Drinking water – Vishakhapatnam city (G.V.M.C)

Preamble: Water is the most essential requirement for the man kind to sustain, the priority being drinking water. According to World Bank standards the daily requirement of water per head per day is 135 liters. We can assume that in developing country like India It may be sufficient to meet the demand at the rate of 100 liters as slum population maybe of the order of 20 to 25% in any major city. With ever increasing urbanization, it has become a challenge for the urban authorities to meet the demand of drinking water. There is a study increased in urbanization in India from 17% to 32% over a period of 75years with increase in migration of people from rural areas to towns and cities due to which there is a lot of demand for water for domestic and industrial purposes. Over urbanization brings crises in drinking water supply, electricity, sanitation and drainage problems contributing for pollution, health hazards and traffic snales. The crime rate also increases.

Europe and U.S.A were ahead of us in respect of urbanization and they realized its ill effects and started creating satellite towns around major cities to relieve congestion and avoid formation of slums. In Visakhapatnam up to 1970 there were only few major establishments namely railways, navy, ship yard, Caltex refinery, Andhra university. All round industrial developments took place from 1970 to 2005 with the establishment of integrated steel plant, B.H.P.V, thermal plants and pharmaceutical companies resulting in rapid increase in population and simultaneous mushroom growth of slums. At present an estimated 25% of the population lives in slums and another 25% have occupied all the hills destroying the beautiful greenery belt. Had the urban authorities properly estimated, planed and relished the hazes during the last 50 years and formed satellite towns in all the three directions that is to words Anandhapuram, Kothavalasa and Sabbavaram where considerable government vacant land was available. In these satellite towns if the domestic and industrial workers were settled, availing the concessional transport facility, the present alarming situation could be avoided.

1. **Present status**: - The present population of G.V.M.C including Gajuvaka municipality and 32 to peripheral areas is 24lakhs (approximately) and the present requirement is 100mgd. Assuming that 20mgd is tapped from the domestic private sources (bore wells) the balance requirement is 80mgd. At present the following are the various sources of supply of drinking water with their capacity.

   1. Yeleru cannal – 50mgd
   2. Gosthani – 5mgd
   3. Thatipudhi – 10mgd
   4. Ganbiram – 0.5mgd
   5. Mudsarlova – 0.5mgd
   6. M.G.R – 10mgd
   7. Ryvada cannal – 15mgd
   8. Godavari pipe line – 85mgd

   These 8 sources are able to supply only 60mgd resulting in still a shortage of 20mgd, (Both for drinking and industrial supply). For drinking at present this shortage is being coped up utilizing the water pumped into yelewaram reservoir through Purushotha patanam lift irrigation schema. In-spite of the above available sources which cater the demand of both the drinking water and

the industrial requirement, we are facing crises ones in every cycle of three years which is the periodic failure of monsoon. We faced severe drought conditions in the years 2003 and 2010.

2. **Permanent measures**: - The expected population of G.V.M.C by 2051 is 50Lakhs and the ultimate requirement is 180mgd for drinking purpose. Keeping in view the industrial requirement also Bachavath award has allotted 23.4 TMC from polavaram cannal.
   Considering the above aspects G.V.M.C is contemplating various alternatives to draw water from polavaram cannal after its completion, which may take one decade. Meanwhile alternatives are proposed.
   A. It is proposed to form 6 mini storage reservoirs namely 1.Kondakarla Ava 2.Pedha Tank and Voora tank of krishnam palam 3. Formation of new reservoir in Panduru village of Kota vurtla mandal 4. Improving cheedika reservoir in nakkapalli mandal 5. Golapalam tank 6. Gopalapatanam Ava in payakaro peta mundal. These 6 reservoirs can store nearly 11tmc. As the availability of water from polavaram reservoir is restricted only for 4months that is from July to October. As such formation of their reservoir is essential. But this proposal involves acquisition of private lands of to an extent of 1300 acres for formation of reservoirs and excavation of feeder cannels. This process is not only cumbersome but also involves an expenditure of Rs 3000 cores.
   B. Another proposal mooted out to meet the requirement is laying another pipe line from Polavaram reservoir to connect G.L.R.S at narava etc. This project also estimated to cost Rs 2500 cores.
   C. As both the above proposals involve spending huge amount and the completion of polavaram project is getting delayed, another alternative is thought of in 2018 to meet the demand. It is proposed to lift 10tmc from Godavari River in to yeleru reservoir with an estimated cost of Rs 1400 cores. This has given lot of relief in the years 2020 and 2021.

3. **Temporary measures: -** meanwhile to augment the drinking water requirement the following temporary measures are suggested 1. Improvements to YLMC have to be taken up on war footing by closing the cannal at least 60days in a year. This essentially required as the cannal is in bad condition and functioning with only 50% efficiency. As this is gravity cannal it must be utilized to maximum extent to avoid electricity charges for pumping. In addition to this desalting the Magadhri gedda reservoir, Mudasarlova and Ganbeeram reservoir has to be taken up to restore to their original capacities.

   It has become a routine exercise for G.V.M.C to take up short term measures every year during the summer and spend nearly Rs 4 to 5 crores instead of formulating long term measures since the last one and half decades.

   Post bifurcation, Visakhapatnam city (which is declared as smart city) with I.T hub assumes lot of importance and poised for heavy industrial and I.T activities along with steep increase in population requires utmost attention to plan and fund to provide additional water bodies for the ultimate usage of 23.4 TMC of allocation along with judicious utilization of the existing sources.

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