

# **The Dismal Condition of India's Villagers**

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## **Abstract**

In view of the fact that the dry and hot summer causes scarcity of water, a survey was undertaken to evaluate the water availability scenario in some areas of Hooghly district. It was found that the area was in dire straits and suffering a lot due to acute shortage of water. The villagers had only groundwater to rely upon, all the surface water either having dried up totally or even if present at all were in a highly polluted state. Water samples were collected and analysed while a silver lining in the cloud is that arsenic is absent. The water supply scenario has found to be totally unsatisfactory.

## **Introduction**

The pre-monsoon months of March, April and May are the most critical months in India from the point of view of availability of water - both from the point of view of quantity and from the point of view of quality. Most of India has three seasons, summer, monsoon and winter with the winter and summer seasons being totally devoid of rainfall except for states like Tamil Nadu which have rain from the North-Eastern monsoon. It is absolutely necessary to bring potable and irrigable water to villages throughout the year. The monsoon season, being wet, poses no problem in terms of quality and quantity of water. The greatest challenge is to deliver adequate water of acceptable quality to the villages in the summer.

## **Analysis and Discussion**

In certain parts of India, the inadequacy of water supply in summer is very severe. In such areas, irrigation canals are dried up, ponds have a very low level of water and water in the ponds is very polluted and the only source of clean water is deep tube wells. Because the groundwater level goes down tremendously in the summer, the discharge from the deep tube wells also decreases and the groundwater available is not sufficient to fulfil everyone's need. Very understandably, villagers who are forced to bear such hardships in their day to day life as well as see their agricultural products being damaged resulting in a loss of income for them are very distressed and want to see their water problems solved. In addition to agricultural produce, poultry, animal husbandry and pisciculture are all income-generating activities for villagers are contribute to the economic well-being of villagers and all of these activities suffer during the extremely dry and hot summer. It must be kept in mind that a large proportion of India's population lives in villages and rural development is a top priority. Since water is an indispensable necessity, all efforts should be made to provide villagers adequate water.

A survey was conducted on 8th March, 2000, by the first author to investigate the condition of water resources in the villages of Badesola, Jogmohanpur, Haripur and Chhoto Chowghora of Hooghly district of West Bengal. Sixteen samples of water were collected. The location of the water sources from which the samples were collected are given in Table I. The survey revealed a very dismal picture from the point of view of water supply. As is typical of March, it was very hot, dry and sunny. The irrigation canal in the area was totally dry with not a drop of water. Ponds had very low water level and the water was very polluted and contaminated. It was observed that domestic animals like cows and goats discharge their wastes besides the ponds and the huge Biochemical Oxygen Demand (BOD) of the ponds resulted in an immense growth of bacteria and other pathogens in the ponds. Domestic animals who drank water from these ponds invariably fell sick. The water of the ponds was totally unfit for any use by humans.

It was seen that agriculture was also suffering. Fields of aubergine and other vegetables were drying up due to lack of water causing great economic hardship and distress to their owners. Very understandably, the suffering villagers were in an unhappy state of mind.

The only clean and safe source of water supply observed was from a government-owned deep tube well located in the middle of a large agricultural field. The deep tube well was housed in a pump house and the water output from the deep tube well was fed to three horizontal pipes which made an angle of 120° with each other. Each pipe had a valve at its upstream so that each pipe was supplied water every third day. Because the groundwater level had gone to a very low level, the water output from the deep tube well was insufficient to satisfy everyone and the groundwater has to be rationed. The groundwater rationing schedule was fixed by the government and every farm went dry for two days. With such a denial of irrigation, most crops had withered.

These test reports have been given in Table II. It is clear from the table that there is no arsenic contamination in water in these villages. It is also clear that there is no saline water intrusion into the aquifer underlying Hooghly district.

**TABLE I**  
**DETAILS OF THE SAMPLES COLLECTED**

Sample No.	Plot No.	Mouza	Pond/ Tubewell	Depth (ft.)	Owner	Remarks
1	1291	Jogmohanpur (26)	DVC Canal		Govt.	Canal was completely dried up
2	582	Jogmohanpur Manuapara	Pond	5 ft.	Sitanath Manna & Others	Pond was highly polluted
3		Baro Chowghora (27)	Hand Tubewell	180 ft.	Govt.	-
4	922	Jogmohanpur	Hand Tubewell	180 ft.	Sudhir Chak.	-
5	611	Badesola	Hand Tubewell	180 ft.	Panchayat	-
6	536-539	Chhoto Chowghora	Hand Tubewell	180 ft.	Panchayat	-
7	437	Chhoto Chowghora	Hand Tubewell	180 ft.	Panchayat on Land of Dhananjoy Karar	-
8	634	Chhoto Chowghora	Pond	6 – 6½ ft.	Jamini Hazra	Pond was highly polluted
9	Road	Chhoto Chowghora	Hand Tubewell	180 ft.	Panchayat	-
10	Pond 639	Chhoto Chowghora	Pond	15 ft.	Lalit Mohan Bak	Pond was highly polluted
11	-	Chhoto Chowghora	Pond	6½ – 7 ft.	Satya Hazra	Pond was highly polluted
12		Chhoto Chowghora	Pond			Pond was highly polluted
13	-	Haripur	Hand Tubewell	40 ft.	Sudhir Pal	Totally dried up
14	227	Haripur	Pond	10 – 12 ft.	Betel Pond	Pond was highly polluted
15	178	Haripur	Pond	10 – 12 ft.	Banerjee	Pond was highly polluted

16	571	Jogmohanpur	Hand Tubewell	250 ft.	Jayanta Kumar De	-

**TABLE II**  
**TEST REPORTS**

Sample No.	pH Permissible 6.5-8.5	Specific Conductivity In Micromhos /cm at 25 <sup>0</sup> C	Bicarbonate (HCO <sub>3</sub> ) in ppm	Chloride (Cl) in ppm	Total Hardness (as CaCO <sub>3</sub> in ppm) Permissible 300	Chloride( in ppm)/[Carbonate(in ppm) + Bicarbonate(in ppm)]	Iron (Fe) in ppm Prm. 0.3	Arsenic (as in ppm) Prm. 0.05	Total Dissolved Solids (TDS) in ppm Permissible 500
1.	7.12	280	170	10	60	0.043	0.33	NIL	182
2.	7.90	2070	960	250	340	0.192	1.94	NIL	1346
3.	7.36	782	620	20	320	0.021	n.d.	NIL	508
4.	6.85	2660	830	550	580	0.390	8.88	NIL	1730
5.	7.36	756	600	30	260	0.035	0.08	NIL	498
6.	7.30	848	650	20	340	0.020	n.d.	NIL	558
7.	7.34	792	550	20	300	0.024	n.d.	NIL	616
8.	6.98	380	130	50	80	0.238	1.57	NIL	248
9.	7.29	810	620	20	310	0.022	n.d.	NIL	526
10.	7.60	602	150	80	70	0.364	n.d.	NIL	392
11.	7.20	832	330	100	110	0.227	2.90	NIL	540
12.	7.85	2260	650	280	500	0.243	n.d.	NIL	1470
13.	6.60	2240	400	320	480	0.364	n.d.	NIL	1456
14.	7.91	1350	640	160	100	0.216	n.d.	NIL	878
15.	8.00	415	160	20	120	0.071	n.d.	NIL	270
16.	7.07	1764	760	220	550	0.168	3.29	NIL	1146

Note : n.d. = not determined.

## **Conclusion**

Possible saline water intrusion into the aquifer underlying Hooghly district is possible and was investigated. The chloride-bicarbonate/carbonate ratio is a good indicator of saline water intrusion. This ratio was found to be quite small indicating that no saline water intrusion has taken place in this aquifer. This is natural as Hooghly district is not close to the sea. Also, no arsenic was detected. Having said that, the water availability scenario was found to be dismal. The only clean water detected in the survey was ground water. Surface water sources were either totally dried up or highly polluted and no possible use can possibly be made of such polluted water. The groundwater available was also scarce and insufficient to meet the needs of the people. Therefore, the groundwater has to be rationed. This surely reflects a very sorry state of affairs and measures need to be taken to redress this situation. The iron content in aquifers is significantly above the permissible limit. The higher iron content can lead to soil acidification and even loss of availability of phosphorus and molybdenum which can be detrimental to crops. The Government must not be an indifferent spectator to the plight of the village people and must take measures on a war-footing to ensure that villagers get sufficient quantity of water of acceptable quality throughout the year.

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