive bibliographical work has been continued.

For the first time the library was authorized to spend a small sum for the purchase of books for filing. Continuations were purchased by the Department library. The Bureau purchased 560 books, Agricultural Marketing Service, 60, and Foreign Agricultural Relations, 13. Accessions for the year totaled 5,963 items.

Staff reading of current periodicals and newspapers has been continued and use of material thus found and indexed continues to increase. The number of periodicals thus read, domestic and foreign, is 544. In addition, 172 periodicals are regularly read by the staff of the Cotton Division Branch Library, making 716 titles in all.

Books in the library at the close of the year numbered 106,799 and periodicals currently received numbered 2,647. Registered borrowers numbered 1,699. Circulation of books totaled 29,587. The total circulation figure for the year was 87,745. In addition to this an average of 19 special requests a day were received.

Permission and funds were granted for binding some of the periodicals. This authorization was given in April and during April, May, and June, 757 volumes were sent to the Government Printing Office to be bound. Before April, 166 volumes were sent to be bound, making a total for the year of 923 volumes.

During sessions of Congress, the Congressional Record was scanned daily and items of interest noted in a mimeographed Index. At the date of this report, 103 copies of the Index were being distributed daily, an increase of 11 copies over last year's circulation. During the year, 1,713 bills were placed in the Legislative Reference files of the library.

A social science reading room was opened during the year to meet a need frequently expressed for a collection available not only to Bureau employees but to students in the Department graduate school and others. Books bought for the reading room numbered 122, others were loaned, and the graduate school collection was transferred from the main Department library.

#### FIELD OF AGRICULTURAL ADJUSTMENT

Work related to agricultural adjustment has included a broad range of activities, including many immediately related to the program of the Agricultural Adjustment Administration other than those already mentioned. Suggestions developed for the 1940 National A. A. A. Conference for increasing the effectiveness of the program are an example. The work of the conference was performed by 15 committees, and suggestions for 11 of these committees included material supplied from various sources within the Bureau.

These suggestions were transmitted with a memorandum emphasizing that the present framework of the A. A. A. program was satisfactory with no major changes for 1941 necessary, and that additional emphasis should be placed on soil and water conservation.

Other specific problems recommended for special consideration by conference committees include:

(1) Extending more fully the benefits of the present program to the family-sized farm;

(2) Giving careful consideration to the problem of landlord, tenant, and sharecropper relationships, with a view to insuring that tenants and sharecroppers receive all payments to which they are entitled under the provisions of the law;

(3) Intensification of all educational phases of the program in order that participants may become better informed relative to the "why" of the Agricultural Adjustment Administration;

(4) Improving county administration of the programs where necessary;

(5) Reviewing the commodity-loan program and making such adjustments as might be necessary to permit the program to more fully accomplish its objectives.

Attention was called to the necessity of reviewing the whole program administered by the Agricultural Adjustment Administration in order to determine what changes may be necessary in the near future to meet changed national and world conditions.

The 1941 Agricultural Conservation Program Bulletin provides for changes in the program which, in general, are along the line indicated as desirable in the suggestions compiled by the Bureau of Agricultural Economics.

Also bearing directly on the adjustment program were several analyses of the effects of regional programs. A State-wide study of the operation of the north central regional program in Iowa was made for the third consecutive year. The reports on this study have had careful consideration by the A. A. A. The experimental county program in Boone County, Ind., was based largely upon the analysis of the 1938 Iowa data. Operation of the western regional program in east north central Kansas and in Nemaha County, Kans., also was observed.

Study of the A. A. A. experimental county programs was continued for a second year in Boone County, Ind., Licking County, Ohio, and Upshur County, W. Va. After a favorable report by the Bureau on the operation of the Upshur County program, the A. A. A. extended some of its provisions to about half the counties in West Virginia. Several changes based upon the analysis of the 1939 Licking County program were incorporated in the 1940 program.

On request, the Bureau aided in analysis of a proposal to regulate A. A. A. payments (so that there would be no incentive for cotton farmers to shift from share to wage labor) and thus lessen the tendency to displace labor on cotton farms. A committee including Bureau staff members decided that the intent of the proposal could probably be achieved, but that administrative problems would be so difficult that it might not be effective. The committee recognized, however, that the present situation had some defects that should be corrected by an amendment similar in its effects to the proposal.

Accomplishments of regional programs were given attention. A study of the north central regional program on 600 farms in Iowa showed that steady progress has been made in the reduction of acreage of corn on the 75 percent of the farms that participated in the 1940 program. The nonparticipating farmers that were operating farms most in need of adjustment in pre-program years have continued to farm with about the same cropping systems. But the nonparticipants who were operating farms that needed less adjustment in pre-program years have increased their acreages of corn and other soil-depleting crops until they are now following about the same cropping systems as those who needed considerable adjustment in the earlier years.

#### MORE CONSERVATION NEEDED IN A. A. A. PROGRAM

The analysis of this program has shown that a disproportionate share of the funds has been expended for maintenance of established practices. Many farms on which conservation is needed most do not participate at all or apply for payment for only those soil-building practices which long have been a part of the usual system of farming. The problem of obtaining a greater degree of conservation appears to have two phases: (1) The problem of setting allotments and devising methods of payments that will obtain the participation of the farmer who already is following a well-balanced system of farming, and at the same time leave available a sufficient amount of funds for inducing



changes by farmers who are out of adjustment; (2) the problem of a more rigid selection of conservation practices applicable to local areas and individual farms and a restriction on payments for practices which experience has shown do not require special encouragement.

A study of the operation of the western regional program in east north central Kansas was begun in 1939. The increase in the acreage of wheat and idle and fallow land and the decline in legume acreage, compared with 1928-32, was less on the participating farms than on the nonparticipating. None of the soil-building practices were extensively used by either type of farmer. Participating farmers seeded about 3 acres more to legumes per 100 acres of cropland than nonparticipators. The Agricultural Conservation Payments had little effect on numbers of livestock. Incomes on participating farms were higher than on nonparticipating farms by about the amount of the A. C. P. payments both in 1937 and in 1938.

#### RECOMMENDATIONS FOR IMPROVEMENT MADE

The following recommendations are made for improvement: (1) A more thorough explanation of the program is needed by farmers. Sixty-five percent of the farmers interviewed did not know what their possible earnings under the program would be; (2) An adjustment in the method of paying for permanent grass and legume seedings so that plantings in excess of the soil building payment in 1 year would be entitled to payments the second and third years, would permit planting during favorable seasons, and would encourage more legume and permanent grasses on land now idle; (3) The drought emergency measure which permitted planting grain sorghums or diverted acres encouraged planting of the crop on poor erosive land. The substitution of permanent grasses for sorghum on land of this type should be encouraged.

In southwestern Kansas, a cooperative study was made of changes in the organization and operation of wheat farms, 1931-37, with especial reference to the influence of A. A. A. programs. The study of the possibilities for effective accomplishments and for obtaining payments under the Agricultural Conservation programs was continued in West Virginia. Specific recommendations are made for special features designed to stimulate conservation practices on low-income farms. Another analysis indicated that if all farmers in east north central Kansas adopted a cropping system including 25 percent of the cropland in legumes and grasses, alfalfa production would be increased 40 percent and corn and sorghum production combined would be decreased about 33 percent as compared with 1928-32.

Typical of more general Bureau research that has proved of value in the adjustment program is land tenure research.

Some of the problems that arise in administering the A. A. A. program concern equity of payments between landlords and tenants, effect of the program upon the tenure status of farmers, and non-participation in a larger degree by certain tenure groups than by others.

Information regarding changes in tenure status of farm operators indicates that significant changes are taking place in some areas. Although these changes have various causes, particularly that of mechanization, a study in Arkansas indicated that shifts from ten-

ant to laborer status were due to the A. A. A. program in some instances.

Studies that should prove of considerable value in determining equity of payments between landlords and tenants are under way. Ten types-of-tenancy studies in as many States are intended to show the tenancy situation in these States and should aid in determining a desirable division of payments by regions between tenants and landlords. It is contemplated that specific studies in equity of rental agreements will be studied in one or more States this year and equity of A. A. A. payments will be a consideration.

Research work is being planned that will indicate the relation of soil conservation to the tenure status of the operator. This should show to what extent tenure groups are participating in soil-conserving and soil-building practices of the A. A. A. program and the reasons that may prevent some from participating to the fullest extent.

A report is in preparation on the economic significance of variations in share-renting and sharecropping areas as disclosed by an investigation in selected areas in nine southern States. One preliminary report has been completed, the others are to be ready for release this fall.

Land utilization maps and reports of the Bureau have been drawn on by the A. A. A. Moreover, in the A. A. A. program, the effect of increased or changed water use is of vital importance in both semi-arid and arid sections, and plans for such changes made in connection with the Water Facilities Program are available to the A. A. A. for early application to its program in any area affected.

#### FIELD OF CONSERVATION OF PHYSICAL RESOURCES

If the tenure research of the Bureau bears on the A. A. A.'s work, it is obvious that much of it is even more directly of interest to the Soil Conservation Service, the Forest Service, and other agencies concerned with physical resources. Although few definite data are available regarding erosion caused by tenancy, some generalizations have been made. Lack of security of the tenant and other similar conditions have caused him to be less interested in conserving the soil than is the owner-operator. Studies in Caswell County, N. C., and Box Butte County, Nebr., point out some of these problems for local areas.

Land utilization research and planning activities come into contact with the programs of the Soil Conservation Service in numerous ways. Determinations of economic land use suitability on broad area bases serve as a general guide to specific programs of land and water conservation. Economic land use suitability determinations developed from area investigations likewise often indicate the types of surveys or degree of detail needed in connection with physical surveys.

Research has been conducted in the problems of Federal-, State-, local government relationships arising out of tax exemption of large land holdings by agencies of the Department. A series of surveys of the effects of submarginal land-purchase projects on local governmental services, organization, and revenues was made. These studies have served, and are still serving the Soil Conservation Service which now administers this program. Assistance was also given in the preparation of several new project proposals and these studies were utilized during the preparation by a Departmental committee of a uniform plan of contribution to local governments on all lands acquired and administered by the Department.

## BILLINGS COUNTY, N. DAK.

Although no further analyses are now being made of specific land-purchase projects, research in local government organization, fiscal problems, assessment, economics, and finance of drainage and irrigation districts, tax delinquency and administration of county-owned lands contributes to knowledge of those problems of institutional adjustment auxiliary to the land use adjustments being prosecuted by the Soil Conservation Service and the Agricultural Adjustment Administration.

For example, research studies conducted in local government organization, finance, and county land policy in North Dakota are located in a general area in which extensive land purchases have been, or are being made, and in which drastic land use adjustments are in progress. Interim data are being supplied to county planning committees. One study in Billings County, N. Dak., was of direct and immediate assistance to the Soil Conservation Service in planning further purchase in view of the fiscal condition, extent of tax reversion, and a local proposal for county disorganization. It is important that institutional adjustments, particularly local government reorganization, not lag behind agricultural planning and adjustments forwarded by operating programs.

Studies of families who formerly lived on Federal land purchase areas also were made. In a study of families who moved as a result of the program in central New York, it was found that these families improved their situation but that administration of the program met with many criticisms. A similar study of families who moved from a submarginal land-purchase area in Alabama found that many of the families shifted from farming to nonfarming occupations, and a large proportion of them became wholly dependent upon relief work available in their new locations. Those who moved to a nearby resettlement project considerably improved their situation. Most of the families found less opportunity for supplementing their farm income with work off the farm after resettlement than before. Another study in the Southeast followed families from five submarginal land-purchase areas. While the analyses of these materials are not complete, they indicate that more of the families who were relocated have gained than lost by the change in respect to levels of living, farm resources, and accessibility of community institutions and facilities. Most of the families report decreases in net worth. On four of the five projects the majority of families appear to have benefited from the change. On the fifth project the majority of the families appear to be worse off. A study of families which were moved off for land-purchase projects in the States of Colorado, Kansas, and New Mexico is in progress. Cooperation with Soil Conservation Service and the National Park Service to determine utilization of the recreational facilities of land-purchase projects also marked the year. One of these is in Texas—the other in Maine.

Studies of existing water facilities, water rights, and water supplies, together with interpretation of these factors in relation to land use have been made in connection with establishment of Soil Conservation Districts.

On 51 Soil Conservation Service project areas investigations were in progress, designed for the most part to measure the effects of the soil conservation program on the organization, operation, and in-

comes of individual farms. Most of these are studies of a continuing nature that have been conducted over a 4- or 5-year period. A careful analysis of all these projects was made during the year, and, as a result, a change in research emphasis is now in progress. Shifting from emphasis largely upon retrospective aspects, stress is now being placed on research designed to meet current needs of an action agency.

In its Region 6 in the Great Plains, the Soil Conservation Service has recommended that more than 20 million acres of cropland be terraced and farmed on the contour, and that nearly 8 million more be contour-farmed without terracing. The sum of these two is equal to 90 percent of all the land in the region recommended for continued cultivation. It is highly important that thorough knowledge be had of economic effects of these practices upon farm operations and crop yields. To obtain information for the High Plains cotton and grain sorghum area in the vicinity of Littlefield, Tex., a study of comparative crop yields resulting from the use of these conservation practices was undertaken in cooperation with the Soil Conservation Service.

#### BUREAU ASSISTS IN FLOOD CONTROL WORK

The Secretary of Agriculture has placed the major responsibility for flood-control examinations and surveys upon the Office of Land Use Coordination, but with assignment of detailed responsibility to either the Soil Conservation Service, or the Forest Service, according to character of the land use problems of the watersheds. To the Bureau of Agricultural Economics was delegated the primary responsibility for: (1) The economic phases of the preliminary examinations and surveys; (2) correlating flood-control plans that result from surveys with the Department's general plans for the same area; and (3) integrating flood-control planning with county and State land use planning.

These major responsibilities call for assistance by the Bureau of Agricultural Economics to the Soil Conservation Service, Forest Service, and Office of Land Use Coordination in investigation and planning to develop remedial watershed flood-control measures and adjustments which will bring reductions in flood, water, silt, and sedimentation damages at justifiable costs, and which will at the same time fit into national agricultural and land use programs. In order to develop adequate recommendations for action programs, well-planned and coordinated examinations and surveys must be made. In the contribution of the Bureau of Agricultural Economics to the flood-control survey program, the techniques of appraisal of crop systems, property, and incomes, evaluation of costs and benefits of proposed programs; area delineation and analysis; and public finance, land tenure, directional measures, land and water utilization as related to land use and control policies, and in some instances other types of work, must be brought into use at various stages of the activity.

The number of preliminary examinations and surveys is some indication of the progress and size of the assistance furnished. Aid has been given to a total of 110 preliminary examinations and 20 surveys in the field. The completed reports are now being reviewed, revised,

edited, and recommendations formulated. In addition to examinations and surveys completed, 85 preliminary examinations and 20 surveys are in progress in the field, and are expected to be finished within the next 12 months.

The general purpose of the Bureau's water-utilization work is to assemble and develop information which will be useful for program and policy appraisal. This work is directed toward inventorying available water resources with their present and potential use, to delineating areas in which water-land use problems are acute, and to the working out of methodology which will assist in judging the soundness of proposed projects and in determining the types of adjustment which will improve agricultural conditions in those parts of the country where water supplies are available in limited amounts. The Bureau is associated with the Soil Conservation Service and the Farm Security Administration in the water-facilities program.

During the last 2 years work under this project has been concentrated in the preparation of plans for development of small water facilities in the semiarid portions of the country. This work has been conducted in close conjunction with the cooperative planning program in the areas where investigations have been undertaken.

Repeated requests for information and other assistance concerning water for the county planning program and action programs of the Department which deal with water indicate increasing understanding of the importance of water in relation to land use.

The Farm Security Administration, charged with responsibility for the farm development of irrigation projects of the kind included here, asked for aid in planning the irrigation projects. This work includes a determination of maximum adjustments that might be made by the removal of some families and integrated use of irrigated and dry lands and investigation of possible changes in control of some dry land. Type of farming to be followed, size of units to be established, possibility of integrating use of irrigated and dry land, and manner of repayment by prospective settlers are considered. Preliminary plan books covering the projects to be developed cover prospective irrigation developments in North Dakota, South Dakota, Nebraska, Montana, Wyoming, and Colorado. A program of resettlement of stranded farmers of retirement age, it is believed, will permit a higher standard of living for these farmers and release substantial acreages of land for use by younger farmers in need of additional land.

The Bureau worked closely with the Forest Service in setting up the farm forest program under the provisions of the Norris-Doxey and McNary-Clark Acts. This involved reviewing State reports of proposed farm-forest programs.

The investigations leading to mapping of major land utilization areas are also carried on in cooperation with the Forest Service, particularly with respect to areas representing the forest-farming and forest-grazing fringes. These investigations have an important bearing upon the program of land acquisition and development administered by the Forest Service, in that some guidance is rendered as to areas or regions to which this program is most adapted.

To serve the best interests of the agricultural users of water, contributions may be made through the study and analysis of water

supplies originating in forest areas in relation to the needs of irrigated and potentially irrigable areas dependent for effective use upon the water supplies originating within the forest areas.

Typical farm and forest plans are to be developed for use of land use planning committees. This work is being carried on in Carlton County, Minn., and will involve a determination of various combinations of forestry in the farm system, the type of forest units to be operated, and the means of developing such units. In New York State, a study has been started that will eventually present recommendations for adjustment of farm plans on poorer soils so that largest net incomes may be realized. In Greene County, Ga., another farm-forestry combination is under study.

#### FIELD OF CONSERVATION OF HUMAN RESOURCES

Most of the work concerned with lower income groups of farm people naturally has turned upon the specific programs administered by the Farm Security Administration. Major activity has been a Nation-wide study of Farm Security Administration standard loan clients, conducted through a Work Projects Administration project. A sample of about 38,000 clients located in 11 of the 12 Farm Security Administration regions and in 43 States was included in the study, and data obtained for these cases covered the 3-year period, March 1936 to February 1939. Data are being collected concerning the loan records, grants, purpose of loans, liquidations, debt adjustment, family characteristics, tenure status, lease arrangements, actual and planned receipts and expenditures, actual and planned crop acreages and yields, livestock production, and assets and liabilities.

These data are being analyzed to determine the social and economic characteristics of clients at the time they receive their first standard loan, the trend in the type of clients coming under the Farm Security Administration program, the progress of clients and the factors associated with progress or lack of progress, and the purposes for which loans are made, and to compare farm and home plans with actual practices. Most of the material needed for this project has been collected and tabulation and analysis has begun.

Analysis of F. S. A. experimental projects to assist low-income farm families in 11 counties has been continued. Copies of all farm and home plans as well as narrative reports are analyzed for F. S. A.

In a number of counties in Alabama, Florida, Georgia, and North Carolina, an analysis of F. S. A. social data relating to land use planning is being made. The F. S. A. is cooperating by making available records of clients and working space. The major purpose is to supply State and county representatives of the Farm Security Administration with social data relating to land use planning. In Greene County, Ga., it has been found that the yield per acre on farms of clients in areas classified as poor land exceeds average yield in good land areas, and that the age of the head of the household and his tenure are important elements in progress towards a successful "live-at-home" program.

Upon F. S. A. suggestion, analyses have been made of farm family record books for standard clients in F. S. A. Region 12, of families on the Ropesville, Tex. project, and of 49 tenant-purchase cases.

At the request of F. S. A. Regional Office 7, a study has been begun of housing of standard loan cases, and in cooperation with F. S. A. offices in Portland and Berkeley, arrangements have been made for periodic tabulations of data obtained from the persons registered in the migratory farm labor camps.

#### LABOR SURVEYS MADE IN ATLANTIC COAST STATES

Reconnaissance surveys have been made of the labor situation in the Atlantic Coast States to help provide the basis for more detailed field investigations to determine the need for and desirable location of labor camps. A report of changes of farm labor organization in relation to changes in size of farms and methods of power utilization in Texas has been prepared in cooperation with the Texas Agricultural Experiment Station, the Work Projects Administration and the Farm Security Administration. A report on changes in tenancy in relation to price changes for given areas was transmitted to F. S. A., as was a review of procedures being used in county-wide surveys of population and land use adjustments for those counties where F. S. A. irrigation projects are being developed.

A report on "Rural Rehabilitation Progress in Stearns County, Minn.," which considers in detail the F. S. A. program of rehabilitation in that county, has been completed. Through an examination of the farm and home plans, actual performance under the plans, physical characteristics of the farm, and abilities and peculiarities of the clients, a determination was made as to the needed adjustments in the rehabilitation program. It was found that in most cases clients were not accomplishing what was expected of them under the farm plans. The results in some cases were particularly serious. Suggestions were made which will insure, it is believed, a more effective and realistic rehabilitation program in that area.

Preliminary reports completed, bearing directly on the problem of low-income farms, were those on the Black Canyon development, and one on the Vale and Owyhee irrigation projects. Final reports will be prepared this coming year. In addition, a study of recent settlement in the cut-over lands of western Washington was started. This study will assist in determining policy for development of cut-over lands in the western United States.

Tabulations for a study of stump ranching in western Washington, carried out in cooperation with the Washington Agricultural Experiment Station, have been completed. Of 1,051 families in the area studied in April 1939, 623 families had settled after 1930. In one area, these new farms averaged only 2.8 acres of cropland. Even on farms settled before 1930, only 16.9 acres of cropland were reported. Obviously, the new settlers were dependent upon public assistance for a large part of their living. This study indicates the need for directing settlement toward the better land of these areas.

A report also was prepared on local public finance and institutional aspects of the Flathead Valley area rehabilitation program. This investigation was requested by the Regional Director of F. S. A., Region 9, in order to anticipate tax and public facilities problems to be created by a proposed rehabilitation program on cut-over lands in Montana.

The Farm Security Administration also is deeply interested in the land-tenure research previously discussed, as is the Farm Credit Administration. This work includes analysis of present leasing arrangements and working out of lease forms adapted to each locality. Follow-up work on the leases after they are put into use indicates further adjustments that should be made. Since written leases are practically nonexistent in certain areas, this cooperation with the F. S. A. provides opportunity to develop written leases and to get them into actual use. The types-of-tenancy studies should also provide information on the tenancy situation that will aid in developing better leasing arrangements. Since the development of a good lease for rehabilitation clients should provide for increased security and stability, and for compensation for improvements made by the tenants, as well as other desirable practices, studies of land tenure in foreign countries now under way will supply information of value in drafting improved lease forms for the wide variety of conditions throughout the country.

Studies of legal aspects of landlord-tenant relations in several States have been and will continue to be important to F. S. A. These studies examine existing law in each State and should be of value in determining what adjustments are needed in leases to meet the conditions. It is also anticipated that these studies will cause such changes to be made in the laws that better landlord-tenant relations will result, thus decreasing the acuteness of the problems of F. S. A. clients and making it easier to work out more satisfactory leasing arrangements.

In its rural rehabilitation program the F. S. A. needs to know the desirable land uses toward which grants or loans may be effectively extended under diverse natural and economic conditions. Similarly, in the tenant-purchase program, information is required as to types of agriculture which offer promise of financial success, particularly in regions where arable farming merges with range livestock industry, in the farm-forestry and grazing-forestry belts, and other areas where suitable types of major land use have not been clearly established. Investigations in land resources and their utilization, particularly as they reveal major land utilization areas of the United States, have aided here. Through participation of land classification technicians in land use planning, technical guidance in land use adjustment is brought down to the county and community level, thereby contributing to the grant and loan program of the Farm Security Administration as it applies to individual farmers.

The Bureau has negotiated agreements for payments in lieu of taxes on Farm Security Administration tax-exempt property. Special research problems occurred in such matters as town incorporation and school-district organization. This work continues to be handled for the F. S. A. and payments in lieu of taxes for the fiscal year 1941 are estimated at slightly over \$820,000.

Tabulations set up in connection with the Family Progress Report on the rural rehabilitation program were reviewed, and aid was given in a thorough revision of the F. S. A. farm and home record book. These are examples of the kinds of service rendered. It is not possible to do more than indicate their nature.



The several credit divisions of the Farm Credit Administration have been, and to an increasing extent can be, aided in their programs by many of these investigations.

An instance lies in the technical research in techniques and procedures of land classification. Through this research there are developed and tested experimentally various devices and methods for determining the suitability of lands for various uses, and accordingly the types of use which are to be encouraged by extension of various forms of credit.

Basic credit data have been furnished the Farm Credit Administration on the amount of farm mortgages recorded, to enable this agency to supplement current data on farm mortgages. A study of rehabilitation clients was undertaken to determine uses of credit that have been most effective in helping to rehabilitate low-income farmers and to assist the Farm Security Administration in adapting its credit policies to the different needs of various classes of low-income families.

Classification by counties of all agricultural loans held by insured commercial banks was undertaken for use by the county planning committees. These data are also furnished to agencies of the Farm Credit Administration, to the American Bankers Association, and to the various cooperating agencies for use in connection with the administration of their activities. In addition, the Bureau is cooperating with the Farm Credit Administration on an analysis of factors affecting credit risks and methods of reflecting such risks in establishing loanable value of farm properties.

Knowledge of tax trends and conditions is regularly made available to the F. C. A., and suggestions have been made as to tax elements that should enter policy decisions in regard to land operations in certain areas of high taxes and delinquency.

The Federal program of construction of public roads, particularly with respect to farm-to-market roads, requires the best available information as to prospects for permanency of present settlement and for future trends of settlement in the various areas affected. During the recent past, through informal cooperation, much information of this sort has been provided the Public Roads Administration and State agencies as a consequence of land utilization investigations. Recent examples are in connection with the public roads program in North Dakota and Washington. As the research and planning program of the Bureau progresses, services of this type can be significantly expanded.

Instances of services to other agencies both in and out of the Department may be taken at random as further illustrations. Criteria were developed for designating surplus foods under the Food Stamp Plan. A study of work and facilities of the National Youth Administration was made at the request of the Extension Service and the National Youth Commission. A statement analyzing the need of the Commodity Credit Corporation for additional lending authority was prepared at the request of the Corporation for the use of the Bureau of the Budget.

The Bureau of Agricultural Economics and the Bureau of Dairy Industry continued to cooperate on dairy-farm account projects in West Virginia and Louisiana. Water supplies were evaluated by the Rural Electrification Administration, and research was continued on legislation administered by the Agricultural Marketing Service.

## AN EXAMPLE: DEVELOPMENT AND STUDY OF THE FOOD STAMP PLAN

Since details of much service work cannot be given in this report, a single example—work in the development of the Food Stamp Plan and analysis of its operation since its inception—will be described as a conclusion to this section. This work also exemplifies the manner in which research, planning, and service merge.

Out of this work developed one of the broad reports of the Bureau to the general public. The report itself is discussed in a section devoted to national program formulation. Here the interest is mainly in how the Food Stamp Plan and the economic analysis of it in the report originated.

As early as 1935 members of the Bureau were exploring the possibilities of increasing farm income by controlled distribution of farm surpluses among different markets and different groups of consumers. The results of these preliminary investigations were published in an article entitled "Controlled Distribution of a Crop Among Independent Markets," in the *Quarterly Journal of Economics*, November 1936. The article was written in technical terms and from a purely theoretical standpoint, but elicited much interest among economists and helped to introduce and clarify the fundamental principles on which the Stamp Plan was based.

A more direct impetus to thinking along these general lines was an article by a B. A. E. staff member in the *Journal of Farm Economics*, May 1938, entitled "Market Prorates and Social Welfare." This article set forth the belief that farm income could be increased and society benefited by diverting farm surpluses to low-income families by means of a two-price system. The article was widely read by farm leaders and discussed at length by administrative officials within the Department. Shortly thereafter, the Secretary of Agriculture publicly proposed that some such plan be given consideration.

The Secretary's proposal drew an immediate response from the public. Some of the comment was favorable, some of it unfavorable. But interest in the general idea was such that the Department felt justified in going into it more thoroughly and developing, if possible, a definite and practical program for trying it out.

The Secretary accordingly appointed an intradepartmental committee (known as the Surplus Marketing Plans Committee), with a member of the Bureau as chairman, to make recommendations for a workable plan to dispose of agricultural surpluses to low-income families. The Food Stamp Plan was the direct outgrowth of this committee's work. As finally evolved, it represented the thinking and ideas of numerous persons in several Government agencies, supplemented by the advice and suggestions of farm leaders, trade representatives, and others outside the Department of Agriculture. No one agency or individual can be said to have developed the Food Stamp Plan. But the work of the Bureau undoubtedly helped to provide the original impetus and lay the ground work of theory and principles upon which a practical program of this kind could be based.

## ARRANGEMENTS FOR STUDYING OPERATION OF THE PLAN

When the Food Stamp Plan was begun in May 1939 it was announced by the Department that it would be operated on an experimental basis, to be expanded if and as experience seemed to warrant. Plans were

accordingly made to conduct an intensive study of its operations in six experimental cities to serve as a basis for determining what adjustments in administrative procedure might be desirable and whether the program should be expanded. The Bureau, in cooperation with the Economic Analysis Section of the Federal Surplus Commodities Corporation, which was administering the plan, made the study.

In order to obtain first-hand information regarding the operation of the plan, the Bureau put field men in each of four cities where it was being tried—Rochester, Dayton, Des Moines, and Shawnee, Okla. These men worked in close cooperation with the local administrative officers of the stamp plan and with trade groups.

From wholesalers and retailers they obtained figures to indicate the effect on food sales, on marketing costs and margins, and on merchandising practices. From a selected sample of stores they made arrangements to obtain detailed sales records showing the commodities for which blue stamps were spent, a factor of cardinal importance in analyzing effect on farm income. They also obtained information showing the number and proportion of eligible consumers participating, and consumer and trade reactions to the plan—in short, everything that had to do with the field phases of the study.

Still another phase of the Food Stamp Plan program in which the work of the Bureau proved useful to administrators was the selection of surplus commodities. The legislation under which the plan is operated leaves to the Secretary of Agriculture or his agents the selection of these commodities. In selecting the commodities two things had to be kept in mind—the extent of the surplus, and the dietary deficiencies of low-income consumers. In addition to this, information was needed as to the proportion of the blue stamps spent for each commodity, which commodities would be likely to benefit most from being put on the list, and how many commodities should be put there in order to prevent the price benefits of the plan from being too widely diffused. Problems of this kind require intricate economic analysis. It was pointed out to the Surplus Marketing Administration, that if it chose to confine the benefits of the plan largely to producers of the commodities on the surplus list, this list should not include commodities for which low-income consumers normally spend more than one-fourth to one-third of their food budget. This principle is being followed.

The economic analysis of the plan was made by research economists on the Washington staff of the Bureau of Agricultural Economics, working in cooperation with economists on the staff of the Surplus Marketing Administration. Reports on various phases of the plan were made to administrative officials from time to time, together with some recommendations for change in operating procedure. A comprehensive report covering all phases of the program and including an evaluation of its effect on farmers, consumers, and trade groups was made to the administrator of the stamp plan and the Secretary of Agriculture after the plan had been in operation about one year. The findings of the study were used constantly in the administration of the program and helped to provide the factual basis on which it was decided to extend the plan. Because of widespread interest, both in the program and in the study which had been made of it, arrangements have been made to publish the report as one of the major reports of the Bureau on public issues. Its content is discussed in the following chapter.

## BUILDING NATIONAL PROGRAMS AND POLICIES

As the agency through which the Department of Agriculture plots its course, the Bureau of Agricultural Economics must afford a channel whereby all subdivisions of the Department can share in formulating policy and programs alike. It must be a channel equally for bringing lay opinion to bear upon that of professionals in many fields, and for placing before the country the combined best judgment of these professionals. And it has the task of reconciling, in the charting of courses, the divergent interests of groups and sections.

The device for achieving these ends is known as the Interbureau Coordinating Committee. This is composed of representatives of the bureaus and agencies of the Department and its sole purpose is to build cooperative programs and policies. Administration does not concern it, except as its need may be minimized by care in development of programs. The Interbureau Coordinating Committee is concerned with the formulation, development, and appraisal of the farm program, and of the effectiveness with which it serves national objectives and local needs.

To this committee come reports and proposals from county and State land use planning committees, from research workers, and from administrators of action agencies. The committee, in turn, after thorough investigation and analysis, reports its findings and recommendations to the Agricultural Program Board of the Department and the Secretary. The program board is the general policy-making and policy-reviewing body of the Department, subject to decision by the Secretary.

The cooperative and flexible nature of the process of formulating program and policy in the Department is emphasized by the make-up of the committee. The Interbureau Committee for any one problem is composed of representatives of every agency in the Department, the work of which touches that problem. In addition, technical and research experts are included. The membership of the committee on farm tenancy, for instance, is not necessarily the same as that of the committee on land acquisition. This device has proved its value during its first full year of operation as a means both of bringing best knowledge to bear on problems and of acquainting each agency with the problems and policies of all.

The work of the Interbureau Committee has not conformed to rigid demarcations. It has continuously observed existing programs, assessed certain phases of them, and made recommendations. It has centered attention on areas where special problems existed and has suggested concerted action toward solutions. And it has suggested additional action and policies where those appeared to be needed. These activities are outlined later in this chapter.

The Bureau of Agricultural Economics has conceived that another essential task arising from its present role in the Department is the attempt to lay before the country at large the facts concerning the major issues in agriculture and in its relationship to other segments of the economy. To that end it has initiated a series of carefully documented reports, publications that may be termed reports to the Nation. In these, broad general problems are discussed, implications for the future canvassed, and such counsel offered as seems appropriate.

Some of these reports are made by the Interbureau Coordinating Committee. Others are made in cooperation with individual agencies of the Department most concerned in the problem dealt with in the report. Still others are the work of specialists in the Bureau.

#### REPORT ON TECHNOLOGY ON THE FARM

An outstanding instance of the first-named type of these reports to the Nation is that on "Technology on the Farm."

The Committee in this instance consisted of 110 representatives of the directly interested technical and action bureaus and agencies of the Department. The Committee not only surveyed current developments but attempted to look ahead and estimate the probable trend and extent of developments during the next 10 years or so, to appraise the possible economic and social effects and implications of these changes and to indicate some suggested lines of action which might be taken to cushion or minimize their adverse effects. Although the report was not given general distribution until later, the work of the Committee was concluded in the fiscal year 1940.

The Committee recommended as an immediate relief measure a rural conservation works program. Designed to utilize an estimated unused annual labor supply of 450,000,000 man-days in the productive task of rebuilding greatly depleted soil, forest, and water resources—a job that requires at least 1,500,000,000 man-days of labor—this recommendation grew out of earlier work of the Committee, treated in full elsewhere.

The measures for permanent rehabilitation embrace 30 points, including a farm-placement service, a housing program for farm labor, expansion of the tenant-purchase program, cooperative loans and technical guidance for operators of family-sized farms, self-help cooperatives, cooperative farming, further scaling of Agricultural Adjustment Administration allotments and payments in favor of the small producer, and extension of certain current farm programs.

"\* \* \* Scientific advances in agriculture constantly release labor at a time when employment opportunities are no longer open in urban industry," the Committee said. "In fact, industry has an unemployment problem of its own \* \* \* Lacking other alternatives, the surplus hired men of agriculture swell the ranks of migratory farm workers, apply for direct relief, or find some shelter in subsistence farming, too often in the poorer localities.

"The difficulty is made worse by differences in the birth rate \* \* \* A jump in industrial production (in armament industries, for example) might change briefly this situation but—on the basis of a long perspective—might not permanently solve it \* \* \*

"The urgent need is to develop methods of directing technological change into socially desirable paths. Technical progress that creates jobs should be stressed in these methods. Opportunities for wisely used leisure should be properly distributed."

The committee report took a middle course between two divergent attitudes toward technological advances. One is that any unemployment because of technology is temporary and is followed sooner or later by new and increased employment, and that agriculture is primarily a business in which all possible efficiency should be realized. The other view, more pessimistic, is that technology brings a perma-

nently unemployed and relief group, that it is doubtful whether any social gain derives from the mechanization of agriculture, and that the fundamental way to relieve the adverse effects of technological changes is to prevent the changes or at least to retard their adoption.

Technological progress is said to have been a major factor in raising the standard of living of all the people and by cheapening the means of production, it has greatly increased efficiency and has brought to the mass of consumers conveniences and luxuries that otherwise would have been available only to a few, although these benefits have not always been distributed equally among all groups.

Extension of the F. S. A. program of supervised loans, debt adjustment, and the like, to reach a greater number of poor farmers, was recommended as was development of a more adequate program for farm labor, through a farm-placement service, a housing program, a rural counterpart of the wages and hours program, and unemployment and old age retirement plans for farm labor.

Seven ways to maintain and develop the family-size farm were proposed: (1) Expand the present tenant-purchase program; (2) provide that all reclamation and other new farm developments be settled on a family-size, owner-operated basis and that the perpetuation of this tenure system be assured; (3) settle or resettle shifting or nonowner farm families on good lands now owned and operated in larger than family size units; (4) extend cooperative loans and technical guidance when needed to groups of operators of family-size farms for the purchase of purebred sires, mechanical equipment, and the like as a means of bringing benefits of technology to relatively small farms; (5) further scale A. A. A. allotments in favor of the small producer; (6) equalize credit opportunities by making credit available to small holders at reasonable interest rates and restricting the use of deficiency judgments; (7) facilitate the transfer of land from old to young farmers.

Farmers should be helped to develop new sources of employment and self-help, the report continues, and increased consumption and demand for agricultural products, aside from a raising of the national income, might well be sought in four approaches: (1) Extending the Food Stamp Plan and surplus commodities purchase program; (2) lowering costs of distribution either through market reorganization or through the adoption of special techniques for increasing sales and lowering costs of marketing and distribution; (3) by educational emphasis upon the need for better diets and; (4) by expanding industrial uses for farm products.

Suggested ways to maintain farm prices and income were expanding of the commodity credit and loan storage program, continuation of acreage control and marketing quota and agreement programs, and extending of the crop-insurance plan to permit producers to stabilize acreage and minimize the effect of fluctuations in yields.

Major attention was devoted to recommendations for creating a wider appreciation of the values and benefits of rural life. Further extension of rural electrification and related programs and the development of machines and techniques applicable to small operating farms were suggested as ways to lighten labor and make farm life more attractive.

Soil and forest conservation to promote permanent settlement and employment, and rural facilities (particularly housing and farm-to-

market roads) were advocated as a means of stabilizing settlement to develop a richer and more permanent rural life. Also outlined are educational methods mentioned to enhance the inherent values of rural life by permitting the development of new patterns of living, the better use of leisure time through organized recreation, and increased recognition of rural life as a desirable way of living.

“\* \* \* Although the tremendous sums that are being employed for defense undoubtedly will speed up business activity and give employment to considerable numbers of unemployed people the next year or so, the effect is likely to be temporary and not on a scale sufficient to meet the problem we are discussing,” the Committee said.

“Nor are the prospects much brighter for the years ahead. A prolonged European war might alter this prospect, but only temporarily. A short war, on the other hand, might make it even darker. Even when peace is declared it will require a period of years to overcome the maladjustments resulting from the war. There will be extreme competition among all nations for world markets. Because of the major importance of foreign markets to the prosperity of the bulk of our agricultural producers, it appears that agriculture as a whole will be affected particularly by this situation.

“Agriculture will be benefited, however, to the extent that our domestic industrial economy can be made to function more effectively through expanded production, lower prices, and increased employment. \* \* \*”

The Committee listed the following as among the more important expected effects of technology:

A continuing movement down the agricultural ladder from the status of owner to that of wage hand; greater differences in income between farm groups, and between regions; further migration within rural areas and between city and country; a possible increase of 200,000,000 bushels in corn production; a potential increase of 43,000,000 bushels in the production of oats, wheat, and soybeans; lower costs through greater efficiency; a decline of farm income in poorer areas, and wider fluctuations in income per farm because of greater sensitivity of both farm prices and income to changes in the business cycle; a concentration of production in best adapted regions; for those who can afford the improvements in techniques, a better living, but for those displaced or lowered in status, “a lowered standard of living, greater misery, less family cohesion, disrupted community life, poorer schools, churches, and so on.”

“\* \* \* Probably the basic problem will be that of providing employment and security to the displaced and underprivileged people who are most adversely affected by these developments,” the report says.

“Expected shifts in tenure and income raise difficult questions, for they entail loss of position and income and a progressive piling up at the lower end of the social scale, and that effect is most likely in areas of lowest agricultural productivity where the existing population is already in excess.

“This intensification of population pressure is bound to accelerate population movement. There will be an increased tendency to migrate between rural areas and between rural and urban areas. \* \* \*”

These changes and problems were not expected to take place uni-

formly throughout the country. Fluctuations in costs as a result of mechanization will be most pronounced in areas where machine methods can best be used. Changes in costs and prices will come first in localities best adapted to the new strains, varieties, and new methods of processing, although they will soon spread to other parts of the country.

"The trend toward increased mechanization is very likely to continue," the committee went on. "This shift will further displace man labor. Even if it does not cause complete physical displacement, it is likely to result in further 'economic' displacement, which comes about because of the tendency of certain landlords to keep a large supply of labor on the plantation for the seasonal peak load tasks of chopping and picking (cotton)."

The committee concluded that future advances in technology will have much to do with smaller things. It cited trends toward midget tractors, refinements in machine design for greater usefulness and safety, attention to the operator's comfort, more specific knowledge of minor soil elements, precision in using fertilizers, test-tube techniques in animal breeding, research into minute—but highly important details of human nutrition and animal feeding, and a widening range of uses for agricultural products.

Thirty-eight new improvements in machines mentioned included specialized implements like single-seedball beet planters, electric fences, hay dryers and choppers, duck-foot cultivators, improved ensilage equipment, corn and cotton pickers, and various planting machines.

Also a part of the picture the committee drew were mechanical improvements for greater comfort, speed, and safety; Diesel-engine tractors, power sprayers and dusters, refrigerated trucks, balanced rations and vitamins to improve the reproduction and marketability of cattle; new ways to control disease; a host of new crop varieties including hybrid corn and wilt-resistant alfalfa and flax; frozen packing, nylon and other synthetic fibers; and plastics, starches, and alcohols from farm materials.

Outstanding current mechanical developments cited were changes in tractor design, redesign of machines for tractor power, development of "baby" combined harvester-threshers and midget combines, the extension of electric service, and new machines like the cotton picker and corn harvester-shellers.

The committee felt that the outstanding mechanical developments in the next 10 years or so would include a continued trend toward small tractors, greater use of pneumatic tires on tractors and other farm machines, the further adaptation of complementary equipment to tractor power, and a 30 percent expansion in tractor use. The latter would mean that 500,000 more tractors would be in use on American farms, that an additional 1,500,000 horses and mules would be displaced (tractors already have taken the place of an estimated 10,000,000 head of workstock). Such a displacement of workstock would release 6,000,000 to 8,000,000 acres of crop land and an additional 6,000,000 or 7,000,000 acres of hay and pasture land.

Hybrid corn was considered the outstanding change in plant and crop production because it means a rise in yields of 15 percent or more over open-pollinated kinds and because about 24,000,000 acres were



planted to it in 1939, as against only 40,000 acres in 1933. Other important crop changes include Thatcher rust-resistant wheat, cold-resistant flax in the South, the development of better soybeans and a quadrupling of soybean acreage between 1924 and 1939; early maturing grain sorghums; one-variety cotton communities, and a shift from lower to higher yielding tame hays.

It was expected that 80 to 85 percent of the corn in the Corn Belt and possibly 40 percent of the crop elsewhere will be from hybrid seed by 1950. The versatile soybean may reach a production of 100,000,000 bushels a year before long.

An important development in livestock production and care was said to be artificial insemination. Other current improvements are. Testing animals by the records of their offsprings, crossbreeding, correction of mineral and vitamin deficiencies; controlling the volume and quality of livestock products, and disease control.

The committee foresaw an intensification of the conservation movement; increases in unit yields and total production from shifts from soil-depleting to soil-conserving land uses; an expansion in the demand for farm products as industrial raw products, especially wood pulp, starch, and materials that can be used for plastics; and greater use of frozen packing and other methods of preserving foods.

#### REPORT ON NEW YORK CITY FRUIT AND VEGETABLE MARKET

Of national interest also was the report on the wholesale fruit and vegetable markets of New York City, issued by the Bureau jointly with the Agricultural Marketing Service. This report pointed to ways to reducing the cost of distributing fresh fruits and vegetables in New York City. The present bill for getting fresh fruits and vegetables from the city limits to the retail stores in New York or to trucks of out-of-town buyers is about \$42,000,000 a year. In this report reduction of that annual bill by about \$8,500,000 was said to be possible.

Some of these savings would accrue to the consumers of Greater New York, some to the wholesale and retail trade, some to the transportation agencies, and some to the growers who supply that market from farms in more than 40 States.

Efficient distribution is important to consumers who should be able to get these protective foods in the best possible condition, to dealers who are engaged in moving the products from producers to consumers, and to the growers. High distribution costs in any large city, and especially New York, press back upon the producing areas clear across the continent.

The man in the street often asks why he must pay a dollar for fruits and vegetables which brought only about 30 cents on the farm, and the farmer asks with equally good reason why he receives only 30 cents out of the consumer's dollar paid for these products. They are puzzled by the fact that the share of the consumer's dollar that goes to meet distribution charges has increased while the share that goes to the producer has declined. One answer may be, the report indicates, that we have not attacked distribution as intelligently as we have attacked production. This report attempts to attack the problem of wholesale handling of fruits and vegetables in the Nation's largest consuming

center, in the same manner that the problem of production has been attacked.

Construction of a new, complete, modern wholesale fruit and vegetable market is recommended. Several sites are discussed in detail, including a New Jersey location and a modernization of the present Lower Manhattan market. After analyzing the advantages and disadvantages of each, the report recommends that the new market be built at the western end of Long Island on some site between the Williamsburg Bridge and the Queensboro Bridge. In this market dealers should be permitted to sell both small lots and large lots. Other uses should be found for the present Washington Street market area and the produce piers, so that dealers can dispose of their property in this location on some equitable basis and move into the new market.

It was suggested that the new market should consist of modern store units complete with offices and basements, additional offices for members of the industry who do not operate stores, platform space for unloading, display, and sale of goods not handled through stores, auction sales rooms, team-track yards, streets at least 100 feet wide, parking area for trucks, space for a cold-storage plant, and probably a farmers' market, all enclosed with a fence. The initial construction, it was said, should be held to the minimum of actual needs, with plans and provisions for expansion when, and if, it is proved to be necessary.

The market was expected to be a union terminal, open to all means of transportation, where supplies can be unloaded directly on the sales floors, thereby reducing cartage to a minimum. The railroad operations in the market should be conducted either by a common operating company representing all rail lines or by some type of organization similar to the private terminals in the harbor area.

At the time the survey was made, it was estimated that such a new market could be built for about \$14,000,000, including the purchase of a suitable site on Long Island. Probably the most feasible and practicable approach would be the establishment of a market authority by the city of New York and the States of New York and New Jersey, with some Federal participation representing the interests of people who live outside these two States, the report stated.

The management of the new market should be empowered to enforce regulations that will protect the consumer, the dealer, and the farmer, and that will promote efficiency. It was not possible to estimate the amount of benefits that would come from such management, but it was believed that they would be very great. At present, lack of regulation of hours of selling and of timely information on supplies available for sale tends to disorganize the market and to cause wide variations in prices, which are harmful to everyone. Proper management of the new, centralized terminal would render prices more stable. As New York City price quotations are followed closely in many parts of the country, this would have an important national effect.

#### REPORT ON DOMESTIC SURPLUS DISPOSAL PROGRAMS

Somewhat similar in character was the report, "Economic Analysis of the Food Stamp Plan," referred to earlier, which was completed during the fiscal year but not actually published until later. This report was issued jointly with the Surplus Marketing Administration.

In brief, what the Food Stamp Plan does is to provide relief and W. P. A. families with free blue stamps (paid for with funds provided by the Federal Government) with which to purchase surplus food products in the retail stores. Many persons believed that the farmer would receive only that part of the Federal subsidy represented by his share of the consumer's dollar. If the Government were to spend 100 million dollars for the stamp plan, it was their idea that the farmer would receive only about half of this amount because the farm price is on the average only about half of the retail price. This notion is fallacious, and one of the most important contributions of the study was to clarify thinking on this point.

Any increase in farm income arises out of increased food expenditures on the part of consumers. The Federal subsidy given to relief and W.P.A. people in the form of blue stamps obviously enables them to increase their food expenditures. But it is not generally understood that the plan may also increase food expenditures of middle- and high-income consumers who do not participate. What the plan does in effect is to divert a larger part of the food supply away from these groups and into the hands of relief people. If the food demand of high-income consumers is inelastic—and there is reason to think it is—then this group of consumers will spend more money for the smaller proportion of the total supply which they receive under the stamp plan than they would spend for the larger supply they would receive without it. The combined food expenditures of both groups may, therefore, be increased by even more than the amount of the Federal subsidy; and if marketing charges are not widened, the increase in consumer expenditures will be passed back to the farmer.

These are the general principles which will govern the effect of the plan on farm income. The technical difficulties of determining the elasticity of demand for food on the part of different groups of consumers are such that it is not possible to measure precisely how much the plan has affected farm income. But in the judgment of those making this study, based on the best data available and on close observation of the plan, it may be expected to raise farm income at least as much, and possibly more, than the amount of the Federal subsidy.

Another contribution of the study had to do with the orange stamp feature of the plan. As originally operated, the plan required all consumer participants to buy one dollar's worth of orange stamps per person per week as a condition for receiving the free blue stamps. The purpose of this requirement was to insure that participants would maintain their regular cash expenditures for food, so that the free blue stamps would represent a net addition over what they were formerly spending. The orange stamp requirement is for the protection of the farmer, because without some such arrangement there is no assurance that the plan will raise farm income to the maximum extent made possible by the Federal subsidy.

An analysis of consumer expenditures for food made in connection with this study indicated that the orange stamp requirement was not altogether satisfactory in its original form. For some consumers it was too high, so that they could not participate; while others were

normally spending more than this amount for food, so that it was not fully effective in protecting the farmer.

Numerous suggestions for modifying the orange stamp feature were made to Surplus Marketing Administration as a result of the study, most of which were adopted. One was to raise the orange stamp requirement to one dollar and fifty cents for some relief categories; another was to graduate it by size of family; and another was to lower the minimum and graduate the ratio of orange and blue stamps. The two former have been adopted, the last has not.

The study also showed that the volume of blue stamp business may be expected to average 4 to 5 percent of total food sales in areas where the plan is operating. For some retailers the blue stamp business will be much more important than this, while others are practically unaffected. There was no evidence that the plan had led to any significant change either in retail margins, or in the numbers of persons employed in food distribution.

If the stamp plan is to be operated on a national basis, the public and Congress want to know how many consumers may be expected to participate, what would be the cost to the Federal Treasury, the expected effect on farm income, and the effect of the program on nutritive standards for low-income people.

With respect to these questions, the conclusions of the study are as follows:

If the stamp plan were made available to all persons in the United States receiving public relief or employed by the W. P. A., it is estimated that it would be necessary to provide blue stamps for approximately 15 million people. If it were also to include employed families (both rural and urban) with annual incomes of less than \$1,000, about 35-40 million people might be expected to participate.

The cost to the Federal Treasury of a program confined to relief and W. P. A. clients would be about 375 to 400 million dollars per year. To extend it to all persons with annual incomes of less than \$1,000 would cost around 1 billion dollars a year.

Low-income consumers are unquestionably benefited by the stamp plan. At least 75 percent of the value of the blue stamps seems on the basis of the experience thus far, to have represented a net increase in the food expenditures of low-income participants. Even under the stamp plan many participants do not receive an altogether adequate and satisfactory diet, but their food expenditures appear to have been increased from one-third to one-half, on the average, over what they formerly were.

The Bureau also has under way studies of the school lunch program, the low-cost milk program, the direct distribution program, and the Cotton Stamp Plan. The work being done on each of these programs is similar in method and objective to that done on the Food Stamp Plan. Within the next 6 months, the Bureau expects to issue a general report covering the principles, operating methods, and potentialities of all of these domestic surplus-disposal programs.

Other reports of this general nature upon which work was done during the year include one appraising the subsistence homesteads inherited by the Farm Security Administration from the Resettlement Administration and one dealing with agricultural labor. Much work was done on both. It is expected that they will be issued during the fiscal year 1941.

The relationship of the Interbureau Coordinating Committee to the work of the Department and of the Bureau already has been discussed. Out of the work of the committee have come reports making recommendations for strengthening existing programs, or for complementary or supplementary programs now in operation. Sometimes these reports have been made solely to the Program Board of the Department. In other instances, the work of the committee has evolved into reports to the Nation at large that were given wide public distribution. In between these types there have been others in a wide range of topics, objectives, and purposes.

#### DEVELOPMENT OF COMPLEMENTARY PUBLIC PROGRAMS

A major activity in the development of programs complementing or supplementing existing programs was that of the committee appointed to consider possibilities of a program "devised to utilize the unoccupied time of rural people in dire economic circumstances in such a way as to contribute to their immediate income, and, at the same time, result in conservation of the soil and other physical resources upon which they must depend for a livelihood in the future."

The committee asserted that there are 1,500,000 males of working age living on farms who have no steady jobs and no steady source of income. Public agencies give some work to a quarter-million of them; half a million find part-time work now and then; and the remaining three quarters of a million have no work and no income. During each year of the current decade, there will be approximately 200,000 additional males of working age on farms, looking for work, for income. These people offer an unused labor supply of 450 million man-days. Needed conservational work, on the other hand, was said to offer a huge untapped reservoir of potential employment, estimated at as much as 1,500,000,000 man-days of employment.

Establishment of a Rural Conservation Works Program, involving the use of credit as well as public pay rolls, set up to provide employment for low-income farm families in conserving natural resources, therefore was proposed. The report pointed out that such a program would result not only in usual benefits to people to be derived from conservation efforts, but also in the additional benefit of immediate increases in income of needy families.

The Committee found that the very areas where needy people live are also the areas in which natural resources are most in need of upbuilding and elementary protection. These are the areas where erosion is worst, where soil depletion is most advanced, where forests have been most ruthlessly cut over, where land and water resources of every sort lie unprotected against further abuse. These are the areas where farm cash incomes average \$200, out of which to pay rent or interest, buy clothing and fertilizer, supply education for children, and pay doctors and dentists.

The program of works projects and credit facilities recommended by the committee included:

- (1) A partially self-liquidating forest-conservation program, carried out by the Forest Service pursuant to lease or cooperative agreement with the owners of private forest lands.

- (2) A partially or completely (depending on type of activity) self-liquidating soil- and water-conservation program carried out

by the Soil Conservation Service pursuant to cooperative agreement with private owners.

(3) Nonliquidating forest, soil, and water-conservation work on private land, by Forest Service and Soil Conservation Service.

(4) Conservation works projects financed by the Work Projects Administration under cooperative arrangements with the Department of Agriculture.

This program for conservation to be accomplished by private employment supported by public and private lending operations, was advocated:

(1) Loans to forest-products enterprises for needed business purposes, conditional upon the adoption of sound forest-conservation practice.

(2) Inclusion in all tenant-purchase loans of adequate amounts for conservation work.

(3) Short-term conservation loans to farmers, to cooperative associations engaged in terracing, limestone crushing, etc.

(4) Long-term conservation loans by the Federal Land Banks and Commissioner for conservation purposes.

(5) A farm mortgage refinancing program as an incident to which funds would be made available for needed conservation work by farm owners.

(6) A combination loan and grant program by the Farm Security Administration, to enable low-income families to perform more needed conservation work.

Funds to support such a program should be obtained from the sale of government-guaranteed obligations, when and if authorized, it was said. The 450 million man-days of labor available for additional conservation work now would require, at \$1.50 a day, \$675,000,000 a year. Much could be done for both human and natural resources conservation with smaller sums, however, the committee added.

#### FOREST CREDIT PLAN PROPOSED

Another supplementary program evolved through the Interbureau Committee device was that proposed by the committee on Forest Credit. This committee found that in sharp contrast to credit provisions for farms and ranch uses of land, credit institutions to facilitate continuous productivity of forest land, nearly one-third the land area of the United States, are in a rudimentary stage.

The only effective forest credit service at present (excluding industrial uses of timber) consists of the limited consideration given farm woodlands as part of the credit base of farms by the Federal Land Banks and certain minor phases of financing farm-forest products by the Farm Credit Administration. The entire field of sustained-yield forestry on privately owned lands, excepting farm forests, is almost wholly without suitable credit facilities and must remain so until the Federal government acts, the committee said. Organization of a forest credit institution was advocated to provide a low-cost credit service, to pool risks, and to meet economic and social objectives.

The Farm Credit Administration has had 20 years' experience in financing agricultural land use and has already 185 million acres of woodlands connected with farms and range in its jurisdiction, the

committee said. It therefore recommended that the remainder of the forest credit problems of the country be entrusted to this agency to insure careful and well-tried methods of issuing and selling bonds and debentures to investors and to assure funds at the lowest interest rates.

Forest credit was termed a special class of credit not to be pooled with long-term credit of the Federal land banks or operations of other existing F. C. A. divisions. The committee therefore proposed that an F. C. A. forest-credit division be organized, charged with coordinating general forest-credit policies for specialized forest properties, large and small, with present farm woodland credit policy of the Land Banks, and supervising a forest-credit bank having offices in the principal forest regions.

A statute authorizing this F. C. A. forest-credit division was recommended to provide for collaboration between this agency and the Forest Service in setting up specifications for forest practices calculated to insure sustained yield in each region.

The primary function of the proposed bank would be to handle long-term forest credit (5 to 40 years) but it would have power also to handle intermediate credit (1 to 3 years, with provision for renewal), especially when this would contribute to the building up of permanent forest values and strengthen the long-term credit. As with the Federal land banks, funds for lending would be obtained largely by sale of bonds. A lower limitation on issuance of such bonds than in the case of the land banks, was proposed.

In order to protect the bank from impairment of assets, forest properties offered as security should be insured against loss from fire, storms, and natural enemies, at least to the extent of the bank's interest. Commercial insurance companies do not now provide such insurance, except to a very limited extent. Thus, provision for insurance under auspices of the bank, was suggested, provided that the borrower would retain the option of obtaining his insurance from any other source satisfactory to the bank. Funds employed in such insurance business should be kept distinct from other funds, and premiums collected to cover costs.

The cost of organizing and operating a forest-credit division and a forest-credit bank as outlined above would consist of a slight addition to the budgets of the Farm Credit Administration and Forest Service, and capital funds necessary to set up the bank were estimated at 40 million dollars.

It seemed desirable to the committee that the forest-credit bank be authorized to designate the Federal land banks and, in case of loans to cooperatives, the banks for cooperatives as its agents. Such an arrangement would tend to keep down costs of administration and would enable the forest-credit bank to take advantage of the experience of existing agencies.

Attention also was called to the "wide, but as yet undeveloped, field for the organization of cooperative associations of forest owners—particularly farmers and other owners of small and medium-sized tracts—for the purpose of processing and marketing forest products, as well as for forest development and management." If such cooperatives consist of farmers, they can obtain credit through the banks for cooperatives. This is not available for cooperatives

consisting of other forest owners, the committee pointed out, and should be provided, contingent upon forestry practices that will insure the continued productivity of the forest land.

Another Interbureau Committee report of this general type upon which work was begun during the year was that on the impact of war on agriculture, previously mentioned.

#### PROPOSALS FOR STRENGTHENING CURRENT PROGRAMS

Early in the last fiscal year, an Interbureau Coordinating Committee was set up to study and make recommendations concerning the 1940 A. A. A. program. The work of this committee is generally regarded as having promoted a better understanding by representatives of other agencies of the A. A. A. program and of the problems faced by the administrators of that agency, and thus is representative of another virtue of this device for formulating programs.

The committee made a thorough analysis of the general form and specific content of the present program and the legislation upon which it is based. Realizing the complex administrative task involved in developing a new program and the marked advantage, for farmer understanding and acceptance, of keeping the major provisions of the program as nearly the same from year to year as possible, *provided they give promise of reasonable effectiveness*, the committee made no recommendations for 1940 involving radical departure from present procedures.

The committee said, however, that there are major issues that need to be given serious study and consideration by A. A. A. as well as by other interested agencies in the Department, continuing problems which cannot be solved in any one year.

These problems were grouped under four major headings:

(1) Conservation—need for increased attention to conservation phases of the A. A. A. program in order that it be made more effective in actually attaining increased conservation;

(2) Goals, allotments and methods of payment—need for development of procedures that will provide a geographic distribution of allotments between States and counties more in line with prevailing and prospective physical and economic conditions and result in more equitable distribution of benefits between farms in terms of performance required;

(3) Small farms and low-income farm groups—need for increased attention to effects of A. A. A. programs upon small farms, sharecroppers and others in the low-income farm group;

(4) Coordination—need for smoother coordination between A. A. A. and other action programs.

In accordance with the Secretary's desire that every effort be made to increase the conservation effectiveness of all Department programs, an Interbureau Coordinating Committee on Conservation was set up to determine how Department agencies could modify present programs to this end. The committee declared that the ultimate goal of conservation work of any kind is conservation of human resources, and the crucial question from the standpoint of national policy is: How far is the Nation warranted in going—how much of the current national income is the Government justified in withholding or diverting from present consumption to expend upon produc-



tive resources for future use? This involves the difficult task of balancing the needs and well-being of the present population over against those of a future which are less pressing and more remote and indeterminate.

The report posed also the question: What is our objective in conservation? Is the purpose (1) *to maintain* the productive capacity of our agricultural plant and of our range and forest lands on a sustained yield basis, or (2) is it *maintenance plus*, that is, in addition to maintenance do we seek to go further and restore such of these resources as have or may become depleted to the point where the national level of yields and the productive capacity of our physical plant will be increased?

The committee suggested that the Department adopt as a minimum the objective of maintenance to take care of present and immediately prospective population for an indefinite period.

The committee made specific suggestions, most of which have been initiated or put into operation in 1940, for the programs of each of the following agencies: Agricultural Adjustment Administration, Soil Conservation Service, Farm Security Administration, Forest Service, Extension Service, and the Bureau of Agricultural Economics.

As a result of this work, a subcommittee was established to report specifically on forest-conservation needs and their relation to the farm programs, and another to report on range conservation.

The basic need in forest conservation, the former subcommittee found, is for a folklore of forest husbandry comparable to livestock husbandry which tells the farmer to select steers for butchering, and save the heifers.

The lore needed in forestry is one that requires a sense of stewardship and the ability to decide which trees are the mature ones and which the thrifty ones that should be left to grow. Through lack of such a lore, forest investments and forest tax assessments traditionally have been made on a liquidation basis, which has meant a "boom and bust" economy for forest communities, while farm woodlands have been "highgraded" with little concern for future growth. The effect has been to reduce one-third of all United States land now in forest to a part of its potential utility for watershed protection, soil conservation, recreation, wildlife, and other incidental uses and to a little more than half its potential timber productivity.

Fire protection was termed an essential preface to forestry, the public to bear a major part of its cost. Adequate insect and disease protection require a basic patrol and an intelligence service with shock troops for controlling or preventing outbreaks. In some forest areas the shift to proper cutting practices will require a speeding up of road building, and to some extent, a different type of construction than destructive logging requires. A part of these costs also should be borne by the public, it was asserted.

If forest destruction is to give way to forest conservation, the subcommittee said, a shift in attitude from that of liquidation to that of conservation must be promoted by education and demonstration mainly at public expense, and technical service in actually deciding which trees to cut and which to leave must be afforded. For the small farm woodland, it may be that the public will have to pay most of the costs of this service too. For the larger commercial holdings the owner can reasonably be expected to pay a substantial part.

Needed changes in the financial set-up of forest enterprises and in forest taxation; the bringing of tax-delinquent lands under responsible control; and the blocking up of crazy-quilt holdings into logical units for management; these important measures do not involve costs in the same sense as forest protection, development, and management. Rather, they are matters of refinancing, of legislation, of transfer of ownership, and of organization. Questions of forest credit were later considered by another committee, work of which is discussed elsewhere.

The range conservation subcommittee recommended that range extension education by the Department be increased. More specifically, the committee suggested a program of (1) compensatory payments to users of Federal ranges where critical soil conditions require drastic adjustments in numbers of stock; and (2) benefit payments to private range owners.

Application of this scheme to Federal range would require special appropriations as well as suitable administrative action and legislative authority to allow use of current appropriations. Application of the scheme to private ranges would require development of a workable method for checking compliance.

One of the principal recommendations of the committee on conservation was that further consideration be given to farm-tenure improvement. Accordingly, an Interbureau Committee to develop proposals for tenure improvement was set up, and agreed on a program designed to encourage: (1) Tenure for a period of years rather than annual tenure; (2) Crop-share or livestock-share rent rather than cash rent; (3) Diversified farming with emphasis on livestock rather than cash-crop farming; and (4) Compensation to the tenant for unexhausted improvements.

In its report, the committee said:

"Farm tenure is an important factor in many of our most perplexing farm problems, and improvement in the farm-tenure situation must be a part of the solution of these problems. The United States Department of Agriculture has given attention to the various aspects of the tenure problem and to measures through which improvements may be effected in the farm-tenure system. It is considering leasing procedures and measures which may serve to reduce mobility and provide greater security and stability of tenure for tenants and sharecroppers.

"The objective of the proposed measures is to encourage in every practicable way the adoption of leasing arrangements which will promote security of tenure by increasing its length and by providing for equitable settlement at its termination, and which fairly reflect in the distribution of the income from the farm the respective contributions of the landlord and the tenant. If widespread adoption of leasing arrangements incorporating these principles can be secured, not only will the well-being of landlords and tenants be enhanced, but the maintenance and improvement of the Nation's agricultural plant will be greatly facilitated.

"Careful consideration has been given to the development of written lease forms. Adoption of definite written leases can best be promoted if the number of such forms is limited. It is realized, of course, that this may require the use of amendments or riders in order to meet the needs of certain agencies of the Department or

of the States and the peculiar conditions of certain individuals or areas. \* \* \*

“The main improvements in leasing arrangements which these forms are designed to encourage are:

“1. Security and stability of tenure rather than short-time and uncertain tenure.

“2. Rates of rent based upon an equitable division of the annual returns from the farm.

“3. Diversified farming which includes livestock production and encourages production of the living on the farm.

“4. Compensation to the tenant for unexhausted improvements.

“Even more important than the actual form and content of a satisfactory lease is the necessity of obtaining widespread understanding of the tenancy problem and of securing widespread adoption of improved leasing arrangements. To this end several agencies of the Department have submitted proposed plans of action which they will initiate as part of a unified program to improve tenure arrangements and leasing procedure.”

This committee then turned its attention to similar possibilities for improvement in sharecropper-landlord relationships, and was so engaged at the close of the year.

During the last 5 years, land-acquisition activities of the Federal Government have expanded. A committee was appointed to consider the effect of the Government's purchases on families occupying the land acquired. The committee made the following recommendations:

(1) That land suitable for continued farming acquired incidentally in connection with submarginal or forest-land purchases, where suitably located, be made available to families residing within the area for continued occupancy and use under such restrictions as will insure the carrying out of adequate conservation measures on such lands.

(2) That those families residing on submarginal or forest lands at the time of purchase by the Government who cannot be provided for in accordance with the foregoing policy, be permitted to remain in the area for a transition period not to exceed 5 years, during which time the agencies of the Department cooperate closely in working out alternative opportunities for such families.

(3) That the Department purchase and develop good land for the express purpose of re-establishing families displaced through Federal purchase of submarginal or forest lands as soon as such activity is authorized by Congress, and that the Department suggest such legislation.

(4) That until such time as this legislation can be obtained, the Farm Security Administration give rehabilitation priority to families displaced through Federal land purchase, and also to the limited extent to which corporation funds are available to the purchase of good land for such families.

(5) That with respect to submarginal or forest lands already purchased, cooperative programs (involving necessary agreements between the Forest Service and the Farm Security Administration, the Soil Conservation Service, as the case may be) be developed, or expedited if still already under way, with a view to assisting families still remaining in the areas to make the best adjustments possible.

(6) That with respect to submarginal or forest lands to be purchased in the future, such cooperative programs be developed at the outset, before the land is purchased, through which it will be possible to assist all families living on the land to be purchased to make necessary adjustments.

#### REPORT ISSUED ON DEVELOPING A UNIFIED COUNTY PROGRAM

Another important Interbureau Committee report was that on the procedure for developing a unified county program in the land use planning work, a report that was vital to the development of that work.

The purposes of a unified county program, the committee characterized as (1) to encourage farmer participation in planning and developing agricultural programs, in cooperation with representatives of the State colleges, other State agencies, and the Department; (2) to work out land use adjustments and changes in farming systems and practices and institutions to fit conditions and problems existing in the county; and (3) to revise and coordinate the several programs in order to achieve the adjustments.

Consideration of these conditions in selecting any county for operation of a unified program:

(1) The county should be one in which the farmers themselves are interested and are willing to work actively in connection with the development of an improved and unified agricultural program;

(2) It should be one in which intensive county land use planning work is now being conducted, or one in which such work can be initiated immediately;

(3) It should be representative of a wide area or of a general type-of-farming region, or one in which some particular problem is centered which is of interest in a considerable number of other counties or over a wide region;

(4) It should be sufficiently similar to some adjoining or nearby county to allow results to be checked against results under existing procedures.

The procedure suggested in this report was presented to the National Committee of the Land-Grant Colleges on Extension Organization and Policy, and received its approval.

#### INTERBUREAU COMMITTEES NOW AT WORK

At the close of the year, Interbureau Committees were at work in many fields. One of those most advanced in its work was that dealing with State land use legislation that increases the effectiveness of State and Federal programs.

In many States, legislation in such fields as rural zoning, landlord-tenant relationships, modification of tax delinquency laws, administration of State and county lands, local government reorganization, and water laws has been highly successful. Unless there is State legislation some problems cannot be dealt with because they are outside Federal constitutional power, and to deal with some others State and local administration is very important.

The Interbureau Committee has formed subcommittees to study and report on each of the above subjects.

Another important committee is that set up to study Mississippi Delta land settlement. More than 13½ million acres of undeveloped land are suitable for cultivation "under the best practices" in the States of Mississippi, Louisiana, Arkansas, and Missouri, according to a survey made in 1938. A large part of this land is in the Mississippi Delta. The judgments of those familiar with this territory indicate that, with drainage and development, at least 5 million acres of unimproved land in the area are suitable for agriculture. This amount of land, properly developed, would provide 80-acre farms for 62,500 families, or 40-acre farms for 125,000 families.

Thousands of settlers each year are clearing the land for agriculture. Much of this land, formerly unusable for agriculture, has been made available for settlement because of recent flood-control measures instituted by the Federal Government. This has raised the question whether the benefits from these expenditures should not be distributed to settlers throughout the area, rather than to a few holders.

Another committee is considering the possibility of expanded use of electricity on farms, and the effects of such expansion upon agricultural production practices, farm management, labor requirements, and home and community life.

Rural housing and methods of alleviating slum conditions in rural areas are drawing the attention of another committee. This committee will consider suggestions for a national program of rural housing and recommend steps to assist farm families in obtaining private and Federal financial aid in improving rural housing conditions. The committee is working with officials of the United States Housing Authority in connection with the rural housing program of that agency.

Still another interbureau coordinating committee is studying the subsistence homestead projects throughout the Nation.

Three interbureau coordinating committees have been set up to consider a preliminary report prepared by the B. A. E. on "Agricultural Credit Facilities in the United States". The Farm Mortgage Credit Committee is developing sections entitled, "The Farm Mortgage Credit System as a Whole," "Federally Sponsored Farm Mortgage Loan Agencies," and "Recent Developments and Problems Related to Farm Mortgage Credit Facilities."

The Short-Term Credit Committee will give consideration to three sections entitled "Country Banks," "Federal Intermediate Credit Banks and the Production Credit System," and "Special Credit Facilities For Low Income Farmers."

The Cooperative Credit Committee will consider credit for cooperatives, and credit for the stabilization of agricultural markets and prices.

### PUBLICATIONS

Publications are an integral part of the program of the Bureau of Agricultural Economics. The Bureau is a vehicle of economic research and program formulation. Its research and planning program is not complete until results of that program are made available in usable form.

Publications and personal contact are the two most important methods of communicating results of the program, and the latter method has been discussed at various points throughout this report. Some of the publications also have been discussed in detail in other sections. It has seemed useful, however, to append here a list of all of the publications, except duplicated addresses, issued during the year, since all of them cannot be touched upon elsewhere.

The Bureau continued to issue the periodicals which remained its responsibility at the time of reorganization of the Department in 1938. None were suspended and none added during the year, but some events relating to them deserve mention.

Oldest of the periodical publications of the Bureau is *The Agricultural Situation*, designed primarily for those who wish to keep abreast of agricultural developments from a nontechnical point of view. It contains brief summaries of current and prospective conditions in principal farm commodities, tabular material relating to them, and short articles of general factual content. A special Outlook Issue of *The Agricultural Situation* for November of 260,000 copies was issued. At the close of the year, its monthly circulation was approximately 28,000 copies. Separately from this distribution more than 200,000 copies of the publication's commodity summaries are sent to crop and price reporters cooperating with the Department.

While *The Agricultural Situation* is devoted mainly to factual and statistical material, the *Land Policy Review*, the other printed periodical of the Bureau, is a journal of opinion and discussion dealing with agricultural policy and land use planning. A major advance during the year was approval by the Budget Bureau of monthly in place of bimonthly issuance of the *Land Policy Review* and expansion of its circulation from 6,000 to 12,000 copies. At the end of the year, its circulation was 6,000.

The only major development among the processed periodicals was the conversion of the former *B. A. E. News* into *Inside B. A. E.* The new periodical, a monthly, is an attempt by means of a more than ordinarily complete house organ to help keep Bureau personnel fully informed of Bureau activities. The extensiveness of the Bureau's interests has caused it to make special exertions in this information field. *Inside B. A. E.*'s circulation is confined to the 2,000 employees of the Bureau and a few individuals in other agencies whose duties involve unusual concern with the Bureau's work.

Mimeographed monthly reviews of immediate and prospective conditions in agriculture were published as in the past. They included two over-all monthly reviews, *The Demand and Price Situation* and *The Farm Income Situation*, and ten "commodity situation reports" monthly: wool, fats and oils, dairy, livestock, poultry and eggs, fruit, wheat, feed, cotton, and vegetable.

A Bureau periodical designed principally for professional use, and widely useful in the United States and in many foreign countries, is *Agricultural Economics Literature*, published monthly except in July and August to aid economists to keep abreast of material in their field. *Agricultural Economics Literature* continued its growth during the year, at the close of which its circulation was 1,900. Advance use of material from this publication was arranged during the year for the *Journal of Farm Economics* and the *Agricultural Marketing Service*, which had requested such service.

Two periodicals of specialized interest are *Farm Population and Rural Life Activities* and *The Agricultural Finance Review*. The former is a quarterly of 2,100 circulation published for investigators, teachers, and extension workers in rural sociology and related fields. The *Agricultural Finance Review* is a semiannual review of developments and research in farm credit, insurance, and taxation. Its circulation during the year rose to 3,200.

Bulletins and other publications issued during the year, both printed and processed, were as follows:

## GENERAL

- Agricultural Economic Reports and Publications, Bureau of Agricultural Economics. 29 pp. December 1939.
- Agricultural History in Relation to Current Agricultural Problems; A Report of the Agricultural History Conference at the Department of Agriculture, Washington, D. C., May 22-24, 1939. 47 pp.
- B. A. E. Handbook; A Description of the Functions, Organization, and Operation of the Bureau of Agricultural Economics, issued for the use of the staff. 39 pp. December 1939.
- Report of the Chief of the Bureau of Agricultural Economics, 1939. 40 pp. Printed.
- Standards of Value for Program Planning and Building. Proceedings of School for Washington Staff . . . Oct. 17-20, 1939. 132 pp.

## AGRICULTURAL FINANCE

- Average Consideration Per Acre in Voluntary Transfers of Farm Real Estate. Data for 463 Selected Counties, for 1935 or Earlier Years. 264 pp. November 1939.
- Transfers of Farm Real Estate. Number of Properties and Acreage Transferred, by Kind of Transfer. Data for 485 Selected Counties, for 1935 or Earlier Years. 181 pp. August 1939.

## AGRICULTURAL OUTLOOK

- Agricultural Outlook Charts, 1940. October 1939.
- Beef Cattle, 23 pp.
  - Cotton, 21 pp.
  - Dairy Products, 24 pp.
  - Demand, Credit and Prices, 32 pp.
  - Farm Family Living, 33 pp.
  - Fats, Oils, and Oilseeds, 20 pp.
  - Feed Crops and Livestock, 17 pp.
  - Fruits and Nuts, 42 pp.
  - Hogs, 19 pp.
  - Potatoes and Truck Crops, 36 pp.
  - Poultry and Eggs, 17 pp.
  - Rice, Dry Beans, and Broomcorn, 13 pp.
  - Sheep, Lambs, and Wool, 24 pp.
  - Tobacco, 22 pp.
  - Wheat and Rye, 29 pp.
- Farm Outlook for 1940. Miscellaneous Publication 379, 46 pp. 1939. Printed.
- Outlook for Farm Family Living in 1940, by Bureau of Home Economics and Bureau of Agricultural Economics. Miscellaneous Publication 377, 6 pp. November 1939. Printed.
- Special Edition 1940 Farm Outlook for the International Livestock Exposition. Summaries of the 1940 outlook reports for cattle, hogs, sheep, lambs, wool, horses, and mules—and for feed grains, hay, and pasture. 12 pp. November 1939.

## BIBLIOGRAPHIES RELATING TO AGRICULTURAL ECONOMICS

- Agricultural Economics Bibliographies.
- No. 79. Price Fixing by Government in the United States, 1926-1939; a selected list of references on direct price fixing of agricultural products by the Federal and State Governments, compiled by Louise O. Bercaw. 214 pp. July 1939.
- No. 80. Peanut Industry; a selected list of references on the economic aspects of the industry, 1920-1939, compiled by Helen E. Hennefrund. 238 pp. November 1939.
- No. 81. Transportation of Agricultural Products in the United States, 1920-June 1939. A selected list of references relating to the various phases of railway, motor, and water carrier transportation, compiled by Esther M. Colvin. 812 pp. November 1939.
- Pt. I. General Transportation and Transportation of Agricultural Products.
  - Pt. II. Highway, Rail, and Water Transportation.
  - Pt. III. Index to Parts I and II.
- No. 82. World Food Supply; a partial list of references, 1925-1939, compiled by Margaret T. Olcott. 164 pp. December 1939.
- No. 83. Land Classification; a selected bibliography, compiled by Orval E. Goodsell. 95 pp. March 1940.
- No. 84. Agricultural Relief Measures Relating to the Raising of Farm Prices, 74th Congress, January 3, 1935 to June 20, 1936, compiled by Marion E. Wheeler. 75 pp. April 1940.
- No. 85. Farm Tenancy in the United States, 1937-1939, compiled by John M. McNeill. 160 pp. April 1940 (Agricultural Bibliography No. 85 supplements No. 70.)
- Economic Library Lists.
- No. 4. Egg Auctions: selected references, compiled by Helen Brown. 20 pp. July 1939.
- No. 5. Acts Administered by Agricultural Marketing Service, compiled by Marion E. Wheeler. 9 pp. October 1939.
- No. 6. Periodicals Relating to Shipping, compiled by Esther M. Colvin and Nellie G. Larson. 14 pp. October 1939.
- No. 7. Electrical Properties of Cotton; some references to the literature, 1931-date. 3 pp. November 1939.

- No. 8. Sea Island Cotton; selected references, compiled by Emily L. Day. 13 pp. November 1939.
- No. 9. Cotton picking machinery; a short list of references, compiled by Emily L. Day. 19 pp. March 1940.
- No. 10. Tomato Industry in Puerto Rico and Cuba; a short list of references, compiled by Helen E. Hennefrund. 12 pp. June 1940.
- Guide for Courses in the History of American Agriculture, compiled by Everett E. Edwards. 192 pp. September 1939 (U. S. Dept. Agr. Library Bibliographical Contribution No. 35.)
- Selected References on the History of English Agriculture, compiled by Everett E. Edwards. 105 pp. (U. S. Dept. Agr. Library Bibliographical Contribution No. 24.)

### COUNTY PLANNING

- County Land Use Planning. 12 pp. March 1940. (County Planning Series No. 1). Printed.
- Land-use Planning. Delaware Handbook, by K. W. Baker. Various Paging. October 1939.
- Land Use Planning Organization. 8 pp. May 1940. (County Planning Series No. 3). Printed.
- Membership of Land Use Planning Committees. 8 pp. April 1940. (County Planning Series No. 2). Printed.
- Report on the Progress of Land-use Planning during 1939. 67 pp. January 1940. With the Agricultural Extension Service.

### EDITORIAL REFERENCE SERIES

- No. 1. War and Agriculture: 1914 and 1939. 12 pp. October 1939.
- No. 2. Agriculture and the World Shipping Situation. 6 pp. November 1939.
- No. 3. Agriculture in 1939. 17 pp. December 1939.
- No. 4. Farm Real Estate Values. 23 pp. April 1940.
- No. 5. Migrant Workers in Agriculture. 16 pp. May 1940.
- No. 6. A Decade of Agricultural Trade—and the Present Outlook. 25 pp. June 1940.
- No. 7. The Dust Bowl: Agricultural Problems and Solutions. 47 pp. July 1940.

### FARM ORGANIZATION AND MANAGEMENT

- Comparison of the Determinations of A. A. A. form NCR 203 and 1938 Corn-acreage Allotments, with Recommendations of Soil Specialists, for 166 Farms in Iowa, by R. D. Jennings and W. W. Wilcox. 21 pp. September 1939. In cooperation with the Agricultural Adjustment Administration and Iowa Agricultural Experiment Station, Agricultural Economics Section.
- Considering Farm Adjustments in Subarea 33, Type of Farming Area VII Montana, by Neil W. Johnson. 34 pp. July 1939. In cooperation with Montana Agricultural Experiment Station, with the assistance of Work Projects Administration.
- Determining Input-output Relationships in Milk Production. Feed Input and Milk Output. Preliminary Results, by Einar Jensen. 12 pp. January 1940. (F. M. 5).
- Food, Feed—and Southern Farms; a study of production in relation to farm needs in the South, by Oscar Steanson and E. L. Langsford. 25 pp. November 1939. (F. M. 1).

Forces Causing Dairy Farmers to Make Changes in Their Farm Organizations in Barron County, Wisconsin, by Raymond P. Christensen. 70 pp. December 1939. In cooperation with Wisconsin Agricultural Experiment Station.

Inventory of Reports and Research Studies, completed and in progress, relating to adjustments of population to resources in the Northern Great Plains States, by Neil W. Johnson and Orval E. Goodsell. 86 pp. January 1940.

Operation of Agricultural Conservation Programs in Illinois, by G. E. Toben and H. C. M. Case. 8 pp. January 1940. (F. M. 4.) In cooperation with the Agricultural Adjustment Administration and the Illinois Agricultural Experiment Station.

Organization and Crop Production Practices on Grain Farms in Selected Areas of the Northern Great Plains, by R. S. Washburn. 94 pp. December 1939. (F. M. 2.)

Organization and Crop Production Practices on Grain Farms in Selected Areas of the Pacific Northwest, by R. S. Washburn. 83 pp. October 1939.

Probable Effects of the Agricultural Conservation Program on Livestock Production in Midwest Dairy Region, by Sherman E. Johnson, Ronald L. Mighell, and Frank T. Hady. January 1940.

Pt. I. A Summary of the Studies of Selected Areas. 24 pp.

Pt. II. Northeastern Iowa—A Corn Belt Transition Area.

Pt. III. Southeastern Minnesota—A Corn Belt Transition Area and East Central Minnesota—An Area with No Close Alternatives to Dairying. 123 pp.

Pt. IV. Four Wisconsin Areas—Areas with No Close Alternatives to Dairying. 75 pp.

Production Costs and Returns, by M. R. Cooper. 38 pp. June 1939.

Rural Rehabilitation Progress in Stearns County, Minnesota.

I. A Summary Analysis, by Warren R. Bailey, 31 pp. March 1940. In cooperation with Minnesota Agricultural Experiment Station and Farm Security Administration.

Size of Farm in Relation to Family Requirements in the Northern Plains, by T. S. Thorfinnson, F. D. Cronin, and R. B. Hile. 17 pp. June 1939.

Sorting and Sampling Farms for Soil Conservation Research, by Neil W. Johnson. 11 pp. October 1939.

Stocker and Feeder Cattle and Sheep Received in Several Corn Belt States, by Knute Bjorka. 9 pp. August 1939. Agricultural Marketing Service cooperating.

Supply Responses in Milk Production in the Cabot-Marshfield Area, Vermont, by R. H. Allen, Erling Hole, and R. L. Mighell. Technical Bulletin 709, 59 pp. April 1940. Printed.

Tailoring Conservation Research to Fit the Needs of Farm Planning, by Neil W. Johnson. 11 pp. June 1940.

Types of Farming in Mississippi, by M. A. Crosby. 126 pp. January 1940. In cooperation with Mississippi Agricultural Experiment Station.

### HEARINGS

Farm Labor Situation in Texas, by William C. Holley. Presented before the Senate Committee on Education and Labor. May 1940. 14 pp.

Farm-mortgage Debt and Farm Investments of Life Insurance Companies. Tables and Charts presented by Norman J. Wall . . . before the Temporary National Economic Committee, Feb. 14, 1940.



- Income and Earnings of Farm Laborers, by Ernest J. Holcomb. Presented before the Senate Committee on Education and Labor . . . May 1940.
- Mechanization and the Use of Labor on Farms. Tables and charts presented by Sherman E. Johnson and R. S. Kifer . . . at the Hearings before the Civil Liberties Committee, May 10, 1940. 15 pp.
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