

A PRESENTATION OF INFORMATION CONCERNING THE
NAVAJO RESERVATION* AND A STATEMENT OF RECOMMENDED LAND
MANAGEMENT POLICY DEVELOPED THEREFROM

Throughout preparation of the manuscript it should be continually in mind that the purpose of the presentation is to supply a background of information serving to guide planning and administration of the program of land management and the rehabilitation of the resident people. The manuscript probably will have a tendency to reach voluminous proportions, therefore each discussion should be as brief as possible. It should be remembered, however, that this report, to be useful, must set forth definite and understandable principles and policies, and needed overall information. This will require an adequate organization and presentation of the pertinent known facts with supporting evidence and the logical interpretation of these facts.

I. Description of the Area

Give attention particularly to the probable original conditions and existing conditions, the changes resulting from human use, conditions at the initiation of SCS work and at present, an inventory of present resources, the physical limitations of resource use, and the relationship between the land and the people; that is, the effect of these items in determining land use practices and economic patterns, and the relation of physical conditions to land use. Point out the major problems of land adjustment. Set forth definite recommended policies relative to land use.

*Including the Hopi

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Emphasize limitations of productivity of basic resources and factors influencing production. Stress need to adjust economy (people) to productive capacity of the land.

A. Location and Area

Prepare a location map showing the boundaries and dates of establishment of the Reservation; area; the location of the Navajo with reference to the Little Colorado and San Juan drainages; a tabulation of the various types of land (as to barren, inaccessible, range, agricultural, etc.), referring to vegetative type map.

B. Physiography

The principal topographic features, geology as it pertains to land use, principal drainages, elevations. Include a map. Effect of physiography on grazing (seasons) and farming.

C. Climate

Rainfall as a limiting factor in land productivity, drought cycles, periods of water shortage, severe winters, ground frost, seasonal changes, precipitation, growing season, temperature, evaporation, effects of climate on range forage, crop yields, and water supply. Show precipitation (isohyetal) map.

D. Hydrology

Emphasize that water is at premium; describe principal streams; the characteristics of surface (including flood) waters, and the characteristics of ground waters; run-off and floods, flood damages; the determining influence of the occurrence and

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behavior of surface and ground waters on certain phases of land treatment, such as irrigation, water-spreading, small flood farms, dry farms, reservoirs, wells, and springs.

E. Soils (development and derivation)

Soil types, series, texture, structure, range productivity, classes, permeability, water-holding capacity, erodibility; prepare map of soil types (texture) and range (land) class. Limitations of soil use, physical requirements for soil maintenance (for each type and in general).

F. Erosion and Run-off

Sheet, gully, and wind erosion; silt and run-off production. Prepare maps and discuss as to the underlying causes and characteristics of erosion and the behavior of Reservation soils in the origin, movement, and deposition of silt. Bring out particularly the characteristics of erosion (and soils) which determine control treatments. Include historical data on the development of the recent erosion cycle.

G. Vegetation

Point out the importance of native vegetation, describe the principal vegetative types, as to edaphic and climatologic preferences, volume, composition, density, distribution, importance as ground cover, in soil and watershed protection, production of feed and wood, and wildlife habitat; types suitable for the principal economic uses, present condition (due to misuse). Prepare a map of the principal plant types, including forest, woodland,

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shrub, grassland, barren, fenced, land, etc., and a tabulation of acreages in each type.

Prepare an inventory of plant resources:

1. Livestock forage.

Include carrying capacities, discuss the relative importance of the various plant types for grazing, compare present carrying capacity with probable original carrying capacities, stage of depletion, and future trends under conditions of proper and improper management; prepare a map of carrying capacity by types and by districts, and the maximum limits for each district; and a map of range deterioration. A discussion of the physical limitations (ability to withstand drought, winter, but inability to withstand over-grazing) of range vegetation. Present information on range pests.

2. Wood Products.

The distribution and extent of woodland and timber, condition, site, stage of depletion, density; a tabulation of available products. The limitations which must be imposed on use, Navajo uses of wood, the probable future trends under conditions of proper and improper management. Prepare a map showing woodland areas as to recommended use, the available wood products by districts, and the consumption of wood products by districts. Outline the areas recommended for special use, such as watershed protection (denoting those watersheds discharging into irrigation reservoirs and projects), and areas of commercial timber. Statement on woodland diseases and pests.

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H. Wildlife

Wild animals present under natural conditions and at present (a narrative wildlife inventory); reasons for depletion; areas of favorable wildlife habitat; areas in which wildlife production is the highest land use. Prepare a map showing wildlife ranges.

I. Agriculture

Adaptability of the area for farming, physical limitations to farming, map of present and potential farms, and irrigation projects, and discussion of agricultural soils.

J. Mineral Resources

Inventory (map of mines, etc.), use, limitations of use.

II. Human Settlement and Land Economy

Give attention particularly to characteristics which are directly or indirectly related to soil and moisture conservation. Set forth recommended policies relative to land use activities and administration.

A. History of Settlement

The return from Bosque Redondo; the issuance of sheep and other (previous) beginnings of the livestock industry; the development of farming; early distribution of people; increase in density of population and numbers of livestock (show graphs), time of peak numbers of stock, trends in numbers in relation to grazing capacity (graph); trends in woodland utilization; the resulting trends in vegetative condition and erosion (merely mention, do not repeat G-1 & 2).

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B. Population

Distribution, numbers, density. Factors determining density, and distribution, such as, trading posts, farming areas, range, topography, or internal (social) factors. Prepare a map of hogan location. The Navajo landscape.

C. Land use Organization, the land use communities.

D. Economy

1. Income

Discuss income both commercial and non-commercial as to sources (livestock, agriculture, woodland and forest, wages, arts, and crafts) showing the relative importance of each; income per sheep units; number of livestock sold and consumed; agricultural income and consumption. Note importance of gross income per industry and low real value of commercial income.

2. Ownership of Resources

Livestock owned (total and per capita), agricultural land owned, the present distribution of resources. The variations in difference as between the grazing capacities and sizes and agricultural lands within group areas and the number of dependent people and stock grazed.

3. The prevailing subsistence economy; and analysis of arrayed income groups and determination of the minimum level of satisfactory subsistence.

4. Marketing of commercial products. General store system(trader disposition).

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E. Land Utilization Practices

Present information on the prevailing practices carried on by the Navajos as they affect the land and reduce the benefits which would accrue under improved land use systems.

1. Livestock grazing

The place of range management in Navajo economy; the importance of the livestock industry; class of stock; animal husbandry methods, such as herding, breeding, lambing, dipping, shearing, salting, marketing; consumption; poisonous plants and pests and diseases; stock movements. Point out especially practices directly or indirectly related to conservation. The major difficulties of stock adjustment; the need of range improvements (waters, etc.). Summarize the principal problems of range management encountered by the Navajos, the causes underlying over-grazing. Recommended measures for improvement. Stock improvement. Need and possibilities for improvement. Need for herd composition adjustment in order to net Navajos maximum return per sheep unit run. Show inefficiency of livestock operators.

2. Agriculture

The place of farming in Navajo economy; crops grown; prevalent farming practices, such as tillage, planting, cultivation, harvesting, storage. The uses made of products, food, etc. Pest problems. The generally sub-marginal nature of land for farming; flood-water farming; the place of small farms in Navajo economy; the place of irrigation projects; future needs of improved farm lands; a determination of the actual use and management of government-

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developed irrigation projects and reasons for any lack of co-operation (settlement and use) on the part of the Indians at present; economic utility vs. costs of subjugation, maintenance; erosion on farms; the principal difficulties encountered by the Indians in farming, such as erosion, handling and storage of water, pest control. Recommended measures for improvement.

3. Woodland Utilization

Navajo uses of woodland, methods of cutting, saw-mill operations, an overall woodland utilization plan showing areas from which each district or portion of a district should obtain wood to be indicated on woodland map and interpreted here.

4. Utilization of mineral resources, recommendations.

F. The effects of land misuse.

The effects on vegetation, soil (on the environment): soil wastage, (erosion), reduction in carrying capacity, and stock deterioration, changes in vegetative density and composition, floods, silt. (Should not be a repetition of F but rather bringing the ramification of the effects of erosion on livelihood, income, health, etc. Economic effects: Reduction of resources, reduction of income (total and per capita), and standard of living; indebtedness; relief and relief wages. The impairment of individual and community stability. (The vicious circle of over-use, depletion, economic distress, distress, each continually being intensified and reintensified.

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