

Land-Use Planning

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A Thesis

Presented to the Faculty

of the

School of Forestry

Oregon State College

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science

June 1938

Approved:


Professor of Forestry

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INTRODUCTION

As the scope of our physical, biotic, economic, human, and institutional resources have reached a climax in our given states, as our economic setups require a more and diversified use of these resources, we have to look for new territories to expand into or resort to a method of state, regional, or national planning. The latter outlook is at present the best means of looking at the situation because all available land is now producing crops or other forms of resources.

The pressure of economic distress and unbalance in various agricultural industrial areas of the United States at this time, and the corresponding necessity of establishing subnational administration in the regions served by the economic groups has led to the formation of the present setup in the Federal Government. There is now a "National Planning Board" to look into these situations and plan for the betterment of all our natural resources. Other problems of the same nature are dealt with by regional, state, county and even city boards, but their outlook is small in comparison to the National Board. Some plans may be worked by individuals and by voluntary associations, as in industry, agriculture, labor, and education. It has developed from the individual groups to the National Boards.

During the last fifty years, appalling losses have occurred in our United States due to the lack of planning. This may have been caused by the people who were exploiting; those who were interested in wealth rather than commonwealth.

These interests were planning while the general public was interested in other things. We are now attacking these problems of waste and loss which have been so costly to the taxpayer and the citizen. This is an effort to combine all forces for a unified movement to attain the highest possible standard of American living. Sound planning could have prevented to a certain extent the loss of human and natural resources.

HISTORY

Land-use planning has been thought of for a long period of time. Its present developments have required an initial amount of thinking, discussion, and experimentation. Among the first works on planning is a book, "The Isolated State", by a German author by the name of Von Thunen. It is a German publication based upon the assumption that a city furnished the markets for the products grown around it. The land was divided into certain sections. The most valuable, which was closest to the city, was used for intensive agriculture, (vegetables, milk, etc.), next came the area that would be valuable for crops such as wheat, oats, and barley (extensive farming), and lastly came the land that would be used entirely for forests and forest products. Rivers and roads into the areas caused the areas to extend farther away from the cities due to the better transportation facilities.

The idea of advance planning for arrangements of houses, streets, and shops goes back to early history, being mentioned in early writings of Rome, Greece, and Egypt. This

proves it is not altogether a new idea.

Planning to provide for educational purposes and to decrease the amount of illiteracy was a primary consideration of the early colonies, and it has been of primary importance ever since.

The New England States have worked together constantly in planning ever since the days of the New England Confederation, organized to protect themselves and their families from King Phillip and the Indian wars.

In 1791, the L'Enfant Plan was presented for planning of Washington D.C. Although the original plan for the city did not consider the unusual rise in population, the framework of this plan is still intact. It was made for 100,000 people and the population is now 500,000. This is recognized as the first effort of conscientious land planning in the United States.

Other famous plans for cities were submitted by Williamsburg and Philadelphia.

During the early part of the 1800's, planning was discarded. There was a rapid development of our country with an accompanied squandering of our natural resources. Among the many things that were wasted are timber, oil, gas, farm lands (by erosion), and minerals. Farmers were continually trying to get along on lands that were much more suitable for some other purpose. Many areas were opened to private exploitation that would have been much better off under the guidance of the United States Government.

During the latter part of the above period, public

appeals were beginning to be heard. One idea of that period was that there was so much timber that it would last forever. Then the people took a different attitude, that the timber resource was rapidly waning and that in the near future it would be entirely expended. This latter thought led to the enactment of the Act of 1891 which provided for the

1. Repeal of Timber Culture and Preemption Law.
2. The amendment of the Desert Land Law.
3. The amendment of the Homestead Law.
4. The abolition of public land sales.
5. Most important, the provision for letting the President set aside forest reserves from the public domain.

Areas that were made into reserves were believed to be at their highest use for public welfare, watershed protection, and for timber production. This is the first outstanding example of National planning in this country, and awakened the general public to the possibilities of conservation. In 1909, the Forest Service published a pamphlet on the "Future Use of Land in the United States".

Civic improvement in this country was stimulated by the WorldsFair of 1893 in Chicago and by the development of park systems in and around Boston, Minneapolis and other cities. Modern city planning started with the Washington plan in 1901 closely followed by Chicago in 1909. Their plans were for the grouping of public buildings and park improvement. During the decade following the 1910 and 1920 sprees, city planning reports were developed for systems of major streets,

playgrounds, zoning restrictions of business and residential districts, and housing studies were prominent. These plans were supported by various groups such as the Chamber of Commerce, garden clubs, child welfare groups, and city officials.

State planning was started early in the forms of several planning activities concerning conservation, state highway or public works, and educational opportunities. In 1890, state planning for the preservation of scenic and historic sites was started by an organization of trustees in Massachusetts and a society in New York. State health departments were soon organized. These and similar efforts provided a background for the organization of a National Land-Use Planning Committee by the Secretary of Agriculture. Two outstanding states which have a working plan are Michigan (1920) and Wisconsin.

Recent plans in the Forest Service were submitted in a book entitled "A National Plan for American Forestry". This was printed in 1933. A plan called the "Western Range" was printed in 1936.

DEVELOPMENTS

Planning was started in small districts and spread until it now includes the whole nation. Merely the planning of a house and surrounding gardens led the planning for a neighborhood or subdivision and from there into planning and zoning for the entire community or city. Therefrom, planning has spread to include states, regions, and entire nations.

In the early 1900's there were very few cities or towns that were definitely considering and looking into the future. In 1936, a survey of city and town planning, conducted by the National Planning Board, showed that there were 739 city and town planning agencies, 1,244 cities with zoning regulations, and approximately 218 cities with general or comprehensive city plans.

City plans were developed into county plans. These smaller plans grew beyond the scope of the municipal corporations. The county planning was the natural rural planning which was the outgrowth of plans from the neighboring cities. During the past year, this movement has been growing until now it includes over 250 counties. Most of the organized county planning is in California, Wisconsin, and the Pacific Northwestern States.

The first state planning was started on May 7, 1926, in the report of the New York State Commission of Housing and Regional Planning. This was the first comprehensive study in the sense that is now implied to planning. Probably it would be more accurate to give the honor to "Jefferson's Notes on Virginia" (1784). Still the New York report was the first to combine the states assets with a historical discription of their use and their present trends. Wisconsin established a Regional Planning Committee by an act of legislature in 1931. Illinois, Massachusettes, and Iowa closely followed with the good work.

Planning has advanced its fields. It not only consists of small zoning ordinances and other programs, but has a plan

that is national in scope. Planning now includes plans for agriculture, land classification, forestry, mineral resources, water resources, power, fisheries, transportation, commerce, land-use, rural electrification, public works, unemployment, parks, tourist attractions, state penal institutions, capitol grounds, public lands, county boundaries, centennial parks, statistics, public health, taxation, metropolitan problems, and others too numerous to mention.

PRESENT TYPES OF PLANNING

State planning includes most all the physical, biotic, economic, human, and institutional resources. Some of them are:

- a. Land resource and use.
- b. Water resource and use.
- c. Mineral resource and use.
- d. Commerce and commercial assets.
- e. Manufactural resource and developments.
- f. Transportation facilities and patterns.
- g. Urban formations and their problems.
- h. Recreational needs and resources.
- i. Population and human resources.
- j. Social conditions and institutions.
- k. Local government and public services.
- l. Public works needs and programs.

Three things are involved in this planning:

1. The basic resources of the natural environment.

2. The pattern of cultural works and constructions.
3. The inherent relationship that exists between the two.

Among examples of interstate compacts is the Colorado River example. It includes plans and compacts for irrigation, power, need for flood control, and navigation purposes.

Regional plans include farming regions, petroleum, war zones, extension service, air commerce, weather bureau, food and drug, forest service regions, civil service, and many other types of planning regions.

STIMULATION OF STATE, CITY, AND REGIONAL PLANNING

Planning functions have been developed more and more until now there are boards for almost all the projects that can be thought of. It has been the choice of the people and their stimulated viewpoints that has caused this increase of sentiment. Most of the planning has been developed since the early 1900's.

LAND-USE PLANNING - WHAT IS INVOLVED?

Planning consists of a continuous forward looking application of the best intelligence available to programs of public and private affairs. It is applicable in every modern home, in every labor or agricultural group, in every forward looking organization, and it can be applied equally as well in the governmental world.

With this in mind, a definition of land-use and social utilization planning derived from our New Deal national land

policy might be "Planning the use of land, so as to obtain the maximum benefits for the public welfare".

Several considerations are important in looking at plans for planning:

1. The necessity and value of coordinating our national and local policies, instead of allowing them to drift apart or pull against each other with disastrous effect.
2. The value of looking forward in national like, of organizing preventive policies as well as remedial, of preventing the fire rather than putting it out.
3. The value of basing plans upon the most competent collection and analysis of the facts.

Not all planning is national planning. It consists of some local, state, private, institutions, and other forms. The Planning must take in the entire public if it is to be successful. It must come from the bottom up as well as from the top down, and from the circumference as well as the center.

Plans will emerge mostly from individuals, and the association of individuals, industrial, social, or otherwise. These plans are not to be fixed, rather they should be flexible so they can be expanded or contracted as need be. They must always be open for revision or readjustment as new situations arise. It is a continuous process and there must be a continual re-examination of trends. It would be stubborn and stupid to continue with the same forms of plans that our ancestors used before us. Policies must be modified

as conditions arise that necessitate recasting of them.

It is false and misleading to assert that all planning involves wholesale regimentation of private life. Intelligent and sound planning brings about a release rather than a narrowing of choice. On planned streets where there are traffic regulations, traffic operates with less confusion than on unplanned streets where there is uncontrolled traffic regulation. Regimentation is not a theory, it is a proven process. The plans have to protect the weaker and oppressed persons.

HOW PLANNING IS ACCOMPLISHED

The first steps to be accomplished in planning include the following:

1. A program of public works for a considerable period.
2. A proposed transportation system.
3. A general classification of the areas of the state into the principal recommended land uses.
4. Other projects and studies such as housing and Governmental reorganization.

As planning is a continuous process, it should be in a form that can be carried on with the least possible lost motion.

General Survey - The first step should be a survey in which the collection and correlation of all essential information bearing upon the social, economic, and physical development. The material that is already available is used first. After that is checked, go into the study of

all special information that is needed to carry on the project. A library is a very good place to obtain materials.

Research - A certain amount of original investigation is needed for the preliminary plan. Following the collection of data that already existed from official and unofficial voluntary agencies, the next job is to classify and evaluate the material so as to be able to tell if any special information is available for any given area. The way is then clear to formulate an intelligent conception of probable future social, economic, and physical development based on the:

1. Study of present trends.
2. Desires of the people in the area in question as to the future development.
3. Its relation to existing conditions and future developments of the region or state as a whole.

In land planning, information is obtained by the various planning boards collaboration with State Colleges, Federal, State, and private agricultural bureaus, conservation, and experimental agencies. Next you determine the present uses and the most logical uses to which the land should be put (forest land, crop land, pasture land, land for protection of watersheds, and recreational land). Land planning committees have brought these agencies together and guided their works so as to obtain the desired results for the studies.

In short, the activities include:

1. The collection of data that deals with the

functions, trends, and specific areas.

2. The formulation of programs and policies wherein improved material patterns and new relations to resources are to replace existing maladjustments.

THE GOAL OF PLANNING

The most important objective of planning is to survey the natural and human resources of the areas and to consider how they may be developed. Land-use planning may be classified under three heads; economic, social, and conservation of resources.

Economic - The economic goal of planning is seen in the revision of wages and general labor policies on the part of both private and public forestry agents. A reappraisal of current cutting methods is needed so that the continual employment of all people dependent on the industry may be assured. The goal would be to cut out the marginal producer and avoid the production of commodities in excess of the current needs.

Another aim would be to lessen the tax burden by reducing the costs of schools, roads, and other public services. In some of the older forest communities the timber is beginning to be pretty well cut out. This type of community is having a tax burden in that a large number of the population has moved away and thus lessened the taxes that are possible to collect. Those who remain have such a high maintenance cost on the upkeep of the various

works that it is becoming almost unbearable.

Some efforts have been made along this line already. For example; the gerrymandering of areas so as to include valuable lands in the school districts.

The standards of living of the people who are removed from the marginal producing centers may be raised by the transfer of them to areas that may be productive enough to support them. Examples of this policy can be seen in the works of the "Resettlement Projects" and the T.V.A. They may be removed from marginal lands and put onto lands that will pay a small part of a subsistence, and by giving them partial employment they will be able to make a living wage.

Social Purpose - The social purpose of planning should be to assemble the population in settlements. This would have a tendency to stabilize the tax base and let the community have a more reliable income for carrying on the required services and institutions.

By planning, the public would be prevented from settling on the marginal lands. These settlements were a means to a profitable end for real estate brokers, banking interests, and the like who were only interested in making a profit for themselves, not whether the people could make a living on the land.

Conservation of Resources - If land was classified according to its use, there would be a definite purpose to which it would be put (agriculture, forestry, grazing or recreation). It would stabilize the products that are now coming from the forests and insure a continued supply of

these commodities. Conservation must be practiced somehow, and if left up to the individual initiative of the country may be disregarded. This may not be the public's fault as they cannot afford to hold the land for conservation at the present tax rate and also the price for the product.

By checking over the areas in question a large number of recreational areas and parks may be discovered and opened.

Also, in going over the areas, possible solutions for the problem of erosion may be found. If they are not found, they must be developed.

The land planning purposes of the Forest Service (taken from the "Annual Report of the Department of Agriculture") are three-fold.

1. To foster and promote the sustained yield management of forest lands by private agencies to the fullest practicable degree and by all appropriate means, including correlated public ownership and management of those parts of natural units of forest management not adapted to private ownership.
2. To cooperate with the several states, under the provisions of the Pulmer Act of August 29, 1935, and otherwise, in the development of adequate systems of State-owned and State-managed forests, to the fullest degree dictated by the State interests, means, and limitations.
3. To eventually establish a National Forest status for the forest lands that are of such character or service as to require Federal rather than private or

State ownership and management.

The social objective of the Forest Service planning requires the setting up of forest community relations. Many of the people in the United States in years to come can and will look to the forest for means of gaining a livelihood. Their needs for essential services, social opportunities, and cultural advancement will be met by the establishment of permanent forest communities based on the related forest resources. Some communities now established are facing ruin due to the exhaustion of the surrounding timber supply, while other communities could be established if the people were drawn more closely together. Institutional services are entirely lacking because of prohibitive costs.

There are examples of this in the Drummond project in Wisconsin and the Sublimity project in Kentucky. The Re-settlement Administration has approved these projects, and funds have been made available to continue with them.

Applied to forestry, planning results are not measured in the terms of sustained yield, but more in terms of steady, continuous employment under satisfactory working conditions and a sufficient wage return to permit the enjoyment of a decent living standard by all the workers concerned.

PUBLIC AGENCIES WORKING ON LAND-USE IN THE NATIONAL FORESTS

1. National Resources Committee.
2. Soil Conservation Service.
3. Agriculture Adjustment Administration.

4. Bureau of Agricultural Economics.
5. Resettlement Administration.
6. State Planning Boards.
7. State Agricultural Colleges.
8. Various land managing agencies of the Federal Government.
9. United States Chamber of Commerce.

The Forest Service seeks and needs to coordinate and articulate the land planning which its own field of activity calls for with the plans of others.

The plans to carry on the work are similar in the National Forests as on other areas.

LAND-USE PLANNING IN THE NATIONAL FORESTS

Land-use planning on the National Forests would be accomplished through farm forest communities. Almost all the necessary conditions for the development of a community may be found in or around a forest. Now this does not mean that the tenants in these communities will have an opportunity to get rich, but rather that along with their farming and meat-raising, a small wage will be paid them, which will be enough to live on. The areas may be classified into agriculture, grazing or forestry divisions. This will mean that each type of area requires a different acreage to live on. On a grazing or timber area more land would be needed than on an agriculture area. Of course all three products are to be grown on all areas in quantities that are designated. Each land owner will grow garden crops and other

food supplies, raise a few pigs, chickens, and perhaps a cow for his own use and consumption if possible. Also, along with his home duties, the man will be supplied with part-time employment in the adjoining forests.

One plan suggested is that each family be given a small acreage, designated as a subsistence homestead. The size of the acreage may be from five to ten acres. Then the family can raise its own garden crops, pigs, chickens, a cow, and be furnished with a minimum yearly wage of \$300 by partial employment in the surrounding forest. In this plan no products will be sold on the open market, therefore it would not add to the over-production of crops. Each family would raise enough for their own needs.

At any rate, whichever plan is used, it would take a large portion of the people living in slum districts, on marginal lands, and other areas of unemployment and group them together. This grouping will increase the purchasing power of the community and that area. Local community costs will be decreased because of the grouping and taxes will be lower per person. Also the development of schools, roads, and governmental duties will be advanced as all taxes will be paid and also due to the large number of people in one area. The annual production of natural resources can be stabilized. This will be of material benefit to the public welfare of the future as well as the present because it will limit over-production.

Relief costs of the government would be lessened due to these communities. It would take many families of the

relief-roll class and put them back on their feet earning their own living.

Of course one must think of the cost of a project like this and where the money will come from. In the first place there would be no unemployment as each man would be required to work on the forests when not laboring on his own holdings. The cost of the entire project to the government would perhaps stop at an initial investment. After that, these communities would be self-supporting, and they could return the initial outlay given or loaned by the Federal Government. In other words, they would be self-sustaining.

Both England and Sweden have practiced Forest Colonization with some success.

Sources of employment on a national forest are many. An example is Game Management. In this field the government is now working many surveys which would be continued and furthered under community conditions. Such experiments, and other forms of employment, include recording migration of birds and animals, game census, restocking fish and game to specified areas, rearing game birds, hatching fish for restocking observation of wild life, trapping surplus fur-bearing animals and also predatory animals, range improvement, improvement of recreational areas, serving as game wardens, fire fighting, and protection work. There are many others. The salary of the workers could be obtained by receiving bounties on the predatory and fur-bearing animals and governmental salaries.

There are possibilities of raising fur-bearing animals

on a large scale basis. Fur coats may be only a fad, but furs have increased in value during recent years and are usually expensive enough that a profit can be realized. These fur farms may be carried on privately or under the supervision of the Forest Service officials.

By developing recreational areas, the tourist trade could be obtained. This would leave large quantities of money in the community for hotels, tourist camps, restaurants, etc. A guide service may be established. Also horses could be rented.

Another form of employment would be Governmental logging. This work could be carried on by the Forest Service. This may not create a larger number of jobs than are now available, but it would distribute the work to the men needing it. They could lower the numbers of hours each man was employed, and, through this, give more men the needed jobs. The profits that are now being made by the private concerns could be used by the Forest Service in giving more employment.

Men could be used in stand improvement and other silvicultural methods. Also, by cutting and observing the cutting over a long period of time, a more extensive form of sustained yield practice could be created. If the individual profits were used to create more employment, better silvicultural improvements could be had in the forests.

Of course the private operators now cutting on the forests employ a goodly number of people, but the additional amount and the distribution of it would be a big help to the communities.

Large projects could be established to control erosion. Many workers could be employed to plant trees and shrubs, build control dams, or other control methods. This could eventually destroy many disastrous floods. Watershed establishment and protection would furnish many men with jobs. The money saved by these methods could be used to create more projects in needy parts of the country.

Profits of the governmental logging could be used to improve range conditions. This would bring greater profits for grazing.

These profits could also be used to good advantage in insect and fungi control and eradication, thus improving the forest and making it possible to obtain more profits from the lumbering industry.

Workers could obtain employment by more extensive fire protection conditions. Along this line one could also improve roads for fire breaks, for better transportation facilities, and for recreational driving. Many other forms of improvement work would furnish jobs for these men.

By improving all forest conditions less land would be needed to supply the nations timber needs, and more land could be devoted to agriculture, grazing, or other forest area possibilities.

Most all of these conditions tie together in that improving one of them would naturally blend into and improve others. That is, if planting and other silvicultural methods were resorted to, the erosion would be lessened, the lumbering industry and products would be improved, etc.

The only trouble is that the government is very inefficient in the way it spends its money. It could create worse conditions than if it had been left alone. The only possibility would be efficient management and checks and rechecks on the expenditures to hold them at a point where the maximum good with the least expense would be had.

FACTORS INVOLVED IN LAND CLASSIFICATION

The factors involved in the classification of land are separated into two groups, physical and economic. The important physical factors are soil, topography, climate, and accessibility. Important economic factors are land-use, land ownership, assessed valuation, tax delinquency, and community pattern. One has no control over physical factors, while on the other hand, the economic factors are somewhat controllable. The importance of this data varies with the locality and often with the interpretation of the worker.

Physical factors

1. Climate - Surveys of the climate must be conducted through analysis of present and past weather records. This data should include the length of the growing season, early and late frosts, amount and distribution of precipitation and the amount of snow.
2. Topography - Maps should be made or consulted that pertain to the topographic conditions of the vicinity and the surrounding territory.
3. Soils - Existing soils maps should be investi-

gated to find out the depth and condition of the soil in the area. In case this data is not available, extensive soil survey may be necessary.

Economic factors

1. Present land-use - The present land-use, along with the past and future uses, is necessary so as to be able to determine the type, quantity, and quality of the products of the area.
2. Distribution of livestock - The amount of livestock on the area should be determined so as to be able to ascertain the use to which the land is now being put.
3. Community pattern
4. Land ownership - A survey must be made to determine whether the land is in private, state or governmental ownership.
5. Recreational advantages - Possibilities of future recreational sources should be obtained so that plans can be developed to stimulate recreation.
6. Costs of clearing for grazing use - These costs must be determined so that grazing industries may be developed.
7. Necessary range management practice - Studies must be conducted along this line to determine the types of grasses that can be grown and the types that are best suited to the grazing industry.

8. Livestock marketing opportunities - Distances from markets and the transportation costs should be studied so profits from livestock may be determined.

9. Other factors -

- a. Potential returns from grazing and forest uses of land.
- b. Need for stabilized land use.

STEPS IN LAND CLASSIFICATION

A study of county finances is necessary to determine just what the tentative land classification will have upon the public finances of an area. Therefore, a study is necessary and is made of the tax base and other factors affecting taxation.

Land assessment - The assessment of lands would be based upon the productivity, use, and location. The study should be made and a map drawn showing the assessment rates and the location of non-taxpaying lands. Lands suitable for cropping may be assessed as high as \$50 per acre. Grazing lands are usually assessed at less than five dollars per acre, and timber in accordance with value, usually up to \$55 per acre.

Distribution of tax base - Make a graph showing the percentage distribution of the tax base. The items as assessed are segregated into groups such as livestock, agriculture, forest and municipal.

Trend in tax levies - A study in the trends of past

taxes may be presented graphically.

Tax collections - A study of the tax collections will reveal the general economic situation in any area. However, some non-economic factors may not contribute to the status of tax collections. For example, excessive public commitments contracted in a moment of optimism may be difficult to determine under any considerations.

Net indebtedness - The net indebtedness should be investigated. This should include bonds and warrants outstanding for public school debts, road, bridge, and general county fund debts, and part district debts.

Public schools - Public school administration should be studied. Also the taxable valuation per census child in the different districts and the consequent equally extreme variations in special district tax levies must be noted. Determine the areas of the school districts and the means of transportation facilities on hand.

Surveys must also be conducted on the subjects of production costs, markets, transportation, management, standard of living, customs, population trends, relief areas, and income.

These surveys may be carried on simultaneously. The results must be correlated and weighed according to the factors which influence them.

TENTATIVE LAND CLASSIFICATION

From Report of Investigation - Curry County.

1. Agricultural areas

Areas in which at least 50% of acreage has soils and topography suitable for intensive cropping and in which there is sufficient land to support 10 families per acre. The agricultural lands included in these have the following characteristics:

- a. Topography level to gently rolling.
- b. Soil alluvial, free from stones, depth three feet or over and very productive.
- c. Drainage good, generally suited to forage or special crops.
- d. Capable of supporting an intensive type of farming such as dairying or bulb raising.
- e. Public facilities adequate.
- f. Accessible to markets and supplies.
- g. Assessed valuation generally higher than other types of land.
- h. Tax delinquency normal.
- i. Capable of supporting one family to every forty acres.

2. Grazing Areas

Broad areas chiefly suitable for grazing. At least 50% of the acreage is suitable for grazing and capable of supporting 1/3 or more sheep or its livestock equivalent per acre and there is sufficient land suitable for grazing or crop production to support ten families per acre.

No areas of merchantable timber, recreational lands or lands which require timber to prevent

erosion are included. Grazing lands have the following characteristics.

- a. Topography gently to strongly rolling.
- b. Soils which are yellowish-brown to dark brown or black in color, normally slightly acid in reaction, of relatively fine texture, and which are at least 18 inches deep.
- c. Generally not adapted to cultivation except in isolated areas along streams.
- d. Drainage generally adequate.
- e. Generally suited to grazing, capable of supporting from $1/3$ to 1 sheep per acre, or the equivalent, for twelve months.
- f. Public facilities adequate, but not as accessible in the agricultural areas.
- g. Assessed valuation usually lower than agricultural areas.
- h. Tax delinquency normal to subnormal.
- i. Generally capable of supporting one family for each 500 to 1,000 acres.
- j. Contains no large tract of merchantable timber.

3. Forest Areas

Forest areas are chiefly valuable for the growing of forests, either for timber crop production, for forest recreation, or protective cover to soil and water resource. These areas comprise all rural land

not included in the preceding classes.

The lands have the following characteristics;

- a. Topography level to rough and mountainous.
- b. Soils residual and marine, usually acid in reaction and low in organic matter, often shallow and stony.
- c. Drainage usually excessive.
- d. Usually covered with extensive stands of merchantable timber.
- e. Public facilities inadequate or wholly lacking.
- f. Usually inaccessible to markets and supplies.
- g. Wide variation in assessed valuations.
- h. Delinquency usually subnormal.
- i. Generally capable of supporting good tree growth.

METHODS OF EXECUTING LAND PLANNING

There are legal methods that could be resorted to in executing land-use planning. Among the most popular is zoning. In this method, the government could designate certain areas that were submarginal, and no settling would be permitted on these lands. Also the zoning would prevent using areas for certain purposes that would devalue surrounding areas. This is an infringement on public rights, but could be enforced. Wisconsin has set up zoning ordinances in several counties. Many cities have zoning ordinances.

Placing a tax on the use of land would force owners

into the policies designated. That is, raise taxes on certain lands so they would be so high that profits could not be realized. This would have an effect of making the owners change to the land-use as desired. This method is being used to good advantage in France. This plan, as the previous, may not meet with the approval of the public.

The curtailment of government money from areas that do not use the land as is suggested would force the owners to adopt those uses. For example, there would be no government expenses for schools, roads, or administration.

The government could take acquisition of the land. This plan would not be very good as it would develop into a policy of large governmental expenditure. It would probably meet with the approval of the masses of the people, but it would be the most detrimental program of expenditures which the government could undertake at this time. It would increase the national debt. It would result in a program of expenditures which would likely exceed any project that has been established to date.

Other means of executing planning would be by educational schemes. The general public could be instructed, and by this, they could put pressure on the owners and force them into line. The land owners could be educated, and by showing them how they could profit by the changes, they could be made to modify their policies. This educational process is the slowest, but in general, it is the most satisfactory solution as it would require less initial expense to start it.

RECOMMENDATIONS

My recommendations will be few as they should require years of study. I recommend the development of forest-farm communities by the government. The land should be surveyed into the various phases of use. By efficient administration and a minimum cost, these communities could be put on a self-supporting basis.

I do not think that a large outlay of government money would be the best thing for the nation at this time because the treasury is now too far in the "red". This budget should and must be balanced. No project should be developed to spend more money than is necessary.

The different phases of the plans should be left to the individual administrative units. (Forms of employment, etc.) Of course, these units should be tied together by a larger body so that all the plans could be worked in unison and for one another. Different communities require different plans, therefore, the individual administrative units.

Bibliography

1. National Planning Board
Federal Emergency Administration of Public Works (1933 - 34)
2. Regional Factors in National Planning
National Resources Committee (Dec. 1935)
3. State Planning
National Resources Board (1935)
4. Regional Planning - Part III New England
National Resources Committee (July 1936)
5. Forests in Land-Use Planning
Journal of Forestry (July 1937)
6. Wisconsin Committee on Land-Use and Forestry
7. Forestry Discussion-
C. J. Buck
Proceedings of the Oregon State Planning Council.
8. Forests in Land Planning
Bernard Frank
Journal of Forestry (March 1936)
9. Land Utilization and Planning
L. F. Kneipp
Journal of Forestry (March 1936)
10. Land-Use in Curry County.
11. Land-Use Study - Coos County