IRRIGATION.

The question of irrigation is taking a great hold upon the public mind, if we may judge from the great interest which our remarks upon the enterprise now being prosecuted have awakened, and the numerous inquiries which have been addressed to us upon the subject, and many of which we reply to in this article. There is certainly no subject which has greater importance to the whole people of this coast than that of storing water for mining, water power, irrigation and transportation. Water is the essential element, without which mining and agriculture comes to an end, and when, as in the past year, miners are thrown out of work and farmers ruined, causing a general stagnation of business and a fall in the value of property, a system which, by the application of capital, would guarantee a continual supply at small cost, is a desideratum so great as to appeal at once to the practical understanding of every business man. The system now undertaken in this State is not an experiment. It is one which has been brought to perfection on the largest scale in India and in the hands of the same individuals who find here the natural advantages fr agreater than in India. We have a basin of 16,000 square miles or 10,400,000 acres, surrounded by an amphitheatre of mountains from whose sides descend innumerable streams, that supply an abundance of water if man will but take the trouble to store and distribute it. The storing is done by artificial lakes on the streams. These are no more a novelty than a mill dam or road. In southern India there are tens of thousands of them, constructed by dams of half a mile to one and a half miles in length. They are twenty feet deep and a width of seventy feet at the bottom. In that country, where the rainfall is light and the evaporation rapid, 10,000 cubic yards of water must be stored to irrigate 25,600 superficial yards of wheat. The maximum quantity of water required for wheat, barley, corn, cotton, teas etc., is 1,500 cubic yards per acre, that is 11½ inches of water distributed by three irrigations of 3½ inches. But with a fair rainfall but 7,000 cubic feet per acre each watering, or a total for the crop of 21,000 cubic feet. The effect of the water has been established by experiment to be that a field of wheat yielding 800 with one watering after sowing, will yield 1,300 with a second watering in thirty days after sowing, and will give 1,700 with a third watering when the seed is in the flower. The heavy adobe soil of California will need a watering before cultivation. These waterings on the foothills take place directly from the artificial lakes, which also supply miners and water-power. The channels from the lakes should have a vent of 8.3 square feet to supply each 640 square acres of soil with water running at the rate of one mile per hour on each stream. These successive lakes connected by channels, supply water to the canals in the valleys. The leading canals so supplied in India are as follows:

	Miles.	Dis. cube ft. per sec.	Cost.	Per mile
Ganges	900	6,750	$13,500 000	$15,000
Baree Deab	670	3,000	7,050,000	15,500
Eastern Gumna	134	1,250	871,000	6,500
Western Gumna	450	2,500	1,350,000	3 000
Sutlej	350	3,500	5,250,000	15,000
Loan	825	3,124	7,424,000	9,000

The cost of the first and last of these includes the distributing canals, of which there are three miles to one of main canal. The average width 90 feet, depth 8 @ 10 feet, grade 18 inches to 1½ inches per mile. The effects of these artificial lakes and canals are very important. Thus, the Ganges were partly completed in 1867, and the crops irrigated by it where before there were none, were in that year $7,500,000, of which wheat was $2,500,000, cotton, sugar and indigo, $3,000,000. These were entirely due to its influence. It produced, in the first year, a capital equal to half its cost. Who that has had experience in the last two or three years, in the San Joaquin region, would not recognize the vast blessing of such a work in the region where the capabilities of the soil are vastly superior to those of India? The charges in India for the use of the water are $1½ per acre per annum; for watering cattle, $3 per hundred head per annum; sheep and goats, $1 per hundred head. Those farmers whose sheep have died by the thousand from drought may estimate this advantage. For filling reservoirs; $1 per 8,000 cubic feet in bulk is charged. The greatest benefit the government derives from the works is, however, their indirect influence upon the value of land, the activity of trade and the consequent appreciation of all properties which therefore return more taxes at the same rate of levy. The annual cost of the canals is $90 per cubic foot of discharge per second, which suffices for 220 acres of wheat; on this outlay the return is 1½ per cent per month. Another effect of the irrigation has been found to be that in the alkaline plains, where no drinkable water was to be had, irrigation has corrected the character of the local water and made it drinkable.

This system, as we have said, is now being applied in the San Joaquin region. Forty miles of canal have been built, and Tulare Lake, which is 200 feet above the sea, and having a surface of 900 square miles, will receive an embankment of fifteen feet around its circumference, at a cost of $2,000,000, which will reclaim 100,000 acres of first class lands. The water of three feet of its surface will suffice for 1,500,000 acres. That land which produces nothing, without the water, produces two first-class crops of grain in the year, with water at $1 25 per acre. It will give six or eight tons of alfalfa to the acre, with irrigation. If a man plants 1,000 acres with wheat and loses his labor and seed for want of rain, but can have 35,000 bushels certain, worth $35,000, by paing $1,250 for the water, there certainly seems to be a great advantage in the operation.—*Alta California.*

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NOTICE

IS HEREBY GIVEN that I Daniel H. Wells, Mayor of Salt Lake City, U. T., did on the 21st day of November, 1871, enter in the Land Office at Salt Lake City, U. T., for the several use and benefit of the owners and inhabitants thereof the following described land, namely: Lots 1 and 2 and S ½ of Sec. 30, all of Sec. 31, S ½ of Sec. 32 T 1 N R 1 E, also E ½ of Sec. 36, the S ½ of N E ¼, S E ¼, and Lots 3 and 4 in Sec. 35, all of Sec. 2 T 1 N R 1 W, also Lots 1, 2 & 4, in Sec. 4, all of Sec. 5, all of Sec. 6, N ½ of Sec. 7, N ½ of N E ¼ and N W ¼ of Sec. 8 and Lot 5 in Sec. 6 T 1 S R 1 E, also all of Sec. 1 Lots 1 and 2 and the S E ¼ of N E ¼ and S ½ of S E ¼ of Sec. 2, the N E ¼ of N E ¼ of Sec. 11 and N ½ of Sec. 12 T 1 S R 1 W, containing in all 5,720 acres and 85 hundredths.

Any person or persons having claims in the above survey of land will file the same with the Clerk of the County Court of Salt Lake County before the 21st day of May, 1872, as prescribed by law.

DANIEL H. WELLS, Mayor.

Salt Lake City, Nov. 24, 1871.