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# DRINKING WATER FROM SARDAR SAROVAR PROJECT NARMADA CONTROL AUTHORITY

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## DRINKING WATER FROM SARDAR SAROVAR PROJECT

1.0 Gujarat's population of 4.12 crores stays in over 18,000 villages and 205 urban centres. Providing potable water to these people is one of the prime responsibilities of the state. Unfortunately the utilisable surface water resources of the state are very meager (only 2.65 M ha m as compared to 69 M ha m in the country). Again these are very unevenly distributed. South Gujarat has been blessed with abundant water while North Gujarat, Saurashtra and Kachchh are semi arid and suffer from frequent droughts. The ground water scenario is also disappointing. The eastern hilly and tribal belts are rocky terrains with insignificant groundwater. The ground water bowl of North Gujarat is being continuously emptied due to over extraction in the absence of adequate surface waters. As a result the water table has gone down to 200 to 300 m depth and excessive fluorides are now found in the ground water of vast areas. Reliable water sources have disappeared. The areas bordering the desert and the coast are heavily saline. Large parts of Saurashtra are underlain by traps which do not bear any significant ground water. The coastal areas are saline and the salinity is ingressing into areas further inland due to the over extraction of sweet ground water. Waters in substantial areas in Amreli and Junagadh districts are fluoride affected. Large parts of Kachchh are covered by desert and the waters in coastal strips are saline. There is some groundwater in the central plateau but it has been dwindling fast due to lack of adequate replenishment

2.0 In these circumstances, most of the existing irrigation surface water storages in Saurashtra, Kachchh and North Gujarat are slowly getting converted into predominantly water supply storages. Even then, the domestic water supply problem has been getting worse year after year. Of the over 18,000 villages in the state, more than 7,000 have no source of water supply. This figure rises to 12,000 or more during drought years which occur very frequently. There was a severe drought period of consecutive three years from 1985-86 to 1987-88 in the recent past. Some 13,700 villages and 24 urban centres experienced acute water scarcity and in some cases special railway trains had to be run to carry drinking water over a distance of 250 km. During the last drought year alone a sum of Rs. 115 crores had to be spent simply for providing water supply to the affected villages and towns.

3.0 This, then, is the water supply scenario in Gujarat and the only dependable source from where the thirst of all these areas can be quenched is the Narmada. Appreciating this, the Narmada Water Dispute Tribunal (NWDT) has set apart special allocation for water supply from the total allocated share of Gujarat. Out of 34.537 billion cu.m. (28 MAP) utilisable water resources of Narmada at 75% reliability, the NWDT has allocated 11.101 billion cu.m. (9 MAF) to Gujarat. Out of this quantity 1.307 billion cu.m. (1.06 MAF) have been set aside for domestic, municipal and industrial uses. About 1.052 billion cu.m. (0.853 MAF) of water will be utilised for drinking purposes and the balance for industrial purposes. The NWDT in their further report allowed the State Govt. to use the allocated water according to its own will.

4.0 The Gujarat Water Supply and Sewerage Board (GWSSB) and the State Industries Department were requested by the SSNNL to formulate detailed plan of utilising 1.307 billion cu.m. (1.06 MAF) of Narmada water. They were also requested to indicate their off take points along the canal system. A number of meetings were held between the senior officials of SSNNL, the GWSSB and the Industries Department. As a result of in-depth discussion, it was agreed that planning for use of Narmada waters should be done for 30 years i.e. 2021 considering 1991 as the base year. It was also agreed that out of 1.307 billion cu.m. earmarked for municipal and industrial uses, planning for domestic and municipal water supply should be done for 1.05 billion cu.m. and that for industries should be done for 0.257 billion cu.m. It was further decided to adopt following norms for working out the water requirement for domestic purpose. (These compare with national norms recently adopted for assessment of water requirements for municipal and industrial uses).

	Litres. per capita per day (LPCD)
Urban centres having drainage facilities	140
Urban centres without drainage facilities	100
Rural areas	70

It was also agreed that the no source or inadequate source villages of whole of Saurashtra, Kachchh and North Gujarat as well as Panchmahals and Sabarkantha districts should be considered for water requirement of rural areas. Another decision was that water requirement for domestic consumption for rural and urban areas within the command area upto Mahi will be met with from the ground water and local sources including recharge. Also, it was agreed that villages within the command will receive water from the ground water recharge or village tank recharge. However it was agreed that villages having ground water with high salinity and fluoride content should be considered for water supply from Narmada. It was further decided that existing sources of water supply should be fully tapped and allowed for before projecting water supply from Narmada.

5.0 On the basis of these principles, the GWSSB has prepared a paper on domestic water demand from Narmada Canal system. As per this latest study, 135 urban centres and 8,215 villages are considered for providing water supply from the Narmada Canal system. The broad break up of location of urban centres and villages is given in the table that follows :-

Sr. No.	Area	Urban Centres	Village
1.	Saurashtra (all the 6 districts)	90	4,877
2.	Kachchh	10	948
3.	Banaskantha	3	490
4.	Mehsana	13	542
5.	Sabarkantha	4	568
6.	Ahmedabad	12	377
7.	Panchmahal	3	413
	Total	135	8,215

The GWSSB has tentatively fixed major offtake points along the main canal and branch canals for serving areas of Sabarkantha, Mehsana and Banaskantha Districts, and Kachchh and Saurashtra. For serving Sabarkantha area, offtake point is indicated near Dehgam on the main canal. For serving Mehsana district, offtakes are proposed at the heads of Kharaghoda and Dholera branch canals. For serving Kachchh area, offtakes have been proposed near Bhachau, Anjar and Mundra on the Kachchh branch canal. For serving areas in Saurashtra, major offtakes are proposed at the tail end of Saurashtra Branch canal i.e. Bhogavo reservoir, tail end of Botad branch canal, tail end of Vallabhipur branch canal and tail end of Morbi branch canal. Areas of Bhavnagar district will be served mostly from the offtake on Botad branch canal. Offtake from Bhogavo reservoir will serve areas of Rajkot and Junagadh districts and the off-take from Morbi branch canal will serve Jamnagar district.

6.0 Detailed demand statements and tapping points will be prepared by the GWSSB so that a project report is ready within about a year. This project, whose cost would run into several thousand crores, will have to be sanctioned and implemented so that by the time the Narmada Canals reach the needy areas, the water supply scheme is implemented and kept ready to supply the required quantity of drinking and industrial water to various regions in North Gujarat, Saurashtra and Kachchh.

7.0 As regards industrial water supply, the Industries Department is finalising its plan for use of Narmada waters based on the following principles.

(1) Narmada waters are precious and limited and should be used very economically and efficiently. The industries to which water will be supplied should treat the effluent to the acceptable standard and make it usable for irrigation purposes. Recycling of water within the industry should be encouraged.

(2) Water available for industrial use should be allocated to different regions so as to disperse the industries over a larger area and avoid concentration.

(3) As far as possible there should be common offtake and conveyance system for water supply and industrial uses of water.

(4) Narmada waters should be supplied for use of industries located in the areas north of Shedhi river as areas south of Shedhi river can get their water requirement from natural sources including fair weather flows in the Mahi and the Narmada.

(5) The canals will have to be shut down for a month or so for maintenance and hence industries should provide for at least one month's storage;

(6) Water will be supplied on volumetric basis and water rate will be decided by the Nigam in due course and revised from time to time which will comprise a fixed charge plus variable charge.

(7) Narmada canals upto 8.5 cumecs are to run on the controlled volume concept and hence offtakes for M&I water supply should be located either on the main canal or branch canals having capacity of 8.5 cumecs and above.

(8) Industries may be given rebate for the treated water released by them and made available for irrigation purposes.

8.0 With the growth in population, the water requirements for various uses will increase. Efforts have, therefore, to continue on two fronts, namely development of water resources both surface and underground, so that more and more water becomes available for beneficial uses. At the same time, the efficiency of water use in various sectors, notable irrigation and drinking water supply is very low and it requires to be improved by a major effort through modernisation of the existing schemes, education of the people, involvement of beneficiaries in water distribution and use, charging appropriate water rates so that water is considered a valuable commodity, and such other strategies. We have also to guard against pollution, so that the established uses are not fouled up.

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