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Drinking Water Problem in Guwahati City, Importance of Water ATMs and Its Optimal Locations

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Abstract—Water plays a crucial role in the improvement of the socio-cultural and economic endowment of man. The river Brahmaputra and Bharalu also served as important sources of water for the people of the Guwahati city in the past as well as now. Poor water quality often leads to widespread of water-borne diseases among the residents like Cholera and Kala-Ajar. However, nature and magnitude of the problems relating to drinking water changed over time.

After Independence, initiative for public water supply took a shape through the formation of Guwahati local board and subsequent development of Guwahati Municipality Corporation. At present, the major source of drinking water in the city is municipality water. Supply is found to be more or less regular, except in dry season, when water supply becomes intermittent.

Assam Public Health Engineering Department informed that in Kamrup (Metro) groundwater contamination with arsenic and fluoride. Consumption of contaminated drinking water over the years acts like a slow poison or a silent killer. As per the 2011 census, Kamrup (Metro) district has only 56% households equipped with an improved source of drinking water facilities. (The Times of India report April 9, 2016). Some of the hilly areas and many households living in upper slopes do not have any connections of piped water supply.

Under the Smart City Project, Guwahatians got facility of water ATMs. In this research main aim is to find out the optimal locations in the city so that maximum number of citizens avail the benefits of water ATM, we will use Graph theory concept **Keywords**: Drinking Water, Water ATM, Graph theory.