REMKS BY GILBERT G. STAMM, ASSISTANT COMMISSIONER OF RECLAMATION, AT THE 27TH ANNUAL CONVENTION OF THE SOUTH DAKOTA RECLAMATION AND WATER DEVELOPMENT ASSOCIATION, PIERRE, SOUTH DAKOTA, FEBRUARY 4, 1965

Although I have met with many members of the South Dakota Reclamation and Water Development Association at various times in Washington, also at National Reclamation Association conferences, and in connection with the Oahe Project, this is my first meeting with the Association. It is a great pleasure for me to be here to discuss Reclamation matters with you. And I am glad, too, of the opportunity to talk with members of the South Dakota Land Improvement Contractors Association who are participating in this session. Contractors are the modern-day Paul Bunyans who translate our water resources project plans into dams, canals, ditches, and powerplants so that we can produce food and fun, electric energy, progress and prosperity for the people of the West and the Nation.

I bring you personal regards from a man you know well, Assistant Secretary of the Interior Kenneth Holm, your fellow South Dakotan, who would like nothing better than to be here with us this evening.
Commissioner Dominy, for whom I am pinch-hitting, has asked me to convey his warm greetings and to express his regrets that he is unable to be here. He said to give his special regards to old-timers Art Svendby, Raymond Lund, and Millard Scott, who recently was cited by the Upper Missouri Basin Water Users' Association for his many years' work in the field of water resource development, and also to Dan Heupel, Al Schock, Bud Maher, and all the current and past officers of this Association who are present.

Your efforts and those of other South Dakota groups who are actively promoting the idea of reclamation in the State recently bore fruit when Brown and Spink County farmers voted to establish irrigation districts under the Oahe Irrigation Unit of the Missouri River Basin Project. The organizers of the districts and the landowners, who voted five to one in favor of proceeding with the development, deserve heartiest congratulations. By their overwhelming approval they have provided the Bureau of Reclamation a necessary and powerful tool with which to advance toward authorization and construction
of the Unit, which is so essential to the economy of this State.

For more than 60 years, since the Reclamation Act was enacted in 1902, the Bureau has been working, along with groups such as yours, to develop the water resources of the Western States. All of us, of course, are newcomers to a field of accomplishment that has actually been determining the course of civilization since before the dawn of recorded history.

More than 7,000 years ago, on a small plain in southwest Asia, between the Euphrates and Tigris Rivers, the early Summerians built canals and ditches to carry water to their fields for crop irrigation and to their cities for domestic use. This was the foundation for the world's first civilization. It begot schools, laws, and a complete system of government, as ancient man, finally freed from the need to search constantly for food, had time and energy to indulge in other, cultural pursuits. Rich cities and kingdoms grew up along the water delivery and drainage systems he built in that land between two great rivers.
On this continent, too, a prehistoric civilization bloomed as a result of water resource control. About 500 years before the beginning of the Christian era the Indians of the Hohokam Tribe in our Southwest diverted water from the Colorado River to irrigate crops on the dry land along its banks, and thus laid the basis for what evolved into a rather advanced culture.

Both these civilizations have long since faded into the mists of the past, and many scholars believe that one of the chief reasons for their decline was the deterioration of their water supply and drainage systems.

Many other civilizations have disappeared because they failed adequately to develop their land and water resources. In a recent visit to Afghanistan I saw startling evidence of such a situation as I roamed through large areas of completely abandoned ruins which had been obviously civilized villages generations or centuries ago. The signs are easy to read in these ruins. They tell us that the lower Helmand Valley at one time supported large populations,
but that, for lack of attention to resource development and conservation, and because of exploitation, the lands became barren and the cultures that had flourished there withered and died.

Today the area is inhabited mostly by nomadic tribes who eke out a meager existence by ranging over vast stretches of near wasteland. And the deterioration is continuously aggravated. For example, winter fuel is provided mostly by dried-up weeds, which are gathered in the fall and stockpiled against use during the cold months. Also, as I traveled through the country, I saw many donkeys and camels loaded with plant roots that had been grubbed from the soil to be stored for winter use. Clearly there will be no plants next year where these were dug up. So the desolation feeds on itself and deepens.

In recent years, however, the Afghan Government has initiated a water resources development program. Since World War II, two storage dams have been constructed in the Helmand Valley, one on the Helmand River and one on the Arghandab. Main conveyance canals are now in operation as the first phase of the
reclamation program. While there are many problems of both distribution and drainage in the Valley, the Afghans are working hard to solve them. They are exerting every effort to establish a sound sustaining irrigation economy on the land by regulating their river's flow.

We have been of some help to the people in that far corner of the world. Since 1960, the Bureau of Reclamation, at the request of the Afghanistan Government and under the sponsorship of the Agency for International Development, has been conducting an assistance program for the Helmand Valley Project begun by the Afghans in 1946. We now have a 15-man team over there helping solve project operation and maintenance problems. Also, we train local engineers and other technicians in the necessary skills for future local planning, construction, and operation of the 300,000-acre multiple purpose project.

In this country we have accomplished more in the development of our land and water resources within a few generations than the under-developed Central Asian countries have in several centuries.
As you know, the Bureau of Reclamation is concerned specifically with water resources of the 17 Western States and now, to some extent, those of Hawaii and Alaska.

It is indeed fortunate for the West and for the Nation that both the pioneers who followed the mountain men across the Mississippi to establish homes in the uncharted wilderness beyond, and today's citizens of the plains and mountains have always been—and are now—forward-looking men and women who are, to quote President Johnson's inaugural address, "always trying and always gaining." They did not find a land of milk and honey when they penetrated the unknown West. But the progress they have made in the space of a few generations toward creating such a land constitutes a lasting memorial to their inventiveness, stamina, and courage. However, we must not forget that the transformation is still far from complete. We are trying, and—when we pull together—we are gaining.

When the Mormon pioneers entered the Salt Lake Valley over 100 years ago one of their first acts was to build a small dam across City Creek, diverting
enough water to saturate five acres of land on which they planted potatoes. By the next spring they had 5,000 acres under cultivation, 10 years later 16,000, and by 1890 more than 263,000 acres.

As other pioneers settled in other sections of our arid and semiarid West they, too, built small reclamation projects to wrest a living from the fertile but frequently dry and unproductive soil. As more territory was settled, of course, the water needs multiplied, and soon the small projects of individuals and private groups could not keep up with the demand for water and land development. Local and State governments undertook some responsibility in this area of endeavor, but finally these, too, found their efforts could not meet the burgeoning challenge for more and more water development and control.

It was then that the Bureau of Reclamation—first called the Reclamation Service—came into being, created by the Reclamation Act of 1902. Since that time the agency has been cooperating with the people of the West to develop their precious resources of land and water for their own benefit and the benefit of the
whole country.

One of the first projects authorized under the Reclamation Act was your Belle Fourche Project. Sixty years ago in May, work began on this South Dakota development. Since the first water was delivered to 4,000 acres in 1908, crops valued at $72 million—mostly feed and forage—have been harvested from project lands. Per-acre yield on the project is three times that from nearby dry farms, and the value of the irrigated pasture is estimated to be about 20 times that of adjacent dryland pasture.

You are all aware of the economic benefits that have accrued to Butte County by reason of the Belle Fourche Project. Measuring by population gains, retail sales per capita, tax revenues, salaries, and all other economic yardsticks, it far surpasses the neighboring dryland counties.

Custer and Fall River Counties, too, enjoy increased crop yields, as well as other economic and social benefits, resulting from operation of a Bureau of Reclamation Project, the Angostura Unit of the Missouri River Basin Project.
I believe that South Dakota today is on the threshold of extensive and intensive irrigation development which will be a principal factor in stemming the out-migration of young people and ushering in a period of copious economic advancement. I understand that your Association has been active in support of the Oahe Unit and that State and civic leaders, as well as many public and private institutions, are also behind it. The January 5th election approving irrigation districts in Brown and Spink Counties takes us a long step toward realization of the long-heralded irrigation development.

I am sure you know that the rate at which a proposed project moves forward into construction depends largely on the people of the locality. Congress does not act to authorize a project until it has been shown to be economically and engineeringly feasible and justified. After the Bureau of Reclamation conducts comprehensive studies, including consideration of the immediate and ultimate effects of the project on the community and the Nation, it reports its findings to the Congress. But, whatever the report, Congress is
extremely loath to take action unless the people of the area concerned really want the development and are ready to assume the responsibilities its operation will entail. Under modern-day policies, actual construction of an irrigation project cannot be undertaken until irrigation repayment contracts have been executed.

Throughout South Dakota five conservancy subdistricts and several irrigation districts were organized some time ago. But on the whole, progress in forming irrigation districts, which are vital to development of projects, has been somewhat disappointing. As you are well aware, a number of proposed districts have been rejected by the landowners. In other areas, landowner interest lags and consequently no action is taken to hasten authorization and construction of potential South Dakota projects.

Bureau plans for the Tower, Greenwood, and Yankton Units, three small prospective developments with a total area of 6,300 acres, are waiting in the wings for action by the local people. Also, the Bureau's revised report on the Shadehill Unit is
completed, and some South Dakotans anticipate that, on the basis of this report, the landowners, who voted against formation of an irrigation district several years ago, may now favor such organization.

The Pollock-Herreid Unit, for which there appears to be considerable local support, is still in the investigative stage, as is the Pine Ridge Unit along the Upper White River. We are looking into the possibilities of developing the water of the South Fork of the White River and are beginning a study on the Big Sioux River Watershed and the benchlands along the Missouri in Yankton, Clay, and Union Counties.

With the formation of irrigation districts in Brown and Spink Counties, negotiation can soon be undertaken for repayment contracts to cover that part of the Oahe Unit included in the first stage of development, which provides for irrigation of about 190,000 acres in the Lake Plain section. It is this stage for which we are proposing to seek authorization next year.

I am happy to inform you that the Regional Director's report on the initial stage should be
completed by mid-summer. And I might mention that
it is getting expedited attention because Secretary
Holcum has been working overtime--and having us work
overtime--to accomplish this. The formal feasibility
report on the entire Unit should be ready to go to
Congress early in the 2d Session of the present, 89th,
Congress. I am also pleased to tell you that
preliminary studies indicate the benefit-cost ratio
of the project will be in the neighborhood of 2-1/2
to 1, a potent factor in favor of authorization and
construction.

The Oahe Unit is, of course, one of four major
irrigation developments planned by the Bureau of
Reclamation for early authorization and construction
as Units of the Missouri River Basin Project. The
others are the Garrison Diversion Unit, the North
Loup Unit, and the Mid-State Division, formerly known
as the Nebraska Mid-State Project.

The MRB Project, first authorized by the Flood
Control Act of 1944, is a multipurpose project
designed to provide not only irrigation, but flood
control, hydroelectric power, navigation, recreation,
municipal and industrial water, and fish and wildlife enhancement for one-seventh of the area of the United States. The "Big Muddy," lifeline of the 10 States through which it flows, is a controlling factor of life from its headwaters above Three Forks, Montana, to its junction with the Mississippi. Indirectly, it affects the lives of all Americans.

So far, under the Missouri River Basin Project, the Federal Government has built, or is building, seven dams on the mainstem, capable of impounding approximately 85 million acre-feet of water; 23 Bureau of Reclamation dams on tributaries, providing more than 8 million acre-feet of storage; numerous other Corps of Engineers dams on various tributaries, principally for flood control; 12 powerplants with installed capacity of slightly over 2 million kilowatts; nearly 7,500 miles of transmission lines; and numerous diversion dams, pumping plants, canals, laterals, and drainage system works. Thus, facilities for about 90 percent of the potential storage capacity are completed, along with hydroelectric installations, transmission facilities, levees, and other flood control works. But only
six percent of the irrigation originally authorized in the Project has been developed.

In the process of protecting the downstream lands from flood and providing hydroelectric generation to pay a substantial part of the project costs, South Dakota lost over half a million acres of land to the four mainstem reservoirs in the State. The total includes 138,000 acres of fertile bottom lands, 238,000 acres of high-quality grazing lands, and 133,000 acres of brush and timberland. Estimates are that the forfeited income from these lands would amount to $9,200,000 annually, not including losses associated with fish and wildlife, mineral deposits, and similar categories.

This situation has been a bitter pill for South Dakota. It is only fair that the State obtain some irrigation development, with its attendant benefits, to compensate for the considerable sacrifice, as was originally contemplated when the Missouri River Basin Project was authorized.

The Oahe Unit provides for diversion of water from Oahe Reservoir for irrigation of 495,000 acres of land,
municipal and industrial use in 23 towns and cities in and near the Unit, fish and wildlife developments at 28 locations, and recreation uses. Of course, there will also be benefits from flood control, drainage of presently nonirrigable land, and pollution abatement.

Agriculture has been the principal source of livelihood for the people of South Dakota since the mid-1800's, when cabins of white settlers began to dot the prairies of what was to be admitted to the Union as the 39th State four decades later. Since the cities and towns have been built around an agricultural economy, the uncertainty of rainfall periodically has had a disastrous effect on the entire economy.

I do not need to tell you that the Oahe Unit is in a "high risk" dryland farming area in eastern South Dakota, where the urban communities rely as exclusively on agriculture for their prosperity as do the farmers themselves. Crop yields vary greatly from year to year with precipitation, and the income of the whole area fluctuates erratically and almost as widely as the rainfall, which is neither adequate nor timely in
normal years to induce full production on the land. Too, hardly a summer goes by without several extended dry periods, with the result that the yield in most years is reduced to only a fraction of what it could be with adequate precipitation or irrigation.

The feasibility report of the Bureau of Reclamation will show that irrigation can broaden the farm-income base of the whole area, and, at the same time, provide an opportunity to broaden and stabilize the overall economic base, through, for example, the processing of farm products by local industrial development. Perhaps most important of all, irrigation will permit crop diversification, releasing farmers from their dependence on whims of the weather.

According to statistics compiled by the Department of Agriculture, in 16 years the demand for livestock products will increase by 50 to 60 percent. This will mean a tremendous market over the Nation for roasts and steaks and hamburgers. I see no reason why South Dakota cannot supply a good-sized portion of this meat for the dinner tables of a population that will have grown about 43 percent by 1980.
The 495,000 irrigable acres of the Oahe Unit are dispersed throughout a gross area of 909,000 acres of land within the project boundaries. All of it, of course, will be directly affected by development of the Unit, with much of the dryland integrated into irrigation-dryland farms, where livestock production would supply the foundation for the operations. Alfalfa, irrigated pasture, and corn are expected to be the most widely grown crops when water flows through the canals and ditches onto the land serviced by the Oahe facilities.

Beef and dairy cattle, sheep, hogs and poultry will comprise the livestock raised on the farms, and all will contribute markedly to the progress and prosperity of the State.

Sugar beets also should be a leading crop, since it is a high income crop suitable to the area. Doubtless, there will also be some fields of other nonsurplus crops such as dry edible beans, sorghum, seed crops, vegetables and fruits.

It is estimated that nearly 4,500 farms will be developed in the Unit. Although there will be no formal land settlement program, there will be the opportunity,
over a period of time and through natural adjustment, for 2,800 new farm families to become established on a firm basis. Since there is an average of four members to each family and since each farm worker requires two non-agricultural workers in the community, these farms alone could bring a total of about 33,600 residents into the State, increasing the present population by nearly 5 percent. In view of the fact that during the past three decades South Dakota's population has decreased 34 percent in its ratio to that of the United States, such a surge of immigrants would be a distinct boon to the State's economy. And we can safely assume that the expanded economy, sparked by the agricultural development, will swell the population influx to several times 33,600.

Studies indicate that operation of the Oahe Unit will result in an increase of over $78.5 million in annual farm receipts. As new processing plants are attracted to the area and existing ones are expanded, many millions of dollars will come into the State as new investment in the plants and as wages for the workers. An analysis of the dollar volume shows an
annual increase of more than $185 million in trade and agricultural products processing. Another analysis sets the probable increase in taxes stimulated by the Oahe Unit at nearly $16 million a year. Of this sum, over $9 million will go to the Federal Government in farm income taxes, about $4.4 million will flow into local government coffers, and the State Treasury will benefit by nearly $2.5 million.

There are, of course, many other benefits inherent in the development of the Oahe Unit, to some of which a dollar tag may be attached, others which would be hard to evaluate in terms of monetary returns, but which are just as real and just as desirable. A larger population will mean a more abundant life for both rural and urban residents.

In rural areas, there will be better schools, roads, mail service, and community facilities. The towns will provide more and better services to country and townspeople alike. The larger tax base will make possible all these advantages without the necessity for increasing individual tax burdens. Plans for the Oahe Unit also include blueprints for recreational
development, which will add to the enjoyment of life in South Dakota, as well as bring in tourist dollars.

This glimpse into the future of a South Dakota with the Oahe Unit in operation presents an alluring prospect, one worth our best efforts. And I believe it is attainable if we work for it. There will never be a better opportunity than now. And I might add that you will never get a better bargain, since power revenues would pay about 85 percent of the costs of irrigation development. These revenues help pay project costs allocated to irrigation throughout the Missouri River Basin Project. Since much of the power income derives from South Dakotans who buy Missouri River Basin electricity, it seems only reasonable that the State should avail itself of this financial assistance.

Any large-scale undertaking requires the cooperation of many people and many groups. We have explored some of the facets of this circumstance in regard to the Oahe Unit. You have made some encouraging progress toward realization of the Project, but much remains to be done. There may still be some
segments of your residents who are not in full accord with the plan to construct the Project.

The situation presents a real challenge to the South Dakota Reclamation and Water Development Association and all the groups interested in water resource development. Bring your divergent elements together; inform the public of the facts; and I believe there will be a general realization that development of the Oahe Unit, as well as other South Dakota irrigation potentialities, will be good for the locality and the State.

The entire Nation today is excited about the Great Society which President Johnson envisions. We know that such a society—in which all Americans will share in the inherent material and spiritual richness of our country—can be built only through the development of our natural resources. In South Dakota this means coordinated development of your land and water resources. Let's all pull together to get the job done.

The early Western pioneers laid the foundation for the Great Society when they tamed the wilderness
and cultivated the land to meet the needs of yesterday. We must carry on by developing our resources to meet the needs of today and tomorrow. This means cooperative and imaginative development of these resources. And we must take action NOW; tomorrow will be too late. I like the slogan on the brochure you have been circulating: "Use it or lose it." It sums up in five words what I have been talking about the past half hour.

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