# Drinking Water Quality Monitoring - Allagadda, Andhra Pradesh, India

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*Abstract*: Allagadda is the major town in Kurnool district, Andhra Pradesh. This territory is well condition inviting with rich of plants ,hills, water sources etc.so that in my exploration work ,I thought to appraisal of savoring water this region of towns by taking drinking water tests from chosen test focuses by utilizing recommended inspecting strategies .Collected examples will send within 24 hours to lab for examine of tests about physic-compound Analysis of drinking water, Analyzed parameters are pH,EC,Turb.,F-,NO3-,SO42-,Temp,Dissolved oxygen, Total suspended solids ,Total Hardness, Chloride, and Trace metal ions are Cu, Zn, Mn, Fe, Al using the procedures outlined prescribed by Indian standards. The got outcomes are after examination contrasted and Indian Standard Drinking water determination IS: 10500-2012 .finally we recommend after this examination, Analysis and save the water ought to be done according to models to forestall maladies intermittently.

# Keywords: Allagadda, drinking water Quality, Physico-Chemical Parameters.

# Introduction:

Water is fundamental for living creatures to endure their life, by water just greatest digestion response human body is possible. Water content is vital in synthetic responses, arrangement of Amino acids, capacity eof Vitamins in the body .But when unadulterated water is utilized to drink then just all responses will go easily with no disturbances. If we can drink debased water dependent on contaminants some water conceived disease will perceived in our body a lot more wellbeing issues.So that unadulterated water is essential, increasing populace and its necessities have lead to the crumbling of surface and Sub surface water. for this investigation we chose four zones named Chintakunta, Allagadda,Lingam dinne,palasagaram,In each village we have taken 8 samples viz.4 ground water samples ,4 surface water samples codes are distributed as G1,G2,G3,G4 & S1,S2,S3,S4.

# Study Area:

Allagadda Town is a Municipality in Kurnool district of the Indian state of Andhra Pradesh. It is located in Allagadda Municipality.<sup>[3]</sup> It is located 112 km from Kurnool on National Highway 40 (India). Allagadda is situated on the bank of river Vakkileru. It is located 118 km from Kurnool, heading to Kadapa. Allagadda is on Rayalaseema Express Highway. The highway was transformed into four lanes. The famous Temple Tirupathi is 228 km from there. The nearest railway station is Nandyal. Nearest Airport is Kadapa\_Airport. Located as 15.1336°N 78.4975°E.

#### Sampling procedure:

Gather tests in a region free of unnecessary residue, rain, snow or different wellsprings of contamination. Select a fixture for examining which is free of polluting gadgets, for example, screens, and air circulation gadgets, hoses, purging gadgets or swiveled spigots. Check the spigot to make sure it is spotless. On the off chance that the spigot is in a condition of deterioration, select another examining area. Gather tests from spigots which are sufficiently high to put a jug underneath, by and large the bath or kitchen sink, without reaching the mouth of the holder with the faucet. If you are gathering a first-flush example for lead/copper, enable the water to run a tad before gathering the example however don't flush the lines as you need to gather an example which has been in contact with the dispersion framework channels for no less than six hours. In the event that you are gathering different kinds of tests, open the spigot and completely flush. By and large 2 to 3 minutes will do the trick, anyway longer occasions might be required, particularly on account of lead dissemination lines. By and large, the water temperature will balance out which shows flushing is finished. When the lines are flushed, change the stream so it doesn't sprinkle against the dividers of the bath, sink or different surfaces.

Sample Code	pН	EC μs/cm	Turb NTU	F <sup>-</sup> (mg/l)	NO <sub>3</sub> - (mg/l)	SO4 <sup>2-</sup> (mg/l)	Temp °C	DO Mg/l	TDS (mg/l)	Total Hardness (mg/l)	Chloride (mg/l)
G1	7.2	548	26.32	0.21	15.63	102.25	29	5.9	325	125	78
S1	6.9	526	27.35	0.32	19.14	62.45	25	6.1	478	145	69
G2	7.5	472	12.56	0.14	36.24	78.41	26	6.3	568	63	136
S2	7.8	326	23.15	0.25	41.23	52.36	28	5.6	126	247	183
G3	7.8	459	35.63	0.69	32.05	124	25	7.8	286	345	216
S3	8.1	653	24.56	0.78	26.32	156	26	6.5	526	128	198
G4	7.9	895	42.36	1.0	21.52	96	25	7.3	754	165	142
S4	6.3	572	25.63	1.1	36.25	185	26	7.1	592	214	183

### **Results & discussion:**

# Table.1: Physico-Chemical Analysis of drinking water-Allagadda

Cu	Zn	Mn	Fe	Al
(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
0.009	0.93	0.005	0.24	0.012
0.023	0.75	0.009	0.16	0.02
0.019	0.12	0.003	0.08	0.009
0.01	0.56	0.012	0.04	0.014
0.015	0.23	0.004	0.014	0.16
0.013	0.65	0.002	0.023	0.012
0.023	0.89	0.009	0.014	0.016
0.035	0.64	0.004	0.024	0.018

 Table.2: Trace Metal Ions Analytical result-Allagadda

After effectively finished quality evaluation of savoring water Allagadda, Kurnool region by picking 4 towns arbitrarily and from every town gathered 2 diverse drinking water tests as ground water ,surface water sources lastly attempt to will get greatest precision investigation report of chosen parameters dependent on past research works in this location. Here will talk about parameter savvy vacillations in various areas.

pH in most common waters are commonly soluble because of adequate amounts of carbonates and bicarbonates. pH additionally changes diurnally and regularly because of variety in photosynthetic activity. The vacillations of pH in this area was 6.3-8.1. By perception of this outcomes all are tests were in with in limit as on 6.5-8.5.

Electrical Conductivity is the proportion of limit of a substance or answer for convey electric flow. It was extended from 326-895 $\mu$ S/cm.. By perception of this outcomes all are tests were in with in limit as on endorsed by ISO i.e under 800  $\mu$ S/cm .aside from G4.

Turbidity is the shadiness or fogginess of a liquid caused by substantial quantities of individual particles that are commonly imperceptible to the bare eye, like smoke in air. The estimation of turbidity is a key trial of water quality. In drinking water, the higher the turbidity level, the higher the hazard that individuals may create gastrointestinal ailments. Turbidity esteems got in the present examination as are 12.56-42.36NTU.

.The high convergence of fluoride is prompts Dental and skeleton fluorosis. The centralization of fluoride is fluctuate in different territories as from 0.14-1.1 mg/l by perception tests all are underneath in Acceptable limit.

Nitrate is the most vital of supplement in Ecosystem. By and large water bodies dirtied by natural issue display higher estimations of nitrate according to norms Nitrate attractive limit is 45 and reasonable limit is 100 mg/l..the nitrate are appeared in chosen zone from 15.63-41.23mg/l, by perception all are tests are under Acceptable limit .

Sulfate particle if present in overabundance sum create cathartic impact upon individuals. According to benchmarks alluring farthest point is 200 and permisbile limit is 400 mg/l. The sulfate particle fixation is gone from 96-185 mg/l., by perception all are tests are under limit.

It is an imperative parameter which is basic to the digestion of every single sea-going creature that gangs oxygen consuming breath. The DO esteems got in the present examination zone are as from 5.9-7.8mg/l by perception all examples are under limit.

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TDS level as pursues: incredible, under 300 mg/liter; great, between 300 and600 mg/liter; reasonable, somewhere in the range of 600 and 900 mg/liter; poor, somewhere in the range of 900 and 1200 mg/liter; and unsuitable, more noteworthy than 1200 mg/liter in present investigation region TDS is run from 126-754mg/l,

Hardness of water is an imperative to utilize in locally and mechanical purpose. It may cause scale affidavit and ooze development in businesses .very per principles hardness of water is attractive limit is 200 and reasonable limit is 600 mg/l..In present investigation zone the hardness of water tests went from 63-345mg/l.all are tests with in limit according to gauges.

Chloride happens in water tests is prompts sewage contamination according to low and higher qualities. Chloride attractive limit is 250 and passable limit is 1000 mg/l.Chloride values are extended from 69-216mg/l.

In case of copper If the water tests surpass the EPA copper action level of 1.5 mg per liter, water frameworks must utilize treatment to lessen consumption. Customers should find a way to lessen introduction to copper in the event that they take in their water exceeds the activity level. In the present examination zone Copper fixation extended from 0.009-0.035 mg/l. according to perception a few examples are with in limit i.e. 0.05-1.5 mg/l. some are above limit

Zinc is a basic component for people, and most medical problems are centered on an inadequacy of zinc instead of an abundance. Unfriendly impacts of an abundance of zinc are revolved around gastro-intestinal issues.at present Zinc ran from 0.12-0.93mg/l according to perception tests are under adequate limit, As per IS guidelines satisfactory limit is 5 allowable limit is 15 mg/l.

Manganese on account of the recoloring which might be caused. According to the above outcomes Manganese of drinking water sources is run from 0.002-0.012mg/l whereas BIS esteem is 0.1-0.3 i.e. all of Manganese of all examples in its limit of BIS

Precipitation leaking through soil makes press break down and filter into groundwater, including wells and aquifers used to supply drinking water. The drinking water standard for iron is 0.3 milli-grams per liter (mg/l), Iron over-burden can prompt hemochromatosis, which can prompt liver, heart and pancreatic harm, and additionally diabetes. In this investigation zone press fixation ran from 0.014-0.24 mg/l.

The drinking water standard for iron is 0.03 - 0.2 milli-grams per liter (mg/l).if It has been theorized that aluminum presentation is a hazard factor for the improvement or speeding up of beginning of Alzheimer ailment (AD) in humans. At present Aluminum ran from 0.009-0.16 mg/l. Al of all examples in its limit of BIS.

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