

The Colorado, Mother of An Inland Empire

This Mighty River, by Construction of Great Reservoirs,
Can Be Used to Open Treasure Chests of Vast Area

THERE are three great empires undeveloped on the North American continent. One is Alaska with its billions of resources; a second is Mexico. The third is what may be called the great inland empire, and embraces Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona and part of California. It is of the last with which this story is concerned.

This inland empire constitutes nearly 250,000 square miles and is as large as Minnesota, Wisconsin, Iowa, Illinois and Missouri. It embraces some of the most fertile soil in the world. It has a climate that varies from the cold of the semi-Arctic regions to the withering heat of the tropics. Within this empire there can be grown every fruit, flower, grain and vegetable known to man.

Within it also is the greatest store of mineral wealth in the United States with the possible exception of Alaska.

Why is it that in this vast area there is a total population much less than that of one of our larger cities? The answer: Water. The solution? Water.

Lack of water has caused this vast area to be a desert.

Water can make it the richest country in the world.

There Is Water to Be Had

AND there is plenty of water. Millions of acre feet rush down, through Mexico, to mingle with the salt waters of the Gulf of California. There is water sufficient to irrigate 10,000,000 acres of land, power enough to turn the wheels of half the factories of the continent—and it is being wasted.

All this wealth waits for a key. The key is carried on the breast of the mighty Colorado, which tears through the heart of the country.

There lies this immense area, larger than that occupied by many of the great nations of the world, waiting the hand of man to develop its tremendous resources. After the engineer will come the farmer and then the manufacturer. With its forest-covered high valleys, hills and mountains, furnishing grazing land for cattle and sheep, its vast stores of silver, gold, iron and copper, its rich alluvial soil capable of raising immense crops of hay, grain, vegetables and fruits, its boundless supply of cheap power and its great variety of climate, this is indeed a promised land.

Conservative engineers have estimated that the value of the power alone that can be developed along the Colorado is equal in a period of less than 50 years to more than our national debt. Add to that the taxable value brought about by the development of rich farming land and factories and it is to be seen that this is not a local but a national question.

France and Germany have fought three great wars over a region that does not possess one-tenth the potential value of that drained by the Colorado.

The Colorado River is formed by the junction of the Green and Grand rivers. The Green River, the greater, is considered the upper continuation of the Colorado. Including this river, the Colorado is slightly more than 1,700 miles long. The source of the Green River is a group of lakes high up in the Wind River Mountains. These lakes are fed from perpetual snowbanks.

Colorado Enters Mexico

THE Grand River heads in the Rocky Mountains in north central Colorado and is also fed by mountain snows.

The principal tributaries of the Colorado are the Fremont, Escalante, Paria and Virgin rivers and Kanab Creek on the west and the San Juan, Little Colorado, Williams and Gila rivers on the east.

The upper tributaries have cut deep gorges into the rocks through which they flow, causing the upper river country to be a network of canyons. The Grand Canyon, which the Colorado, itself, has cut, is 284 miles long and thousands of feet deep. It is these deep canyons that afford the great engineering possibilities by which the waters of the river can be utilized.

After leaving Yuma, Arizona, the Colorado enters Mexico and for about 20 miles forms part of the international boundary line. Theoretically, the lower Colorado is a navigable stream and is so recognized in treaties with Mexico. But practically it is almost impossible to navigate it for commercial purposes. Aside from the swift-

ness of the current, it is full of bars caused by sand and silt brought down each year.

The Colorado discharges into the Gulf of California about 100 miles after leaving Arizona. Practically all this region, after the Colorado is joined by the Gila River, is enriched by the silt deposited by the Colorado during high water.

A study of the country shows that the Colorado at one time entered the Gulf of California much farther up than it does at present and the gulf itself extended farther to the northwest. The Colorado, yearly bearing its load of silt cut from the rocks in the upper canyons and further added to in quantity by the deposits of sand from its lower tributaries, had built an immense dam across the gulf, separating its waters. It then cut a new channel into the lower gulf, and the waters of the upper portion, cut off from the river, gradually evaporated. This part is below sea level and is known as the Salton sink. Most of it is inside the boundaries of California and is part of the great Imperial Valley.

The Colorado has often been compared with the great River Nile. While the Nile is slightly more than twice as long, the two rivers have much in common. Both flow through a semi-arid country, both convey immense quantities of silt to their mouths, where they have both built up immense fertile deltas. Furthermore, the climate of the Nile Valley is very similar to that of the valley of the lower Colorado. Anything that can be grown in the valley of the Nile can be grown on the lower Colorado, and many other fruits and vegetables besides.

The history of irrigation along the Colorado dates back to prehistoric times. Remnants of ditches and reservoirs have been discovered in Arizona. In Salt River Valley, canals aggregating 150 miles in length are found sufficient to irrigate 250,000 acres of land.

The Jesuits were the first European irrigators. They taught the Mexicans the art, and under Mexican rule considerable land was placed under cultivation.

The first modern irrigation works in Colorado, Utah and Wyoming date back to the middle of the last century. These works were very simple, only bottom lands being reclaimed by these early pioneers.

Reservoir Must Be Built

THESE first—and most of our present irrigation systems on the Colorado—did not depend on the impounding and storage of its waters. The water was simply diverted from the stream by diversion dams. Irrigation by this means has now reached practically its limit. The irrigation projects of the future must depend on the creation of immense reservoirs.

Nearly every tributary of the Colorado has its basin covered with a number of irrigation projects. Some of these are in successful operation. Perhaps the two greatest examples, however, are those already mentioned, the Imperial Valley in Southern California and the Salt River Valley in Arizona. The latter was fully described in a recent article in THE DEARBORN INDEPENDENT.

The Imperial Valley is a long narrow desert hemmed in by mountain ranges, in the southeastern part of Southern California. The greater part of it is below sea level and was once the bottom of a great lake or arm of the Gulf of California.

The story of the conversion of this desert, burning under the rays of a pitiless sun at a daily temperature of 125 to 130 degrees, into the garden spot of the continent, is one fit for the pen of a romancer.

The Imperial canal system was constructed by a private corporation known as the Colorado Development Company and was begun in 1899. The water of the Colorado is shut off from the valley on the American side of the international boundary line by a range of sand hills. For this reason it was necessary for the company to tap the river at what is known as Hanlon's heading, a few feet below the boundary line on the Mexican side. Also it was necessary to construct a portion of the canal on Mexican territory. As the Mexican constitution forbids the acquisition of land by foreigners within a certain distance of the international boundary line the California Development Company organized a subsidiary company under the laws of Mexico. In 1904 this company succeeded in obtaining a concession from the Mexican Government, giving it the right to construct a canal through Mexican territory to irrigate lands on the American side. For this privilege, however, the company had to agree to give the Mexicans all the water they needed for

lands on the Mexican side, up to half the volume of water passing through the canal. This led to a peculiar situation, which will be dealt with later.

To enable this water to flow north again it was necessary to cut the canal through the banks of silt which the river had built when it shut off the upper arm of the gulf. When this was done the flow was again down hill into the basin of the former gulf.

This method of getting their water, while the only one practical at the time, has always been a source of dissatisfaction to the residents of the Imperial Valley. In the first place, it is extremely dangerous. During the summer season the Colorado, its waters greatly augmented by the melting of the snow on the lower mountain ranges, rises to a great height. Because of the nature of the ground it is difficult if not impossible to construct diversion works or dams that will permanently control the river at the points where it is tapped for the canal system. Therefore the residents of the valley are confronted yearly with the possibility of the river sweeping away their flimsy barriers and rushing back into its old channels. This would soon fill up the sink and inundate the entire valley.

Flood Forms Inland Sea

IT WAS this very thing that happened during the early development of the valley. The river, rising, swept away the dam built by the California Development Company, flooded the entire valley and formed a great lake at its upper end.

The entire project would have been buried under the waters of this lake if it had not been for the Southern Pacific Railway Company's engineers, whose aid was enlisted and who, by heroic efforts, succeeded in shunting the river back in its regular channels. With this threat annually over their heads, the settlers in the valley have felt that its development has been greatly retarded. It has not only intimidated the small farmer, who hesitates to risk his all on a chance of his holdings being swept away in a night, but has also tended to discourage the investment of outside capital. Besides the yearly battle against the river is a source of heavy expense to the district.

Very little land on the Mexican side is held or being developed by Mexicans. American syndicates obtained concessions from the Mexican Government, which cover nearly all the land that would be benefited or reached by irrigation from the waters of the Colorado. Below Imperial Valley we find most of the land on the Mexican side held by syndicates of Los Angeles capitalists headed by such men as Harry Chandler, owner of the Los Angeles Times, and William Randolph Hearst, owner of the Los Angeles Examiner and Evening Herald. The Hearst holdings, however, are too far to the southwest to be reached by the present irrigation system.

There is also a large block of land near the Chandler holdings that is controlled by the Cudahy interests, while across the river, in Sonora, Mexico, the Taft estate held a large concession that is said to have passed recently into the hands of an eastern syndicate.

Settlers Suffer as Result

THE possession of these Mexican lands by American capitalists has always operated to the disadvantage of the settlers on the American side and has served to retard the fullest development of the American end of the valley. The owners of these Mexican concessions, possessing as they do great and influential newspapers and wielding great political power, have always blocked any scheme for the greater development of the Imperial Valley, unless it served their own purposes. Their representatives are influential in every town in the Imperial Valley and seek to control all bodies having any political or financial power.

After the disastrous flood the residents of Imperial County organized an irrigation district and purchased the canal system from the bankrupt California Development Company. This district, called the Imperial Valley Irrigation District, is greater than the county, and its officials are elected by popular vote. The county supervisors, however, have the power of filling vacancies on the board by appointment when such vacancies occur between election dates. This fact has served as the foundation of much political intrigue.

Not long after the district had taken over the canal it began to discuss an all-American canal.

An all-American canal that would tap the

(Concluded on page 12)