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1.1 Resources Inventory: Inventorying and classifying the land, plants, water resources, existing improvements and other physical factors are a prerequisite to the preparation of a plan for development, use, and management of agricultural resources. The Agriculture Activity is responsible for inventorying and furnishing to Indian people (1) soil and range inventories, (2) land capability classification, (3) range site classification, (4) irrigated land classification, (5) hydrological surveys, and (7) soil, water and plant analysis.

A. Soil Inventories. Soil inventories should be made of each reservation to furnish scientific physical data about the land. (See Sections 1.1B to 1.1C of this Supplement). The inventories map out the significantly different kinds of land and other associated physical resources including cultural features such as trails, springs, fences, lakes and ponds. The major use of the soil inventory is to furnish data for development, use and management plans for soil, plant, water, wildlife and recreation resources. However, the inventory is not limited to agricultural use. Today, inventories are being used in such lines of work as urban and rural planning, zoning, selecting industrial, business, residential and recreational sites, constructing highways and airports, designating flood areas, laying pipelines and sewers, selecting infiltration areas and in agricultural research. The degree of detail used in mapping will determine the intensity of use that can be made of the soil maps.

Soil inventories, their use and interpretation, are an integral part of the Bureau's Agriculture Program and are the program responsibility of

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the Soil Scientist. Soil inventories are properly charged as an Agriculture function. To expedite inventories made in connection with water rights litigation, forestry, etc., or in classification surveys of land in irrigation projects, it may be necessary for funds to be made available from the activity or project. In the case of tribal financing of irrigation development work, the cost of soil inventories will be charged to the Agriculture function.

As a participating member of the National Cooperative Soil Survey, the BIA has adopted the USDA technical publications, "Soil Taxonomy" (Handbook #436), "Soil Survey Manual" (Handbook #18 revised) and the applicable sections of the National Soils Handbook as the guidelines to be used in making soil inventories. The basic BIA standards, in use from 1957 to 1976 and included in the Handbook for Making Resources Inventories (1958), were gradually modified over the years to include features of Soil Taxonomy at the field level. In order to preserve the best features of that system, the field mapping units contained in the Handbook for Making Resources Inventories may continue to be utilized for in-service inventories. The taxonomic unit symbol will be included in lieu of a special feature unit, using either an abstract number or alpha designation as determined appropriate by the Area Soil Scientists. Soil inventories accomplished through contract with S.C.S., etc., will conform to the National Cooperative Soil Survey guidelines. As a special precaution all inventories performed in-house or under contract or cooperative agreement for the Bureau together with all field sheets, notes, legends, charts, and any other pertinent information (including name of preparer, dates, locations, etc.) must be preser-

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ved as a part of the official record in the appropriate Federal Records Center.

Upon completion of the inventory, a report of the Soil Inventory is to be prepared for each reservation or survey area. Where soil and range inventories are made concurrently the report will cover all the inventory findings. The report is designed to furnish users with the basic data collected by the inventory and sets forth guidelines for interpreting the information. Maximum effort, by Bureau personnel, will be made to assist Indian people to understand the inventory and appreciate its value to them in making decisions about the development, use, and management of their resources. Upon written request, all data collected by the inventories will be made available to local, state or other Federal agencies in conformance with the Freedom of Information Act (P.L. 93-502) and Privacy Act of 1974 (P.L. 93-579).

- B. Range Inventories. Range inventories should be made of the rangeland of each reservation. They furnish a complete inventory of existing management related cultural features, as well as the scientific data needed to better understand the interrelationship of soil, vegetation, climate, physiography and dependent biotic life found in range lands, upon which successful range resource management is dependent. Usually range inventories are made concurrently with soil inventories. Mapping units used in making soils maps may be grouped into range sites and additional information about the condition of the vegetation found on each site is recorded. The information collected in this manner is used primarily as basic data in planning for development, use and management

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of Indian range resources. It is valuable in determining current and potential stocking rates, proper seasons of use, water needs, conservation needs and the management needs.

Periodic utilization and range condition studies which indicate when there is need for modifying stocking rates are not considered for reporting purposes as range inventories. Guidelines established in the Bureau's Handbook for making Resources Inventories and Range Management Handbook will be used in making range inventories and writing reports.

- C. Coordinated Soil and Range Inventories. Soil and Range Inventories should be made concurrently as one inventory and organizationally considered as soil inventories. (See Section 1.1A of this Supplement). Soil Scientists and Range Scientists are used to make the inventory. In staffing and planning a coordinated Soil and Range Inventory, careful consideration should be given to maximum on-site association of Soil and Range Scientists. In this way they will learn enough about each others work to jointly develop more useful mapping criteria.
- D. Land Evaluation: Land Evaluation is basic to resource planning. It entails the application of the sciences of soils, range management, engineering, agronomy, economics, social and other related sciences. It is a way of presenting information from the many related scientific fields affecting land use and management, so that it has meaning to land users.

To obtain maximum production on a sustained basis from agriculture resources, it is essential that people have a fundamental understanding of land differences and their meaning

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as to use and management of each kind of land. Knowledge of land differences, their meaning in terms of problems to be dealt with, and the basic principles of treatment to improve or compensate for each specific problem, is a prerequisite to planning for proper use and management. This same understanding by the land users is necessary if they are to make the decision about their plans and adjust the plans for use and management of their lands to meet ever changing, economic, social, and scientifically improved conditions. Three major kinds of Land Evaluations are utilized to meet this need for knowledge and to serve as a guide to the planning of use and management of Indian land. These kinds of Land Evaluations are: Land Capability Classification, Range Site Classification, and Classification or Reclassification for Irrigation.

Land classification maps, survey materials and/or other classification data are valuable basic information for land appraisals. Upon request, this material should be made available to those responsible for land appraisals.

- (1) The Land Capability Classification is a grouping of land conditions based on the risks of soil damage or limitations in use and is primarily applicable to arable lands. The capability grouping of soils is designed to help landowners and others use and interpret Soil Inventories and makes possible broad generalizations based on soil potentialities, limitations in use and management problems. The guide used for developing the Land Capability Classification is Agriculture Handbook 210 (1961), issued by the Soil Conservation Service, U.S.D.A.

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- (2) The Range Site Classification is a grouping of land conditions based on their capability to produce similar quantities and/or species of climax vegetation. Standards for developing Range Site Classifications are recorded in the Bureau Handbook for making Resource Inventories and the Range Management Handbook.
- (3) Land Classification and Reclassification for Irrigation is the grouping of land based on its suitability for inclusion in an Indian irrigation project or for private development. Standards for making this classification are recorded in Section 1.1I of this Supplement.
- (4) Limitations. In the use of these guides conditions occur that are exceptions. In non-cropland (range, forest, brush) soil conditions suitable for crop production are frequently found. These are not to be cultivated unless individual tracts are large enough and are of such a nature that ordinary farm operations, fencing, equipment, tillage, roads, etc., may be carried on within justifiable limits of difficulty and expense, except for garden tracts, etc., to be used for the economic benefit of the Indian owner. Tracts of these kinds of lands adjacent to established farm units may be utilized for cultivation if ordinary farm operations can be established with a minimum of difficulty at an economical cost.
- E. Hydrological Surveys. The Bureau of Reclamation, Geological Survey, or other qualified Bureaus may be requested to conduct studies and investigations to determine the amount and

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quality of available water yield, surface or ground water, for areas needing such data. U.S. Geological Survey stream flow records, Weather Bureau data and other historical information, including rainfall patterns, intensities, etc., are sources of known basic data.

- F. Flood Hazard Evaluation. Executive Order 11296 of August 11, 1966 (Federal Register Vol. 31, No. 155 dated January 6, 1966) provides for evaluation of flood hazard in locating federally owned or financed buildings, roads and other facilities, and in disposing of federal lands and properties. (See Department Manual 420.1 Appendix 1). Subject to the directives set forth in this Executive Order, the Area Director shall make appropriate flood hazard evaluations. Whenever practical and economically feasible, flood proofing measures shall be applied to existing facilities in order to reduce flood damage potential.

Any requests for appropriations for Federal construction of new buildings, structures, roads, or other facilities transmitted by the Area Director, shall be accompanied by a statement of his findings in his evaluation and consideration of flood hazards in the development of such requests.

- G. Other Surveys. The development of land use plans often requires that one or more of the following type surveys be made: Erosion, Topographic, Forest and Woodland, Watershed, Geological, etc. In some instances, it is desirable to gather certain economic data at this stage of the investigation. It is necessary to look to other Branches and other agencies to secure such information (55 BIAM 1.5).
- H. Rural Zoning. Zoning is a device for giving

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organized and effective community support to locally determined land use plans. It involves the setting up of use districts within which specified land uses will be permitted and others prohibited. Public or individual conservation and land use programs cannot be wholly effective in the long run without rural zoning. One of the great merits of zoning is its flexibility. It can be used not merely to block off areas entirely from agricultural settlement, but within areas suitable for agriculture, it can be employed to rule out soil-destroying practices. In the zoning of land for agricultural development consideration must be given to the economics and practicability of the location with respect to provisions for roads, school transportation, irrigation and drainage works and other facilities.

I. Land Classification and Reclassification for Irrigation

(1) Authority. Authority for classification of lands to be included in an Indian irrigation project lies with the Secretary of the Interior and the Congress. The Secretary is also responsible for proper classification of project lands assessability status and through delegation has authorized the Commissioner to initiate and direct surveys as required by necessity, directive, legislation, or agreement. Action may be initiated by landowners, water user organizations, or authorized Bureau representatives.

(2) Purpose.

(a) Land Classification Surveys:

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- (1) The purpose of a land classification survey is to determine which lands are practicably irrigable and thereby suitable to be included in an irrigation system.

- (2) Practicably irrigable land is
 - (a) arable soil
 - (b) land to which water is or can be delivered and
 - (c) land which is or can be made capable of producing crops by the construction of those facilities and other improvements necessary for sustained irrigation production under sound engineering principles, which production should be capable of meeting annual land preparation costs, irrigation project operation and maintenance costs, equipment replacement costs, and employee wages or a suitable family income in accordance with local standards, and
 - (d) land which meets project justification requirements of the Water Resources Council's Principles and Standards for Water Resource Planning.

- (3) In conducting soil surveys and land classification designations, regard as to whether irrigation development of the designated

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practicably irrigable land will in fact occur shall not be taken into account.

- (4) Capital expenditure items, including but not limited to:
- (a) the construction of delivery systems for the delivery of irrigation water,
 - (b) the clearing and preparation of land for crop production,
 - (c) the construction of adequate drainage facilities, and
 - (d) the construction of water storage facilities to service a project,

shall be discounted pursuant to the deferral of the repayment of construction charges as authorized by the Leavitt Act (25 U.S.C. 386a).

- (5) Project benefits as stated in 1.11(2)(a)(2)(c) above should reflect the surrounding circumstances to ensure the implementation of the policy of the Federal Government to obtain economic fits for the tribes and their members through the development of their human and natural resources and thereby improve the quality of life on the reservation. [Availability of water will be determined in accordance

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with the Winters Doctrine, Winters v. United States, 207 U.S. 564 (1908)].

- (b) Reclassification Surveys. Reclassification surveys are for the purpose of making adjustments in previous classifications. Adjustments may be necessitated due to inability of the project to deliver water (no water or no facilities). Land cannot make beneficial use of water (has become water logged, saline, or alkaline), land lost due to erosion or use change to nonagricultural purposes. Reclassification may change land from any classification to any other [See Section 1.1I(4)(2) of this Supplement].
- (c) Interim Classification. Interim classifications are made between formal classifications and will be verified and formalized at the time of the next reclassification. Their purpose is to make adjustments as the need arises, to avoid or alleviate hardship cases, to simplify bookkeeping where changed assessments are involved, and to aid in improving public relations and the maintenance of just and equitable assessments.

Interim reclassifications would be justified before a full scale reclassification is in order by such incidents or circumstances as follows:

A sudden channel change that cuts a portion of irrigable land off from delivery works in a manner such as

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to make water available to it only by excessively costly works, or development of other conditions causing land to become economically non-irrigable.

(3) Committee:

- (a) Purpose: The purpose of the classification or reclassification committee, as the case may be, is: through the necessary surveys, contacts with the water users, compilation of data and of a final report, to establish the assessability status of all lands within economical reach of the delivery system of an approved irrigation project, for which an adequate water supply is available.
- (b) Composition: Composition of the committee shall be three members appointed by the Superintendent, or in case of Flathead, Wapato, San Carlos and Navajo Projects by the Project Engineer or Manager, and approved by the Area Director. The first, representing the Bureau of Indian Affairs, will serve as Chairman and be fully responsible for action, progress, and completion of assignments, including technical and clerical work. The second member will represent the Indians (including the Tribe) who own irrigated lands. The third member should be selected so as to fit the particular project involved. If it is entirely an Indian project such as Salt River, Colorado River, or Duck Valley the third member may represent the Tribal Government. If

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the project contains a relatively small acreage of assessable non-Indian land, the third member may be a representative of the tribe. If the project includes an appreciable acreage of non-Indian assessable land the third member should be a representative of the non-Indian landowners.

Committees may be appointed on a unit or entire project basis as deemed appropriate for the particular project concerned. The Bureau representative should cover an entire project. The landowner representatives, however, may be changed, if advisable to fit unlike or widely separated units.

The committee members other than the Bureau Representatives shall be designated Field Assistants. The series and grade of these positions will be dependent upon the duties and responsibilities involved and the qualifications required to perform the work. They shall be hired on a WAE basis in order to more readily use them intermittently as the work demands.

(c) Qualifications: The Bureau representative must be well informed on the responsibilities and requirements involved in efficient and acceptable project operation and understand the fundamentals of irrigation farming. He must also be capable of furnishing the technical advice and interpretations necessary for proper guidance in committee decisions. Last but not least, he must be able to provide

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stable and objective chairmanship, leading to just recommendations with consideration for both individual and group interests.

All members of the committee must be men of integrity, with good reputations and generally enjoying high regard in their circles of acquaintance. They must be capable of forming and expressing sound opinions and able to work as team members with a single purpose. The second and third members particularly should be well informed on the agricultural habits and the problems of irrigation farming, including beneficial use of water in the area involved.

- (d) Course of Action. The methods or course of action followed by a committee shall be in accordance with instructions from each Area Office and as supplemented by the Superintendent or Project Engineer. Such instructions should vary in accordance with the particular conditions existing at each project and the committee should be provided with those instructions in writing before starting work on any assignment.
- (e) Financing. The cost of classification surveys and reports shall be financed as follows:

For new projects (or major units) such as Michaud Flats, Navajo and Dodge Flats, the cost should be borne by construction funds. For operating proj-

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jects that are completed or nearly so and have never been formally classified such as Salt River and Pine River, the cost should be borne by Engineering Plans and Survey funds or Operation and Maintenance funds in that order as available.

The cost of reclassification surveys and reports shall be financed in accordance with the funding situation on each project being considered. The means of financing shall be recommended by the Agency or Project Office and approved by the Area Office.

(4) Procedures

(a) Land Classification (Irrigation): All lands to be included in or excluded from a project shall be classified according to assessability under the standards provided in sub-part (2)(a) above. Lands will be placed in one of the three following categories:

(1) Presently Assessable (P:A.)
Presently assessable lands are defined as those lands to which water can be delivered at the present time, are by virtue of their soil and topographic conditions capable of economically producing crops through the application of irrigation water and have a right to share in available water. The failure of the landowner or operator to provide internal ditches, to perform minor leveling, or to remove vegetative

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cover which can be removed without undue expense are not considered factors of sufficient importance to prevent the designation of otherwise suitable land to this category. The lack of project ditches or structures for the delivery of water will not be considered reason for removing land from this category, providing the construction or rehabilitation of such facilities reasonably could be accomplished by the project in forty-eight hours after irrigation water is requested by the user.

- (2) Temporarily Non-Assessable -
(T.N.A.) - Temporarily non-assessable lands are defined as lands which through no fault of the operator are not presently suitable for the production of crops by the application of irrigation water. Factors causing land to be temporarily non-assessable are:

The inability of the irrigation project to deliver water within the time limit specified under category P.A.

The need for major land development before irrigation water can be economically applied.

The conditions of soil or drainage which, in the opinion of the Classification Committee, appear to be temporary in nature and which,

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by the application of proper land treatment or the construction of appropriate project features, will place the land in a condition that will make it economically capable of producing crops through the application of irrigation water.

- (3) Permanently Non-Assessable (P.N.A.) - Permanently non-assessable lands are lands which, in the opinion of the committee, are unlikely to ever be irrigated. Reasons may include the inability of the project to deliver water or conditions of the soil making it economically incapable of producing crops through the application of irrigation water. The conditions may be high water table, topography, alkalinity, salinity, or others.

- (4) Changes May Be Made In Classification As Follows:

From PA or TNA to PNA by the Area Director.

From TNA to PA by the Superintendent or Project Engineer.

From PA to TNA by the Area Director.

From PNA or previously unclassified to PA or TNA by the Secretary.

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- (b) Final Report: The work of the classification Committee on any irrigation project should be summarized in tabular form to show: (1) for irrigation projects not heretofore designated, by each farm unit contract the recommended classifications in acres; (2) for projects previously classified, the tabulation should indicate the previous classifications, the proposed classification, decrease or increase in acres between the previous and new classification.

The tabulation should be accompanied by a narrative report of the committee indicating the general makeup of the committee, the methods used in classification determinations, and the length of time during which the committee has functioned.

The report should have the approval and recommendations of the Superintendent and be forwarded to the Area Office for review and approval before submission to the Central Office of the Bureau of Indian Affairs. If the Central Office of the Bureau of Indian Affairs endorses the report, it will be forwarded to the Secretary for his consideration and approval.

Any actions taken pursuant to the Act of June 22, 1936 (49 Stat. 1803), cannot become effective until approved by Congress.

- J. Soil, Water and Plant Analysis: Soil, water and plant analyses furnish important informa-

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tion needed in planning and maintaining plans of conservation operation, determining nutritive content of plants, evaluating construction qualities of soil materials for non-agricultural purposes and other related uses.

The Bureau operates the Gallup Soils, Water, and Plant Tissue Testing Laboratory on a Bureau-wide basis. This laboratory has been able to furnish fast high quality work at lower costs than charged by most other laboratories and unless freight rates are prohibitive each agency should channel their analysis work through the Gallup Laboratory.

Prior to the close of each fiscal year each Area should submit to the Gallup Laboratory an estimate of their laboratory needs for the next fiscal year.

1.2 Planning.

- A. Reservation Planning by Indians. Indian overall reservation planning for development, use and management of agricultural resources involves the broad expression of present and future goals and objectives of Indian groups based on their decisions relating to their respective reservation and/or land base. Such plans are developed progressively, coordinated with other related reservation activities but go only as far as Indians are willing to make the necessary decisions. The plan encompasses a study of social, economic and natural physical resources; an exploratory investigation of the ways and means of obtaining desired goals and objectives; and a specific statement of programs to accomplish them. Agriculture personnel are obligated to assist and guide representatives of local Indian groups in the formulation

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and fulfillment of such plans.

To assure continuing sound guidance and assistance to Indian people in the development and fulfillment of their reservation plan, each agency will develop a guide for working with Indian people. This guide will include:

- (1) Needed technical improvements to bring about intense and efficient use of the resources. These needs will be set forth as individual projects for a given land-use unit of land. Benefit-cost studies will be made for each project.
- (2) Specific actions to be taken to:
 - (a) Apprise representatives of local Indian groups and individuals of the necessity and value of planning for needed technical improvements.
 - (b) Increase Indian interest in agricultural resources.
 - (c) Improve Indian ability in production, marketing, and management as related to agricultural resources.
 - (d) Increase Indian participation in other related Federal, State, and Local programs.

B. Land Use Unit - (Projects) Planning by Indians:

Land use units are farms, range units or other divisions of land that may require a separate plan of conservation operation. One of the most difficult economic problems among Indian farmers and ranchers arises from the small tracts of land they have available to till and

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graze. Farms in many areas are far too small to provide a fair living for a family. The small size makes justification of adequate credit for necessary equipment and livestock difficult if not impossible. They also offer little to stimulate the Indian operator to put forth the maximum effort. The land use planner should advise and assist the Indian operator in every way possible to secure sufficient land by purchase, assignment, permit or lease to establish a reasonable sized operating base. In this regard it is necessary to take into consideration the part the farming activity plays in the Indian's total livelihood. If he has constant material income or interests outside of the farm activity they should be given consideration from both the financial and time aspects of the matter in the planning and the development of a land use base. The operation of each unit regardless of size should be of a kind to provide a fair margin of profit.

Plans for the rehabilitation, use, and management of Indian land include many programs. Agriculture personnel have the responsibility for furnishing guidance and assistance in planning and orderly development and utilization of farm and range resources, implementation of soil and water conservation measures and related watershed developments that will make possible full and proper utilization of all such resources. Where Indian owners are interested, a Plan of Conservation Operations should be started before any work is undertaken. If Indian participation cannot be obtained, the guide for each unit developed for use in overall reservation planning will be used to determine needed work. The work of all technicians should be utilized to obtain the most satisfactory results.

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- (1) Plan of Conservation Operations: The plan of conservation operations when completed is a coordinated plan of work and procedure for a farm, ranch, range unit, watershed project or program area. It gives consideration to the basic conservation problem including potentials occurring on the unit, sets forth ways and means to efficiently use the resource and provides for a firm commitment assuming costs of operation and maintenance.

In planning land use unit operations, the practical aspects must be given full consideration. The farm plan must be sound economically and geared to the financial resources, interests and desires of the owner and operator. He may not be in a position to accept and apply immediately all the desirable practices but may have to take them step by step as he is able.

- (a) Plan of Conservation Operations for Leased and Permitted Lands: In order to get the most important conservation practices applied on Indian lands, to protect them and insure continued production, partial plans or land use stipulations are required as an integral part of each lease or permit (See 25 CFR 131.12)

It should be distinctly understood by land operators that partial plans will be expanded into more detailed plans as soon as circumstances permit. A technically qualified Agriculture Specialist shall prepare and explain the plan of conservation operations to the land operator. The Specialist

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can by this process assist the owner and operator in reaching a more unified agreement and better understanding of the requirements in the land-use contract. It has been found by experience that this is one of the most effective means for acquainting the operator with the practices needed to reduce soil and water loss and to increase productivity. The Specialist must also explain that the conservation program must start immediately and be carried out fully in accord with the land-use contract. In order to insure the above effort, all land-use contracts must be routed through the Agriculture Specialist designated by the Superintendent or Officer-in-Charge to perform that function prior to approval. Prior to the development of the Plan of Conservation Operations, stipulation needs can be obtained from the guide for each unit that was developed for use in overall reservation planning. (See Section 1.2A of this Supplement).

If guides showing technical improvement needs are not available, the conservationist should visit the farm or range unit during the year preceding the expiration of a lease or permit and make a list of the basic soil conservation (including management) needs. Such lists should be used to guide discussions with a prospective lessee when discussing terms under which a new lease will be written or in determining measures to be included in the advertisement

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for permitting range land.

During the conference with the lessee a decision should be reached stating the year each conservation practice will be established. The conservationist should schedule most of these conservation improvements during the first and second year of the lease.

By completing as many of the conservation jobs as possible during the early part of the lease, the lessee will be able to derive maximum benefits from his work, land depletion will be stopped, and the lessor will be assured that the soil and water conservation stipulations included in the lease will be completed.

If the lessee is paying a fair cash rental value or the "going" rate within the community, some consideration should be given the lessee for the cost of practices applied above the ACP allowance.

This applies only to the cost of major structures or practices where the lessee will not get adequate returns for his investment during the duration of the lease.

- (b) Land User Cooperation. The job of gaining proper land use is only just begun when the plan of conservation operations has been prepared and accepted by the land operator. It may take years to complete and put into effect all the provisions of

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the prepared plan. The land use planner can do very effective work in the conservation of soil and moisture through periodic inspection and consultation with the land user.

- (c) Cost Sharing. It is the general policy of the Bureau to obtain the maximum possible in contributions in the form of labor and/or materials and supplies from tribes, individual allottees and lessees. Conservation improvements are permanent and represent capital investment. No definite percentage of the total cost to be contributed by the cooperator is established.

In each case, the special circumstances of the tribe or individual concerned, as well as their financial status, must be taken into consideration. Efforts to obtain such contributions should not retard achievement of the principal objectives of the conservation program. Contributions may take the form of cash, labor, materials, or temporarily curtailed income. It is all important that the tribes, allottees, and lessees give guarantees to abide by the proper land use practices. In many instances reduction in livestock numbers or deferred grazing to permit recuperation of forage resources of an area after treatment may be considered as some contribution on the part of the land owner and operator. Contributions by the owner and operator are essential to successful soil

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and water conservation program. First, the job is not the responsibility of the Government alone. Second, conservation work is a paying investment for the operator and owner, and third, conservation work must be maintained by the man on the ground. He will take an interest in its maintenance and proper functioning in proportion to what he himself has put into it in planning, labor, equipment, supplies and funds.

Funds appropriated to the Bureau of Indian Affairs may be used on all tribal lands, trust allotted land, and Government land under the jurisdiction of the Bureau. Indian fee patent land is non-trust land and Agriculture funds may not be used to perform work thereon except to protect Government and Indian trust land or by cooperative agreement. See Chapter 55 BIAM 1.5 for procedure regarding cooperative relationships. The use of Agriculture funds is not authorized on lands under option or in the process of being acquired by Indians.

- (d) Financial Assistance. The potentiality of the Indian and his land should be considered together in making an agricultural loan. If the Indian farmer is to have a reasonable chance of success, and the lending agency is to be properly insured, there should be a plan of conservation operations and a farm and home management plan. The full Credit program

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is described in 47 BIAM. Assistance will be provided in the Credit program as follows:

- (1) Preparation of Plan of Conservation Operations. The Agriculture staff, at the request of the Credit Officer, will assist any prospective loan client to prepare a plan of conservation operations for the farm or ranch if one has not already been prepared.
- (2) Preparation of Farm and Home Management Plan. In States where Agriculture Extension is still a part of the Bureau, Extension workers should assist the Credit Officer upon request, in the preparation of a farm and home management plan for any prospective loan client. Budget recommendations for farm, family and home operations and expenses are included only in the Farm and Home Management Plan. Where there is a State Extension contract, provisions for such planning should be included in the State Extension worker's program of work. Where Extension workers are not available the Agriculture staff will, on request of the Credit Officer, assist in the preparation of Farm and Home Management Plans.
- (3) Financing For Plans of Conservation Operations. The Agricul-

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ture Staff may request the Credit Officer to assist Indians to secure financial aid for carrying out plans of conservation operations. Before requesting assistance of the Credit Officer in preparation of an application, Agriculture employees should consider the industry and managerial ability of the Indian and whether a loan would be in his best interest. Although written recommendations are not required from the Agriculture staff, prospective loan clients are not to be referred to the Credit Officer unless the Resources Officer would be willing to recommend a loan were such recommendations required.

- C. River Basin Investigations. Close cooperation with the agency or agencies charged with the responsibility for the overall river basin planning and others involved shall be maintained (55 BIAM 1.5).
- D. Watershed Protection and Flood Control Act (P.L. 566 and P.L. 1018). The Watershed Protection and Flood Prevention Act (P.L. 566, 83d Congress, as amended by P.L. 1018, 84th Congress) authorizes the Secretary of Agriculture to cooperate with local organizations (including the States or any political subdivision thereof having authority under State Law to carry out, maintain, and operate works of improvement for flood prevention or for the conservation, development, utilization, and disposal of water in watershed or sub-watershed areas.

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The Act provides additional authority to the Secretary of Agriculture to assist local organizations in carrying out a sound program for the development, use, and conservation of the Nation's soil and water resources. It provides for technical and financial assistance by the Department to land owners and operators and other people living in small watersheds. It provides also for needed additional treatment and protection of Federally-owned and Indian-owned lands within such watersheds. Moreover, it provides a basis for coordinating such locally undertaken upstream watershed improvements with water-resource development projects on major rivers of the Nation.

The Act provides for a new project-type approach to soil and water resource development, use, and conservation. Unlike older project-type Federal public works programs in this field it requires that full initiative and maximum responsibility for any undertaking be exercised by local people through their local organizations. It encourages the close cooperation and assistance of State agencies. The provisions of the Act emphasize the partnership of local, State and federal interests in natural resource development, use, and conservation.

It is unlike other national conservation programs for its project-type approach requires the development of a physically and economically sound plan of improvements scheduled for execution over a definite period of years. Firm commitments are required from local organizations or the States for sharing the costs of installation and assuming the operation and maintenance (with certain exceptions such as Federal land) and for meeting other require-

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ments as a condition for Federal financial assistance in carrying out the improvements.

The Congress has made it clear that the additional authority provided under the Act should be used to "supplement both our present agricultural soil and water conservation programs and our programs for development and flood protection of major river valleys. It will bridge the gap between these two types of programs and greatly enhance the ultimate benefits of both." (House of Representatives Report No. 1140, 83d Congress, 2d Session.)

"Federal help under the act is available only to assist local organizations to plan and install needed water-management and flood-prevention measures that cannot feasibly be installed under other current Federal conservation programs." (Committee Print, H.R. Committee on Watershed Conservation and Flood Prevention, Answer to Question 4.)

It is the policy of the Bureau to cooperate to the fullest possible extent with the Department of Agriculture and with the States and local organizations in carrying out the provisions of the Act insofar as they affect Indian lands and programs under the jurisdiction of the Bureau. (Departmental Manual 605.2.2)

Procedures for program planning as well as works of development are outlined in Part 605 of the Departmental Manual and the Watershed Protection Handbook issued by The Department of Agriculture.

Funds for project installation will be transferred to the Department of the Interior at the Washington level as an appropriation

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transfer in accordance with approved watershed work plans. Funds for planning, however, will be available at the State level in accordance with instructions in the Watershed Protection Handbook, Section 11 published by the Department of Agriculture. The procedure as outlined is as follows:

The State Conservationist (Soil Conservation Service USDA) is responsible for preparation of the work plan. On each watershed that includes Indian land he will be responsible for arranging with the appropriate field representative of the Bureau who is responsible for the Indian land included in the watershed to assist in preparing the work plan. To the extent that the Bureau does not have funds available for providing such assistance, they may be provided by the State Conservationist, under authority of Section 601 of the Economy Act, from planning funds available to him.

The above applies to projects initiated and developed in accordance with the Small Watersheds Act mentioned herein. Programs authorized under the Flood Control Act of December 1944 will continue to be carried out in accordance with authorizations contained therein.

E. Irrigation, Power, Drainage and Related Facilities.

- (1) Investigations. The investigation and planning relative to these facilities shall be conducted in a systematic manner, giving consideration to all factors required for the successful development of an irrigation project and/or power development. Factors such as quantities of water available, kind of land and its use and management, subdivision of farm units

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economic feasibility, construction, operation and maintenance, and drainage facilities, shall all be investigated and thoroughly integrated in a planning report for each potential unit or combination of units. The finished report shall be forwarded to the Central Office for review and acceptance. The planning report should follow the format as approved by the Washington Office.

- (2) Report of Investigations. The Central Office will then issue instructions regarding the release and circulation of the report to other Government or State organizations interested, and will present copies of the report to the Department, Office of Management and Budget, and to the Congress for consideration and for the purpose of securing authorization for the construction of the project and appropriations therefor.

The above brief outline in regard to the procurement of investigation data and compilation of a planning report is applicable primarily to extensive areas upon which prescribed investigation reports are not available. Small areas or extensions of units or projects upon which surveys have been made, or areas that are adjacent and comparable to lands that are being irrigated do not require extensive investigation and compilation of a planning report.

In this case a complete description of the work proposed including justification and cost estimates shall be prepared and forwarded to the Central Office for approval.

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The succession of responsibilities in connection with the conduct of the investigations and the subsequent related planning of irrigation projects and their potential power developments, if any, shall be carried out as outlined in the following paragraphs of this section.

- (3) Approval of Project. The approval of a proposed irrigation and related power project embracing tribal lands on a reservation shall be obtained by the Agency Superintendent from the affected tribe or tribes prior to the planning of the project or any part thereof. (See Sec. 16 of the Act of 1934, 48 Stat 987, as amended; 25 U.S.C. 476, respecting organized Tribes.) This approval shall be manifested by a signed resolution duly made and adopted by a majority of the tribal council or other proper representative body. A copy of the resolution shall form a part of the justification for the project. Under existing law, construction charges represent a deferred lien against irrigable lands under a project. The Indians are expected to assume and pay as they accrue the obligations covering the operation and maintenance charges assessed against their lands, (38 Stat. 583; 45 Stat. 210, Sec. 8, 60 Stat. 867; 25 U.S.C. 387 and 385) in accordance with rules and regulations promulgated in 25 C.F.R. 221.
- (a) Preauthorization Investigations. It is the basic policy of the Bureau to complete the field and office studies necessary to adequately support the prescribed objectives of

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an investigation with a minimum of expenditure of time and funds.

Subsequent to the receipt of a resolution requesting construction of a project, or part thereof, the Area Director shall request authority and funds to conduct a reconnaissance survey and other preauthorization investigations as may be deemed necessary for the purpose of determining the engineering and economic feasibility. When feasibility becomes apparent and authorization may be anticipated, investigations should be directed toward the requirements for a project planning report. In a similar manner, when infeasibility becomes apparent, preauthorization investigations should be continued only to the point necessary to show infeasibility under existing or foreseeable conditions.

On investigations for large projects, where a small percentage of estimated construction costs represents very large preauthorization investigation costs, sound judgement will have to be used in conjunction with readily available data as the basis for certain estimates. Engineering, geologic, and economic boards and consultants may be used under such circumstances.

The Area Director shall assemble all available data in respect to the area from other Federal, State and local agencies, and subsequent to a study

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of this material, will determine the extent of the surveys and studies necessary for the completion of a feasibility report.

Indian tribes or councils shall be kept informed of the progress of the survey and shall be presented with copies of the report when completed. The purpose and scope of the proposed development shall be explained to them visually by the use of maps at appropriate times during the course of the surveys. The opinions of the councils shall be given serious consideration before further detailed information is accumulated for the formation of a project plan. Approval of the feasibility report, and authority for the initiation of a program for the compilation of data upon which the planning report is based shall also be secured from the Central Office.

- (b) Reconnaissance Investigations. A reconnaissance investigation is primarily the investigation in which a potential development is first studied and from which a report is developed. It is the most easily made and usually least costly, of the several types. It requires, however, a great deal of advance planning, expert guidance, and competent review. As a result of the field and office studies, a report shall be prepared, based upon the available data, with recommendations as to disposition.

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(c) Feasibility Investigations. Where a reconnaissance indicates that there are definite development potentialities which are consistent with engineering and economic feasibility findings in accordance with 1.1I(2)(a) above, investigations may proceed to develop firm information as a basis for authorization and construction appropriation. The feasibility investigations to be undertaken for this purpose should be sufficiently detailed to support adequately and conclusively the plans and estimates on all features of the project or unit. The degree of finality of engineering surveys should be sufficient only to support the required objectives. On certain features of the investigations, these may vary from detailed surveys to rough fly lines.

(1) Hydrological Studies. A refinement of the hydrological studies previously made shall be undertaken. This item probably will not require any material change in conclusions if the original study was prepared properly, but the conclusions must be adequately supported and substantiated by detailed studies which demonstrate how the project will operate under both normal and critical conditions. This phase is one of the most important in the project studies. The success or failure of the project is basically dependent on the land

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and on the water supply feature, both as to quality and quantity.

- (2) Power Aspects. A complete analysis of the power aspects of the project, including their relations to other plants and systems with which they may be coordinated, must be made to determine further the prospects of this feature, and to coordinate power with the other functions of a project.

Upon completion of the required land classification and engineering activities, sufficient information is available to outline a plan for the development of the area and the preparation of a cost estimate. Design and cost estimates should be accurate and consistent with the information at hand.

- (3) Economic Studies: During the period of developing the plan and cost estimate, economic studies should have progressed sufficiently to make possible the formulation of a definite proposal. The economic studies will include an estimate of project costs and benefits, first without regard to the Leavitt Act (which would include recommended cost allocations and repayment requirements and capabilities), and second with regard to the Leavitt Act (cost-

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benefit ratio computed only as to annual O & M charges and replacement costs). The proposal shall include procedures under which the project can be constructed, and provision for proper financial return when required by law. These items should be determined as definitely as possible so that the Bureau can support them, subject to minor alteration or change following pre-construction surveys, in the approach to Indian tribal councils, irrigation districts or other interested parties, the Secretary, and the Congress. The Act of April 4, 1910 (36 Stat. 270), requires express authorizations of Congress of any new projects to cost in excess of \$35,000 [55 BIAM Supplement No. 3 - 1.5(e)(2)]. However, information released prior to the planning report should be positively identified as tentative only and subject to major changes or even complete discard so that no commitments should be made with it as the basis therefor.

- (4) Community Attitude. A general census of the attitude of the Indian community in the affected area is a requisite in this stage of planning. If an unfavorable attitude toward the development exists the planning report

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may recommend that no further action be taken.

- (5) Legal Review. The importance of legal review during the investigation cannot be over-emphasized. Adequate review of the legal aspects of planning requires careful consideration. Like other portions of the planning investigation, it is time-consuming; therefore, it should not be deferred until the completion of the plan. Such consideration is an integral part of any development plan.
- (6) Other Agencies Interests. Activities of other Federal, State, and Local agencies, particularly those of other Bureaus of the Department of the Interior, must receive adequate recognition in the planning and development of an area (55 BIAM 1.5). In many instances, features recommended by another agency cannot be incorporated into the general plan because of the reimbursable nature of the Indian project funds. However, there are also many cases where a slight variation in plan will enable the full utilization of such recommendations at no additional cost.
- (7) Final Report. Upon the completion of the necessary field and office work, all information on the project including recommendations and basic data, is con-

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solidated in the form of a project planning report. This report must be complete in every essential respect and contain data on the unit as it exists under present conditions and as proposed for development.

- (4) Power Planning and Marketing Analysis. These more or less specialized reports deal with the development of the power features of a basin, an area, a proposed project, or a supplement of an existing project. They cover hydro-electric generating plants, standby or peaking plants and transmission systems related to the development and utilization of electrical energy from present or potential irrigation projects and developments. They cover the optimum development of the power potentialities including firm and seasonal output which must take into account project demands and downstream priorities. Coordination with the plants and systems must be given careful consideration. Power marketing reports are concerned primarily with the determination of present power market opportunities and estimates of loans from future power requirements. They also deal with rate schedules, covering, among other things, competing power plants and their relationship to marketing opportunities.
- (5) Special Planning Reports. These reports present the findings and conclusions of special investigations and studies which are required to satisfy special situations or specific requests or for prospective legislation requirements. They are made

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also to cover specific problems which exist or which may arise from time to time on irrigation projects and their various related activities.

- (6) Post-Authorization Investigations. Upon authorization of the project, additional investigations shall proceed as rapidly as funds are made available. These investigations may consist of additional detailed soil classification studies; irrigation area topographic surveys where adequate surveys have not been made on the Geological Survey; additional detailed surveys on major structures, and underground water and drainage studies.
- (7) Drainage. The Bureau recognizes the fact that if lands under its jurisdiction are allowed to become unproductive due to seepage, the investment in irrigation works is endangered. In addition, and of even greater importance is the reduction or total loss of income to the people in that area. It is, therefore, the policy of the Bureau to provide for adequate drainage on new projects and where feasible to provide or to assist in providing such facilities where required on existing project.

On all irrigation developments it is the responsibility of the Project Engineer or other official in charge to watch the use of project lands and to reduce damaging seepage and surface waste, and provide drainage where the fault is directly attributable to the operation of the irrigation system. Where lands become water logged and drainage needs develop through

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improper irrigation by the wateruser, it is not the policy of the Bureau to provide drainage except or unless special provision is made and funds provided therefor. Where drainage problems develop to the extent that remedial measures are in the nature of a major project a report shall be made containing all facts relative to conditions and recommended solutions. This report shall be submitted to the Area Director who will add his recommendations and submit it to the Central Office together with plans for financing the work.

On Indian projects operated by the waterusers it is the Area Director's responsibility to work out solutions to the project's seepage problems and make recommendations for the alleviation of such problems to the Central Office. Such recommendations shall be made only after consultation with the waterusers and only when the necessary work is beyond the ability of the waterusers to finance.

- 1.3 Programs. Working with the local Indian landowners and operators, Agriculture Specialists develop and execute programs designed to make possible maximum utilization of all soil, water, forage and wildlife resources consistent with their capabilities. Such programs include the development and execution of management plans and procedures for the proper utilization of existing forage and wildlife resources; development and utilization of new lands, including the construction of irrigation and power facilities; reclamation and stabilization of old projects and those designed for the conservation and wise use of soil and moisture resources.

- A. Farm and Pasture Land: In order to effectuate

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the conservation program on farm and pasture lands it must be done through and as a matter of assistance to the owners or users of Indian lands. Assistance to individuals shall be provided by Agriculture Specialists as an integral part of their cooperating in or subscribing to a formal plan of conservation operations. In regard to tribal land operated as a tribal project the assistance provided shall be related to an operational program in the making or under way. All technical assistance and guidance must be provided on an organized basis with specific goals in view. In the development of farm plans great care must be taken to see that individual plans will not conflict in any way but wherever possible will supplement other plans for the development of the same community or watershed.

- B. Range Land: The application of conservation measures to range lands shall be in accordance with 1.3A above and with the requirements of the applicable grazing regulations (25 CFR Parts 151, 152 and 153).
- C. Non-Agriculture Land - Administrative, School, Home, Industrial, etc. The Officer-in-Charge will see that each site is checked in order that he may advise the user and the tribal or individual Indian owner as to erosion hazards and means for avoiding or minimizing erosion damage. He shall also advise concerning structures which would require extensive safeguards to protect them from wind or water.
- D. Road, Trail, and Pipeline Right-of-Way. The Officer-in-Charge will see that the right-of-way grants or easements contain stipulations requiring the application of conservation measures to prevent or minimize erosion or drainage problems and provide checks to see

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that stipulations are carried out.

- E. Watersheds. Wherever and whenever possible the Officer-in-Charge shall see that development, utilization, and conservation programs are integrated into and coordinated with plans and programs of watershed or similar programs for maximum effectiveness in the field of flood crest reduction, sediment control, and water conservation.
- F. Fish and Wildlife Facilities. The Officer-in-Charge will give consideration to fish and wildlife conservation as an integral part of plans for conservation of soil, water, and plant resources. The Indian people will be encouraged to protect, conserve, and develop their fish and wildlife resources.
- G. Recreation Projects and Facilities: In carrying out the Agriculture Program consideration will be given to preserving and developing for the Indian people of present and future generations such quality and quantity of outdoor recreation resources as will be necessary and desirable for individual enjoyment and economic benefit, and to assure the spiritual, cultural, and physical benefits that such outdoor recreation provides.