



# **A Report on Arsenicosis in District Ballia, Uttar Pradesh**

**(Feb. 08-10, 2011)**

# WSSO

**Water & Sanitation Support Organization, U.P.**

**State Water & Sanitation Mission**

**(Department of Rural Development, Govt. of UP)**

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# **A Report on Arsenicosis in District Ballia, Uttar Pradesh**

**(From 08-02-2011 to 10-02-2011)**

In the meeting of State Level Scheme Sanctioning Committee (SLSSC) held on 28<sup>th</sup> January, 2011 Secretary, Rural Development Department/ Chairman, State Water and Sanitation Mission (SWSM) directed the Water and Sanitation Support Organization (WSSO) to conduct Survey of Arsenic affected area of District Ballia, to assess the extent of problem and the status of remedial measures.

Thus a visit to district Ballia was made by Dr. A. B. Shukla, Consultant WQ, WSSO from 08-2-2011 to 10.2.2011 with the objective:

1. To assess the extent and severeness of Arsenicosis.
2. To know the mitigation strategy adopted by U.P. Jal Nigam for Arsenic problem in ground water as well as to evaluate its effectiveness.
3. To know status of Pipe water schemes and its use.
4. To assess the status of awareness and public participation in the schemes.

## **Places visited:**

1. Gangapur water supply scheme.
2. Keharpur water supply scheme.
3. Daya Chhapra water supply scheme.
4. Bahuara water supply scheme.
5. Noor pur water supply scheme.
6. Dalan Chhapra water supply scheme.
7. Chain Chhapra water supply scheme.



**Over head tank for Ganga Pur Pipe Water Scheme**

## Observations:

1. Arsenic is found in those Hand pumps, which draw water from the aquifer encountered at 50- 75 feet below ground level (bgl). This has been confirmed by Arsenic testing kit in Turha tola of Chain Chhapra village where 110 ppb of Arsenic was found. Cases of Melanosis were also observed.



**Arsenic testing of water sample by FTK**



**Red colour shows the presence of Arsenic in water sample.**

2. During the course of investigation in Turha tola of Chain Chhapra village, cases of Melanosis were observed with manifestation of white spot on legs and abdominal region in a numbers of persons belonging to different age groups.



**White spot ( Melanosis) found on body due to consumption of Arsenic contaminated**

3. Jal Nigam provides safe potable water in Arsenic affected habitations through Hand pumps installed on deep bore wells, tapping potable water aquifer, or attachment for treatment of Arsenic and Pipe water




**Deep bore Hand pump & tap connection in Arsenic affected village of Gangapur, District: Ballia**



**Installation of Arsenic Removal Units by Jal Nigam to provide Arsenic free water**

supply schemes. In order to confirm these findings, few hand pump samples were also tested through Arsenic testing kit ( **Make: Chemo Corporation, Pune, India** ).

4. In most of the habitations where the pipe water scheme is present, people fetch water from public stand post. Only few domestic connections have been taken by the villagers. Unserved habitations have been covered by Deep bore India mark-II hand pumps.
  5. Community awareness is low in most of the habitations, as due to lack of awareness, villagers have broken down the plastic pipe lines of water supply or the stand posts.
  6. Due to lack of awareness, villagers are reluctant to use the Hand pump Arsenic removal attachment.
  7. Discussions were held with people of Chain Chhapra, Noor pur and Gangapur villages, regarding formation of Pani Samati for management of water supply schemes, to which they have agreed.
  8. It was also observed that at a few places, connections are loose due to high pressure in pipe line.
  9. District Laboratory of U.P. Jal Nigam was also visited. They have Spectro photometer for Arsenic testing and Chemist uses it for confirmatory tests.
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10. Shared the information regarding completion of water supply schemes, with U.P. Jal Nigam Officials which were marked on the Integrated Management Information System (IMIS ver: 2) available on Government of India website [www.ddws.nic.in](http://www.ddws.nic.in). There were a few schemes which were completed, but the status on the website was not updated.

**Suggested Follow up Actions:**

- A mass awareness programme and capacity building campaign must be launched in Dist. Ballia at the earliest. Inter personal communication and other media of communication must be used to spread the importance of using Arsenic removal units (ARU), safety of water supply schemes and their management.
- Water security plan at village level must be prepared.
- Strengthening of District laboratory required.
- Capacity building of the Chemist to test other parameters e.g. Fluoride, Nitrate and Iron by using Spectrophotometer is also required.
- Appropriate status of schemes to be updated on the IMIS ver: 2 on [www.ddws.nic.in](http://www.ddws.nic.in) web site.

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