



## Report of the Consultative Workshop on Arsenic Contamination in Groundwater of Tihuria

By The Researcher



**Project: Shifting Grounds**  
**Supported by Arsenic Knowledge and Action Network**

**Venue: Diksha Bhavan, Ramakrishna Mission Ashrama**  
Narendrapur, West Bengal

**Date: 14 September, 2017**

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Mr. Chandi Charan Dey

Dr. Kunal Majumder

Mr. Aniruddha Dey

#### **PANCHAYET SAMITY REPRESENTATIVE**

#### **SUMMARY**

## **BACKGROUND**

### **Continuation from 30<sup>th</sup> April Workshop**

To begin with, an Arsenic training-cum-awareness workshop was held to generate awareness on arsenic contamination, its effect on human body and probable ways to face the menace. The workshop attended by members from the community, women's Self Help Groups, local youth clubs, ASHA health workers and the panchayat had been quite useful as arsenic experts (including a community medicine doctor) explained in details the danger to human health posed by arsenic, the invisible enemy, in groundwater and what might be the probable methods to evade or eradicate the contamination. It was agreed upon in the workshop that as a first step towards facing the menace, groundwater in the village needed to be tested in order to check arsenic presence in it.

### **Field level Arsenic Testing**

To facilitate water testing, an arsenic test kit of the Merck Company was purchased and used to check the quality of water drawn mainly from domestic hand pumps that were being used for drinking and/or cooking purposes. The testing exercise, participated by some community members and local health workers, was simultaneously utilized for awareness generation with the help of printed materials and practical demonstration of the arsenic detection method. In the Kit tests, 17 out of 40 samples were found having arsenic contamination above the permissible level. These 17 samples along with 6 more samples drawn from government tube wells were tested in the PHED accredited laboratory at Ramakrishna Mission, Narendrapur, where 9 samples, drawn from domestic hand pumps, were confirmed to have arsenic above permissible level.

## **Consultative Workshop with the Test Result**

With these results in hand, one Consultative Workshop was organized on 14 September 2017, where arsenic mapping (marking the test results in different colours on the Google map of the village) was presented along with probable remedial measures that can be implemented. The workshop was attended by a good number of panchayat members along with members from the community and Village Water and Sanitation Committee (VWSC).

Interestingly, we came to know about the formation of VWSC under the National Rural Drinking Water Programme only after contacting the Block Development Officer (BDO) of Sonarpur to invite him in our workshop. Such committees were supposed to be formed and function in the state, district and panchayat levels to implement rural drinking and sanitation programmes. The BDO suggested to involve the committee in our activities and also presented us with the list of the committee members, which was headed by the Panchayat Pradhan.

In the workshop, a member from each of the 9 families whose shallow hand pumps water was detected with arsenic above the permissible level was invited. The ASHA health workers could be involved in discussing with these 9 families about the health problems caused by the consumption of arsenic contaminated water and the importance of attending the consultative workshop. 7 members from these 9 families participated in the workshop and showed interests in future activities. The Researcher team invited people, resource persons, and experts from different strata with the vision of bringing all of them on a common platform to discuss solutions to the long-standing water quality issue of the locality.

## SCHEDULE OF CONSULTATIVE WORKSHOP

Venue: Diksha Bhavan, Ramakrishna Mission Ashrama, Narendrapur

### Morning Session

10:00 AM	Welcome and registration
10:30 AM	Inauguration by The Secretary Maharaj, Ramakrishna Mission Ashrama, Narendrapur.
10:45 AM	Introduction by Partha Sarathi Banerjee, The Researcher
11:00 AM	Introduction of the participants
11:15 AM	Presentation of the test reports regarding presence of arsenic in groundwater of Tihuria by Binoy Majumder.

11:45 AM                      Tea break

### Pre-Lunch Session

12:00 AM	Group discussion on resolving the issue of arsenic
12:30 AM	Wrap up of group discussions

1:00 PM- 2:00 PM Lunch break

### Afternoon Session

2:00 PM	Presentation of summary of discussions by the group representatives
3:00 PM	Discussions by the experts and government officials on meeting the challenges of Arsenic.
4:00 PM	Wrap up of the discussions
4:30 PM	End of the workshop

## WORKSHOP PARTICIPANTS

Name	Position	Relationship with the Project
Amalendu Mondol	Farming	Arsenic detected HH member
Bhadra Kanta Mondol	Farming	Arsenic detected HH member
Bhombol Koyal	Farming	Arsenic detected HH member
Gopal Mondol	Farming and fishing	Arsenic detected HH member
Gurupada Mondol	Farming	Arsenic detected HH member
Kashinath Mondol	Farming	Arsenic detected HH member
Somnath Mondol	Farming	Arsenic detected HH member
Shyamali Naskar	ASHA	ASHA Health Worker
Pratima Mondol	ASHA	ASHA Health Worker
Tapan Sardar	Farming and fishing	Community member
Subha Halder	Farming and fishing	Community member
Baidyanath Biswas	Farming and fishing	Community member
Bishajit Middy	Business	Community member
Madan Mondol	Business	Community member
Sadhan Mondol	Business	Community member
Sukhen Mondol	Student	Community member
Surjakanta Koyal	Farming	Community member
Sushanta Manna	Driving	Community member
Sandip Barman	Farming	Community member
Aniruddha Dey	PRISM Kolkata	Expert
Prof. Dr. Kunal Kanti Majumder	Community Medicine Department, KPC Medical College	Expert
Chandi Charan Dey	RK Mission ASP, Co-ordinator WATSAN	Expert
Sourish Kr. Ghosh	Sub-Assistant Engineer, PHED, Sonarpur Block	Govt. Official
Abinash Mondol	Member, Kheyadah - I Gram Panchayet	GP Member
Krishna Singha	Member, Kheyadah - I Gram Panchayet	GP Member
Sari Bala Bar	Member, Kheyadah - I Gram Panchayet	GP Member
Manish Maskara	Associate Fellow SacciWaters	Guest
Swami Sarbalokananda	Secretary, Ramakrishna Mission Ashrama, Narendrapur	Guest and inaugurator
Bapon Manna	Driving	Member of one of the youth clubs of Tihuria

<b>Tapas Manna</b>	Business	Member of one of the youth clubs of Tihuria
<b>Sushit Ghoshal</b>	Kamadhyaksha, Krishi, Panchayet Samity Sonarpur	Panchayet Samity Representative
<b>Durga Bala Mondol</b>	Homemaker	Self Help Group member
<b>Nanda Rani Mondol</b>	Homemaker	Self Help Group member
<b>Rupa Mondol</b>	Homemaker	Self Help Group member
<b>Shampa Mondol</b>	Homemaker	Self Help Group member
<b>Shrabonti Mondol</b>	Student	College Student
<b>Gorachand Naskar</b>	Pradhan, Kheyadah - I Gram Panchayet	VWSC (Chairman of the Committee)
<b>Bhanu Mati Ghorui</b>	Member, Kheyadah - I Gram Panchayet	VWSC (Committee Member)
<b>Sandhya Naskar</b>	Member, Kheyadah - I Gram Panchayet	VWSC (Committee Member)
<b>Aloka Naskar</b>	ASHA	VWSC (Committee Member)
<b>Latika Bar</b>	Member, Kheyadah - I Gram Panchayet	VWSC (Committee Member)
<b>Tinku Mondol</b>	Panchayet Samity Member, Sonarpur	VWSC (Committee Member)
<b>Sanjoy Mondol</b>	Sanchalak-Siksha-o-Janasastha, Kheyadah - I Gram Panchayet	VWSC (Vice-Chairman)
<b>Prohlab Naskar</b>	Day Labourer	VWSC (Water Facilitator)

## WORKSHOP ACTIVITIES

### Inauguration of the Workshop

The workshop was inaugurated by the Secretary Maharaj of Ramakrishna Mission Ashrama, Narendrapur. He welcomed all the participants and praised the noble initiative taken by the project team and the villagers together. He expressed his hope that this initiative will be able to solve the existing drinking and cooking water problem in the highly arsenic endemic areas. He praised



**The Secretary Maharaj of Ramakrishna Mission Ashrama Inaugurating the Workshop**



the effort of the project team to collect samples from household tube wells and got them tested in the laboratory. He expressed his hope that this will encourage the other households to test their tube wells as well.

**Summary of the participants**

<b>Arsenic detected household members</b>	7
<b>Community members</b>	10
<b>ASHA Health Workers</b>	2
<b>Self Help Group (SHG) Members</b>	4
<b>Youth Club members</b>	2
<b>VWSC Committee members</b>	8
<b>Gram Panchayet. Members</b>	3
<b>PHED Sub-assistant Engineer</b>	1
<b>Doctor of Community Medicine</b>	1
<b>Water Specialist from Ramakrishna Mission</b>	1
<b>Head of PRISM, NGO (Household Water Treatment and Storage)</b>	1
<b>Panchayet Samity</b>	1
<b>College Student</b>	1
<b>Official from Arsenci Knowledge and Action Network</b>	1

**Information Education and Communication (IEC)**



Health cards with illustrations of various symptoms of arsenic contamination participants along with the workshop programme were distributed in the beginning.



## Presentation of the Arsenic Mapping

After a brief introduction and welcome address by Partha Sarathi Banerjee, Binoy Majumder made a sort presentation narrating the activities undertaken since the training cum awareness workshop of 30<sup>th</sup> April. It was explained to the participants how the project team randomly selected 40 households from different parts of the village, and collected water samples from their domestic hand pumps and tested those with the arsenic testing kit. Then the map showing all the sources, from where water had been collected and tested with identification the sources in different colors was presented. The safe sources were marked in green, the hand pumps that showed arsenic presence above permissible level in arsenic kit tests were shown in yellow and those detected as arsenic affected in the laboratory tests were marked with red colours.



Arsenic Map of Tihuria Village

After the presentation, the session became more interactive as the villagers and the GP members opined that they would talk with their neighbours and other villagers about the finding, and advise them to test their tube wells in laboratory.



**Presentation of the Arsenic Map of Tihuria Village**

The Gram Panchayet members, and members of the VWSC committee, most of them representing other villages of the Kheyadah-I Gram Panchayet, commented that the arsenic map had been elucidating in conveying a message that water samples from tube wells of their respective villages should also be tested for arsenic. As the all the villages of Kheyadah-I Panchayet are located in the arsenic endemic area, there is a chance of arsenic contamination in the domestic tube wells in the whole area.

In course of this interactive session, villagers informed that water from their domestic tube wells is the major source for their domestic work and cooking and they heavily depended upon these tubewells. They wanted to know what they should do to make their water usable and safe.

In continuation of the presentation Binoy displayed and discussed various models of arsenic removal Bio-Sand Filters, which were being used in different parts of the sub-continent. Photographs of models are displayed, and function of the filters was described. Participants showed keen interest and



**Delivering Information on Arsenic Removal Bio-Sand Filter**

they enquired how to acquire such a filter. G.P. members and VWSC members opined that introducing such types of filter would immensely benefit the community. Participants were informed that components of such filters are available in the local market and given proper training, every household can make such a filter by themselves.

At the end of the presentation, 3 topics were put forward and participants were requested to form 4 separate groups and discuss those topics among themselves. Groups were formed in a way so that every group has a mix of ASHA Health workers, VWSC members, GP members, SHG members, and community members. Members of The Researcher worked as facilitator and led the discussion. Key points from the discussion were written down on papers by one member from each group. Afterwards those key points were displayed. One representative from each group presented the key points and explained the points.



Topics for group discussion





## Key Points from Group Discussion

### Angikar Group

**Sanjoy Mondol, Chandrakanta Mondol, Gopal Sau, Surjakanta Koyal, Amalendu Mondol, Madan Mondol, Bhombol Koyal, Bhanumoti Ghorui**

1. Awareness about health and arsenic issue is necessary for all. We shall make others aware about it.
2. We have to regularly test our tube well water for Arsenic, and advice others to do the same.
3. We would use arsenic removal filter and shall advise others to do the same.
4. We would use safe sources for drinking and cooking purposes.
5. We shall advise other not to waste water.
6. The villagers should appeal to the relevant department for supply of adequate safe water.
7. We would talk with the Panchayet Pradhan and apply to the BDO so that every HH could get arsenic removal filter.
8. A village committee need to be formed to fulfill the mission of safe water.



### Asha Group

**Prahlad Naskar, Baidyanath Biswas, Sandhya Naskar, Shampa Mondol, Shyamali Naskar, Biswajit Middye, Sari Bala Bar, Krishna Singha, Shrabranti Mondol**



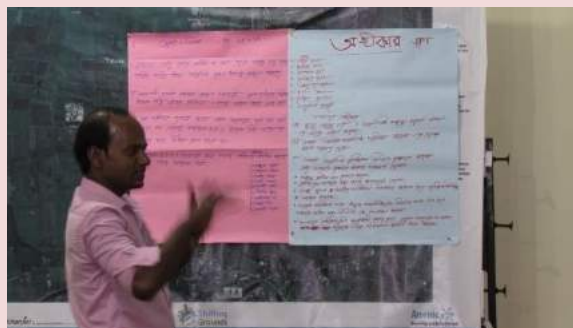
1. A committee or group should be formed inside the village that will visit different HHs and make the villagers aware about arsenic poisoning.
2. ASHA health workers should take special initiative to generate awareness about the arsenic problem.

3. As every HHs of the village is not solvent enough to test their water regularly, we should appeal the Gram Panchayet and the BDO office in this matter.
4. As every HH is not capable of purchasing filters, hence some kind of support is required.
5. The committee if formed should talk with the Gram Panchayet and the BDO office for the supply of enough safe water inside the village.

### **Narmada Group**

***Nandarani Mondol, Gurupada Mondol, Tinku Mondol, Rupa Mondol, Somnath Mondol, Pratima Mondol, Durgabala Mondol, Abinash Mondol, Kashinath Mondol***

1. We need to do regular arsenic testing of our tube wells and should advise our friends and neighbours to do the same.
2. ASHA workers of the village have talked with the different HHs of the village regarding the importance of water testing. Many HHs are interested for the testing. But the main problem for them is collection of sample and submitting the same in the RKM laboratory in time although most of them are capable of paying the laboratory charge for the test.
3. We should make our neighbours aware about arsenic poisoning and discuss among ourselves during Self Help Group meetings, and club meetings about how to remove arsenic and make domestic tube well water usable for cooking and drinking.
4. We have learned about a very important thing regarding arsenic removal filter. A filter if we can make at our house will be very useful in our village. It will be highly beneficial for the villagers if we are provided training on how to make arsenic removal filter at home.



### **Sujala Group**

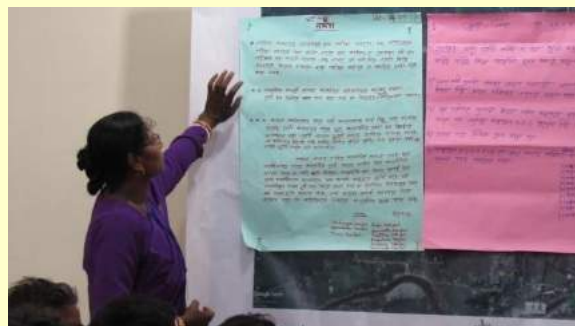
***Latika Bor, Aloka Naskar, Tapas Manna, Sandip Barman, Sukhen Mondol, Sushanta Manna, Bapon Manna, Narayan Haldar***

1. We should make our friends and neighbours aware though discussion with them about arsenic contamination in tube well water. We may do it with the help of ASHA health



workers.

2. Water from the panchayet tube wells should be tested regularly.
3. Water quality issues should be raised and discussed regularly in the Gram Sabha/sangsad Meetings.
4. We should make our friends and neighbours aware so that they don't use arsenic contaminated water for cooking and drinking.
5. We can get safe water easily if any NGO/ institution takes initiative of supplying arsenic removal filters in affordable price.
6. The Self Help Groups and the Clubs in our village might take initiative for arranging water collection from tube wells and submit the samples to the laboratory. People will bear the cost of the testing if sample collection and submission to laboratory is done by the clubs or any other institution of their behalf.
7. The youths who are members of the clubs in the village should discuss the water issues with the villagers and take initiative for solving those issues.



### **Comments from the Experts**

After the presentation by the group representatives was over, Mr. Chandi Charan Dey, Dr. Kunal Majumder, and Mr. Aniruddha Dey were invited to give their reflections on the key points presented by the group representatives.

#### **Mr. Chandi Charan Dey**

Mr. Dey praised the idea of water testing activity by the community themselves. He opined that this is a shared responsibility. And the community should form a group and collect fund for water testing and collect the sample, and submit for lab testing in a group. The work will not have





much impact if the work is done individually. Testing water as a group will ease the process of sample collection as well as generate mass awareness and inspire other communities to follow the step. He also emphasized on performing micro-bio test of the tube well water. He told that majority these shallow hand pumps have boring ranging between 20 to 80 feet. Groundwater aquifer in such depth has a high chance of the presence of micro-bio along with arsenic. He said that the combined impact of micro-bio with arsenic will worsen the present scenario. He again emphasized undertaking the water testing work as a collective initiative by the community.

### **Dr. Kunal Majumder**

Dr. Majumder told that the people should take initiative for solving the arsenic issue. He praised the work of the ASHA health workers in Tihuria village. He suggested that the work of ASHA health workers will



not only generate awareness, but also find ways to come out of the existing problem. He told the members of the households whose tube wells were detected with arsenic presence at harmful level not to use their water for drinking and cooking. He requested the community to use the PHED piped supply water. He told that the map showing the safe and unsafe sources is very important to decide which water should be used and which water should not be. He requested community members to use the Panchayet tube wells and PHED water only. He told that if no other sources are available then use filter. Community filter is another option where the community maintains the filter by their collective contribution. He again warned against the consumption

of arsenic contaminated water by reminding the participants about the discussion on 30<sup>th</sup> April's Training-cum-awareness workshop in the Panchayet office.

### **Mr. Aniruddha Dey**

Mr. Dey opined that access to safe water is a right for the people, and the community has to work together to secure their right. He told that the packaged water plants are not an option for solving the water problem. He



expressed his concern about the depleting groundwater level. He insisted on using surface water by making it safe and usable through proper treatment. He opined that filtration of water is not enough, the need is to find ways to purify it. Water treatment and safe storage is a must.

### **PANCHAYET SAMITY MEMBER** Mr.

Sushit Ghoshal, Kamadhyaksha, Krishi, Sonarpur block, took part in the discussion after the experts. He praised the work which was done in Tihuria so far. He thanked the project team for



bringing the issue of arsenic into the attention of the community members. Water testing work has generated much awareness and curiosity among the other villages of the Kheyadah-I Gram Panchayet. Gram Panchayet members from other villages attended the training workshop. He expressed his hope that these participants would convey this knowledge to their gram sansads. Community members from those villages need to test

their water for arsenic. He told the participants that people must be made aware about the danger of the arsenic. He thanked the project team for the health cards where the symptoms of arsenic contamination were illustrated. He requested the ASHA health workers to spread the knowledge among the houses they visit. He requested the Project team to hold a training program regarding arsenic removal filter which the community members could make by themselves. He also opined that if any institution/NGO could supply the filter at low prices, many of the villagers would buy it. He also requested the project team not to confine their work in one village only, but spread the work into other villages of the Gram Panchayet.

#### **SUMMARY**

Mr. Partha Sarathi Banerjee summarized the workshop proceedings thanking all for participating in the day-long meeting. He requested the community members not to stop at this point. He requested the



youth club members, SHG members, community representatives to continue the work, which was started by the project team. Tihuria village have only one representative in the VWSC committee. It is not easy for the VWSC representative to work alone. He requested the SHG members, youth club members and other community members to help her. With the help of the community, the VWSC will function properly and reflect the requirement of the village. Formation of village committee might help in smooth functioning of the VWSC committee. He requested the youth club members to take up the water testing work as a social initiative. A collective initiative will solve the

present problem of sample collection and submission for laboratory testing.

