EFFECTS OF THE OAHU RESERVOIR PROJECT on the CHEYENNE RIVER RESERVATION and STANDING ROCK RESERVATION.

A Preliminary Statement of Investigation Problems by Stewart Kern, Agricultural Economist

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I. General Summary

The Oahe Reservoir Project, sponsored by the Corps of Engineers, has been proposed as a unit in the system of multiple purpose dams and reservoirs authorized by Congress for construction in the Missouri River Basin. Extensive benefits from these projects are anticipated in the form of flood control, improved navigation, irrigation projects and power development. Planned at a site approximately eight miles north of Pierre, South Dakota, the Oahe Reservoir is expected to extend upstream to Bismarck, North Dakota. It will inundate valuable lands within the Cheyenne River and Standing Rock Reservations.

As residents of the Missouri River Basin, Indians generally will share in the important benefits of these developments, but those Indians on the Cheyenne River and Standing Rock Reservations who live near the Missouri River will suffer serious losses. Over 100,000 acres of their land will be inundated and nearly 300 families will be compelled to move to new homes. It is expected that between 80 and 90 percent of the reservation timber lands will be lost and the habitat for corresponding wild life destroyed. At least one third of the Indian cattle industry will be
affected. Agency headquarters will have to be moved and several schools will be inundated.

II. Information about the Oahe Reservoir Project

The Oahe Reservoir Project, sponsored by the Corps of Engineers, has been proposed as one of several units in a system of multiple purpose dams and reservoirs which Congress has authorized for construction in the Missouri River Basin. This dam is to be a main-stem project and benefits from flood control and navigation on the Lower Missouri River are expected to be substantial. A power plant with an installed capacity of 150,000 kilowatts has been proposed. Irrigation water is to be diverted from the reservoir by pumping plants and a canal to an area of 750,000 acres of land located immediately west of the James River between Aberdeen and Huron, South Dakota. The Bureau of Reclamation is sponsoring the construction of all facilities appurtenant to the irrigation development, which is referred to generally as the "Oahe Unit." The term "Oahe Reservoir Project" refers to the dam, reservoir and power plant.

Both the Bureau of Reclamation and the Corps of Engineers have proposed plans for a dam at this site in the past. When plans of the two agencies were correlated, through
conferences between representatives of each, into an over-all Missouri River Basin Plan, sponsorship of the large dam at the Oahe site was awarded to the Corps of Engineers. Although plans have not been released listing specifications, the following general information has been used to estimate Indian interests in the project.

A dam about 192 feet high has been proposed at a point approximately eight miles upstream from Pierre, South Dakota. The Maximum Pool Level of the reservoir is to be at Elevation 1620 and the Pool will extend upstream to Bismarck, North Dakota. The Pool is expected to flood bottomlands on the Cheyenne River and Standing Rock Reservations. It is understood that the Maximum Pool Level and height of the dam is limited by the elevation at the city of Bismarck and the cost of obtaining suitable railway and highway crossings near Mobridge, South Dakota.

Final topographic data for side drainages are not all available as yet and the contour line representing Elevation

\[1\] See Appendix, Letter from District Engineer, Omaha District, June 25, 1947
1620 can not be accurately projected on ownership maps of the two affected reservations. The extent of inundation of reservation land can only be estimated. It is noted, however, that regardless of the final height of the Oahe Dam, adequate facts are now available to indicate that Cheyenne River and Standing Rock Indians will be affected substantially by the project.

Under normal circumstances, it can be anticipated that several years may elapse before the project will be completed. Two or three years may be required for planning and five or six years for construction. It appears at present that most investigations planned by the Indian Service need not be initiated immediately.

III. Principal Effects of the Oahe Reservoir Project on Indian Economy

Benefits from the Oahe Reservoir Project which will accrue to the States of North and South Dakota, the residents of the Lower Missouri Valley, and the nation as a whole ultimately may be very great. As residents of the state and nation, Indians on the Cheyenne River and Standing Rock Reservations will share in these benefits. The project, however, will also cause serious losses to Indians who now reside in or adjacent to the area which will be inundated by the reservoir.
1. **Indians Will Receive Important Benefits**
   
a. **Employment opportunities will be available.**

   Construction of the Oahe Reservoir Project will require a large number of skilled and unskilled laborers. There will be numerous jobs requiring experience in the operation of equipment. Indians on both the Standing Rock and Cheyenne River Reservations have had training in operating heavy equipment on WPA Projects, and particularly in the Civilian Conservation Corps. Young Indians, trained in the CCC and later in military services, should be available in fairly large numbers and many of them will want to secure construction jobs. A smaller number of Indians are trained for clerical and administrative work. Construction work on the project is expected to be of direct benefit to local Indians.

   This project is only one of several main-stem projects planned in North and South Dakota which will provide jobs for Indians. When these projects are completed, the large volume of cheap electrical energy which will be produced is expected materially to increase the number of small industries in North and South Dakota. Employment opportunities in small towns on and near reservations should increase. Indians who do not wish to follow agricultural pursuits on the
reservations can be expected to share in the jobs thus created. If industrial development and small community enterprises increase as contemplated, benefits which will accrue to Indians in the form of new jobs near reservations will be important.

b. Indians may use electricity. Main power lines will probably cross both the Cheyenne River and Standing Rock Reservations. Living standards of Indian families may be materially improved by the use of cheap electrical energy. Distribution of electricity to rural Indian families, however, will present difficult problems due to heavy transmission costs and low incomes of the people.

2. Serious Losses will be Sustained by Indians

a. The Indian land estate will be reduced. The Missouri River forms the east boundary of the Cheyenne River and Standing Rock Reservations. Some of the best land on these reservations is situated along the Missouri River bottom and back for some distance from the mouths of its tributary streams. Practically all of this valley land will be inundated, amounting to over 100,000 acres on both reservations. It is believed that many of the Indians whose lands will be flooded by the reservoir will re-establish
themselves in farming and ranching by buying fee patent land or Indian estates within the exterior boundaries of the reservations. In this process, some of them may need more financial help than the tribal councils are in position to give.

b. Indian cattle industry will suffer serious losses. The Oake Reservoir is to be situated in the approximate center of a large territory once claimed by the Sioux Nation. Members of these tribes were "Plains Indians", subsisting almost entirely on bison or buffalo. Cultivation of crops was not a means of livelihood. A typical male Sioux was a great warrior, a horseman and a hunter. When the buffalo were destroyed by the white man, the source of livelihood of the Sioux Nation was destroyed. The people now enrolled on the Cheyenne River and Standing Rock Reservations are direct descendants of members of this Sioux Nation. They are only two, three and four generations removed from their ancestors who made a living hunting buffalo on the Dakota Plains.

After the buffalo were gone, Indians were grouped together on reservations and subsisted on the remaining meager supply of game and on rations issued by the Federal Government. Land, once controlled by the tribes, was ceded and sold, and
the returns were distributed as per capita payments which also assisted in furnishing funds for subsistence. Indian life under the rationing and per capita payment plan was less than encouraging. In recent years, the Indian Service has sponsored a comprehensive training and financing program, the objective of which is to help each Indian family reach a self-sustaining basis.

Under this program, beef cattle production on an individual Indian enterprise basis, has been most promising on the Cheyenne River and Standing Rock Reservations during the past few years. Many Indians on these reservations do not want to farm. Having been so shortly removed from a buffalo-hunting life, these Indians have most easily adjusted themselves to the running of range beef cattle, an industry which is adapted to the natural livestock range and shelter prevailing on the reservations. While the Indians are adapting themselves to the beef cattle industry, the type of range cattle operation which they practice is a more primitive one than that carried on in many places in connection with diversified agriculture and extensive feeding. Beef cattle raising by Indians was started along the Missouri River bottoms.

Without having a background of the history of the Sioux
Indians down to the point where they are beginning to gain a foothold as self-sustaining residents in the range cattle business, it is difficult to appreciate the importance to the Indians on the Cheyenne River and Standing Rock Reservations of their present cattle business and the Missouri River bottoms on which it is conducted.

Under the method of the existing Indian range beef cattle operations, the capital value to an Indian of a river bottomland ranch and range setup, although it is practically in its native state, is best expressed in the following terms:

1. The capital value of an upland area of equal carrying capacity, plus

2. The capital value of sheds and buildings to furnish adequate shelter during storms, plus

3. The capital value of sufficient hay land to replace the winter feed which is available for grazing in the bottoms, plus

4. The amortized capital value of the annual cost of harvesting and feeding the hay, plus

5. The capital value of insurance protection which the river bottomland furnishes during dry years.
c. Timber lands will be lost. The use of native wood for fuel is traditionally a part of the Indian's way of life. Winters are long and severe in North and South Dakota and a free fuel supply is an important item to the low-income groups which make up the greater part of the population on the Cheyenne River and Standing Rock Reservations. Timber is at a premium in this plains area and the timber which will be lost as the result of land taking for the Oahe Reservoir Project is an important and irreplaceable item. When fuel requires a regularly recurring cash outlay, other necessities of life now being paid for in cash, will have to be reduced accordingly.

d. Wave action on shore line may be a serious problem. The shore line of the Oahe Reservoir within the Cheyenne River and Standing Rock Reservations will be along the clay and shale slopes of the Missouri Valley. The effect of wave action on these slopes along with the rising and lowering of the Pool Level is not known. The hazards which may be created for livestock from abrupt clay and shale cliffs formed by wave action and from mud banks left by receding water may be serious. Already hazards to livestock have been created upon the reservation during winter time by
fluctuations in the river water level due to regulation at the Fort Peck Dam. Ice hazards along the Oahe Reservoir may be much greater than they are now.

At present, river water is the only source of supply for domestic and livestock purposes. Water for these purposes must be available and accessible from the reservoir.

IV. Problems Created on Indian Reservations through Construction of the Oahe Reservoir Project:

1. On the Cheyenne River Reservation

This reservation, located in Armstrong, Dewey and Zieback Counties in north central South Dakota, has the Missouri River for its east boundary for about 78 miles. Originally the reservation contained 2,812,022 acres of land, but only 1,623,511 acres presently remain under Indian control, the rest having been alienated. The present population is approximately 3,800 with 687 resident families listed on the reservation during 1946. Range beef cattle production is the principal enterprise. Indians are running about 18,000 beef cattle this year.

2/ For a comprehensive report on the reservation and its people see: Oahe Dam and Reservoir: Effects of its Construction on the Basic Economy of the Cheyenne River Reservation by H.D. McCullough, Agricultural Economist, February 14, 1947

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Cheyenne River Indians are going to suffer a real loss when their bottomlands are flooded by the Oahe Reservoir. They should be kept currently informed through their tribal council of events concerning the project. They should be made to realize that equitable compensation will be awarded for losses which they will sustain. They can be expected to cooperate more fully if they have been kept currently and properly informed of developments.

a. Land will be taken. It is estimated that over 60,000 acres of Indian controlled land on the Cheyenne River Reservation will be inundated by the Oahe Reservoir. Based on preliminary estimates, about 21,000 acres of this land are in trust allotments, 35,500 acres are in tribal status, 3,600 acres are included in agency reserves and 600 acres are government-owned, purchased by the Resettlement Administration. About one-fourth of the land listed above as tribal is covered by Exchange Assignments and has a status similar to being allotted in trust. This is some of the best land on the reservation and is so located with reference to water, feed and shelter as to have strategic importance for stock raising. It includes bottomlands along the Missouri River, the Cheyenne and Moreau Rivers and several smaller
side drainages.

b. **Indian families will have to move.** It is estimated that at least 113 Indian families will have to move before the Oahe Reservoir is filled. Eighty of these families live in homes on their own lands along the river bottoms. Thirty-three families live below the Cheyenne River Agency on the agency reserve. Homesites along the river bottoms are considered as the choicest sites by the Cheyenne River Indians. Assistance in moving will have to be given to many families. The families reported above do not include those working and living at the agency.

c. **Ranch and grazing land will be lost and livestock enterprises liquidated.** Because natural conditions along the river bottoms favor the wintering of livestock, these locations form the most prized ranch and range land on the reservation. Over 45,000 acres of this choice ranch and range land will be lost. A preliminary review of agency records indicates that about 75 cattle enterprises will have to be liquidated or moved to other locations. These are some of the larger Indian cattle outfits. It is estimated that under average conditions, about 5,000 head of Indian-owned cattle winter on the bottom land which will be
inundated. Under emergency conditions such as during a period of heavy storms, or throughout a period of drought, it is estimated that as many as 7,500 head of Indian cattle use the river bottoms that are to be lost.

Replacement of this ranch and grazing land with land of similar character will be difficult since comparatively little land of this type will remain on the reservation. Additional ranch facilities will have to be constructed on replacement land to offset the natural advantages of the valley lands.

d. Farm land will be lost. Most of the 80 families from established farms who will have to move have gardens which will be lost. An estimated 75 percent of the reservation area generally planted to corn and 10 percent of the reservation area planted to small grain will be lost. About 4,900 acres of Indian controlled irrigable land along the Moreau River are expected to be inundated. Most farm land which will be lost can be replaced through purchase of fee patent land and Indian estates within the reservation.

e. Timber and wild fruit will be lost. One of the more serious losses will be that of the woodland areas. It is estimated that between 12,000 and 15,000 acres of woodland
will be flooded. This represents over 90 percent of all commercial timber on the reservation. Much of the timbered area to be taken is tribal land from which all Indians are allowed to take logs and fuel as needed. About one-fourth of the families on the reservation get all of their fuel from the area expected to be taken. An estimated one-third of all building and fencing material comes from this source. The only place on the reservation where there has been any surplus fuel or building material is in the Missouri River bottoms. The remaining three-fourths of the families utilize substantially all of the annual fuel production of the small strips of timber in the upland areas and there is no surplus.

Since the timbered area can not be replaced, it has been suggested that the tribe obtain and operate a lignite coal mine to make available a replacement supply of fuel. A possible location for such a mine exists in the northern part of the reservation.

The practice of gathering and preserving wild fruit is common on the Cheyenne River Reservation. With the loss of the woodland area, it is expected that almost all buffalo berries, black currants, wild plums, chokecherries and mouse beans will be lost. Some sand cherries and service berries
will also be flooded. This fruit provides variety and adds bulk to the diet of Indian families. The fruit supply normally gathered by 150 Indian families is expected to be taken.

f. Wildlife habitat and recreational areas will be lost. Over 400 deer are estimated to live year long in the timbered area which is expected to be taken. Thousands of pheasants winter along the bottoms which are also populated by thousands of rabbits and numerous raccoons. Several hundred bank-denning beaver are annually taken from the area to be flooded. Wildlife, which provides important food for over 100 Indian families, will be lost. Recreational values represented by hunting and trapping areas and gathering places will be lost. Fishing in the Missouri River is not important.

g. Expensive buildings and improvements will have to be moved. The Cheyenne Agency will be completely flooded. Buildings and improvements at the agency are valued at considerably in excess of one million dollars. One of the best equipped high schools and high school buildings in the State of South Dakota is part of this agency plant, as well as a 40-bed general hospital. In addition, there are dormitories for housing 250 students, and dwellings, offices and work shops for about 125 employees. About 600 people live at the
agency site which is a modern town. Many buildings are constructed of brick.

A school farm, consisting of 105 acres of irrigated land, with additional acreage for pasture will be flooded. Vegetable gardens and grain crops are produced along with dairy and beef products which furnish partial subsistence for the students at the agency boarding school.

The Moreau River Day School, furnishing education through the 8th grade, will be flooded. Buildings at this school are valued at about $20,000. The Four Bear Day School, which is valued at $14,000, also will be lost. The road maintenance camp near the Moreau River Day School will have to be moved.

h. Roads will be flooded. An estimated 80 miles of graded Indian Service roads will be rendered useless through flooding, or flooding of their termini. Most of these roads probably will not have to be replaced, but a new system of roads will have to be developed to serve the new centers of Indian population.

i. Cemeteries will have to be moved. Preliminary maps show that about six cemeteries will have to be moved along with some private burials. Arrangements for
removal, suitable to the interested Indian people will be required. Several churches will be inundated.

2. On the Standing Rock Reservation.

The Standing Rock Reservation joins the Cheyenne River Reservation on the north and extends into North Dakota. The Missouri River forms the eastern boundary of the reservation for about 86 miles and the Cannon Ball and Cedar Rivers form the north boundary. The gross area of the original reservation is reported as 2,437,782 acres, of which about 1,065,000 acres remain under Indian control. Much of this land is in its native state. The present Indian population is approximately 4,250 and there were 805 family groups residing on the reservation in 1946. Beef cattle production is the principal enterprise. Standing Rock Indians own about 8,000 head of good quality beef cattle.

a. Important land will be taken. Preliminary estimates indicate that at least 42,000 acres of Indian controlled land on the reservation will be inundated by the Oahe

3/ For a comprehensive record of the reservation and its people see: Oahe Dam and Reservoir: Effects of its Construction on the Basic Economy and Organization of the Standing Rock Reservation by H. D. McCullough, Agricultural Economist, February 10, 1947
Reservoir. These estimates show that about 35,600 of the
above listed acres are in trust allotments, about 4,400
acres are in tribal status, less than 2,000 acres are in
agency reserves and about 260 acres are government-owned,
purchased by the Resettlement Administration.

Part of the allotted land listed above consists of
3,903 timber allotments ranging in size from less than one
acre to about 10 acres. Each allotment has been surveyed
by the General Land Office as a lot or tract, and a separate
record of it is maintained. Many of these timbered tracts
have in the past been omitted from wills and probates.
Over 60 percent of all allotted land is thought to be in
heirship status.

The acreage of land on this reservation which will
probably be taken for the Oahe Reservoir Project represents
the choice tracts on the reservation. Much of it is fer-
tile bottom land, timbered and of strategic importance in
the conduct of the reservation cattle industry.

b. Indian families will have to move. Based
on a preliminary check, it appears that 184 Indian families
will have to be moved before the Oahe Reservoir can be
filled. Families and community groups are scattered
throughout the area to be flooded which includes bottom lands that have always been considered the most favored places in which to live.

c. Timber and wild fruit will be lost. Although a timber survey is not available upon which to base estimates, it is thought that between 10,000 and 11,000 acres of timber land will be flooded. This represents an estimated 90 percent of the gross area of timber on the reservation. It is estimated that about half of all resident families get their entire fuel supply from this timbered area. Nearly 80 percent of all post and house log material is expected to be lost.

Timber values will be impossible to replace with the exception of a few small tracts of fee patent timber land on the reservation. There is no convenient local source of lignite coal available.

Wild fruit contributes to the variety and quantity of food for Indian families on the Standing Rock Reservation. About 60 percent of all Indian families gather wild fruit regularly and more of them do so during hard times. The principal wild fruit which will be lost will be grapes, plums, chokecherries and buffalo berries. It is estimated that about 75 percent of the present annual wild fruit crops will be lost.
as the result of inundation.

d. Ranch and grazing lands will be lost and livestock enterprises will be liquidated. Bottom lands along the Missouri, the Grand River and Cannon Ball River are the choice ranch and winter range lands on the reservation. It is expected that over 30,000 acres of this type of land will be flooded. This will result in the liquidation or removal to other lands of about 60 of the larger Indian cattle operators and will require the moving of about 3,500 head of Indian cattle. An additional 50 Indian cattle operators will have to make additions to their base properties to provide added shelter and food for the winter months. An important insurance against storms and droughts will be lost to the reservation cattle industry.

e. Farm land will be lost. About 500 acres of land presently being farmed will be lost along with about 180 home gardens and the agency school farm. About 4,360 acres of irrigable land along the Grand River bottoms will be flooded.

f. Wildlife habitat and recreational areas will be lost. It is estimated that approximately 600 white tailed deer and 100 mule deer use the bottom land area on the reservation as a year long habitat. Practically all pheasants,
amounting to several thousand, which occupy a strip of land ten miles wide out from the Missouri River, spend the winter months on the bottom land area expected to be taken for the Oahe Reservoir. The cottontail rabbit population of this area is large. There is expected to be a loss of several thousand beaver. A valuable recreation area used for hunting, trapping and the gathering of wild fruit will be lost. Fishing is not important on the reservation.

g. Agency buildings and improvements will have to be protected or moved. It is thought that most of the buildings forming the agency headquarters at Fort Yates, North Dakota, will be above the Maximum Pool Level of the Oahe Reservoir at Elevation 1620. However, the town below the agency will be flooded and most Indian families near the agency will have to be moved. The school farm, which furnishes partial subsistence to 80 students at the boarding school will be lost and must be replaced. The agency will be on an island in the pool, separated from the mainland by a mile or more of water at Maximum Pool Level. If the agency is to remain in place, the water and sewage disposal system will have to be altered and a causeway constructed to join it with the mainland.

h. Roads will have to be constructed and replaced. It is estimated that between 45 and 50 miles of graded roads
will be lost. Plans can not be made for replacing these roads until a determination is made as to whether the agency will be moved or will remain in place, and where the new population centers will be situated. Roads paralleling the reservoir shore line will undoubtedly be required.

i. Several cemeteries will have to be moved.
Four or five cemeteries will have to be moved and there may be a number of private burials which will have to be located and removed. Satisfactory arrangements will have to be made with the interested Indian people.

V. Indian Service Investigations Program for Problems Created By the Oahe Reservoir.

1. General
The District Office of the Indian Service will maintain liaison between the Corps of Engineers, contractors and employment agencies on the one hand, and Indians and agency representatives on the other, to help as many Indians as possible find construction jobs for which they are fitted.
When the time arrives for placement of Indians in new industrial jobs, the District Office will sponsor a program which will meet Indian needs.

A study will be made of potential requirements for
electrical energy on the Cheyenne River and Standing Rock Reservations, and this data will be made available so that Indian interests can be given full consideration in determining the location of power transmission lines.

The effect of wave action and the variable shore line of the Oahe Reservoir within the Cheyenne River and Standing Rock Reservation will be carefully investigated to determine what hazards to livestock can be expected after the reservoir is filled. The accessibility of water for domestic purposes and for livestock will be determined. Facts required to determine the necessity for fencing part of the shore line and constructing special approaches to other parts, will be assembled.

Meetings will be held with representatives of the Corps of Engineers and with agency representatives in an attempt to work out a schedule of land taking and to outline any needed legislation covering the relocation of Indian families.

2. The Cheyenne River Reservation.
   a. Land investigation. Land ownership and heirship records are up to date on the Cheyenne River Reservation with the exception of recent probates which are reported as being two years behind. Some checking of land ownership
records will be required, but it can be completed in a relatively short time. About 60,000 acres of land will have to be appraised. This work need not be scheduled until a program for land taking has been submitted by the Corps of Engineers.

b. Assistance in moving Indian families. Direct assistance will be required in planning for and actually moving at least 113 families. In this work, the present program of consolidating areas of Indian ownership and Indian use should be followed and given additional impetus.

c. Timber survey. A timber survey will be required to determine the area, volume and capital value of this resource. There will be between 12,000 and 15,000 acres of timber to be surveyed. Recent aerial survey pictures should be secured and boats be made available for crossing to islands.

d. Economic study. A complete economic study of available resources on the Cheyenne River Reservation will be required before a plan for re-establishing families can be formulated. This study should be scheduled with a study of the planned Bureau of Reclamation development along the Cheyenne and Moreau Rivers.
The relative economic importance of the area to be taken to the remaining portion of the reservation should be determined. This will include the timber, grazing and farming land resources. A land use study of the reservation will be necessary.

e. Wildlife and recreation study. A cooperative study with the Fish and Wildlife Service to estimate the annual take of game and fish in the reservoir area is recommended. Compilation, interpretation and reporting of data should be handled by the Fish and Wildlife Service after consultation with representatives from the District Office of the Indian Service. The Indian Service should assist in the preparation of a master recreational plan for the Oahe Reservoir Project.

f. Plans for agency removal. Plans for removal of the Cheyenne River Agency will require considerable study. Availability of water supply, suitability of building sites, accessibility to the entire reservation, and available transportation facilities will have to be considered along with other pertinent facts.

g. Planning new roads. After the new location of the agency has been selected, a revised road system will be