

Strengthening of Water Quality and Health Resource Centre and its Challenges

Date: 17th July, 2015

Venue: Water Quality and Health Resource Centre, Guwahati, Assam

A meeting was held on 17th July, 2015 at the **Water Quality and Health Resource Centre**, Guwahati to discuss about the progress made up by the Resource Centre since it was set up, ways to strengthen it, challenges and ways to move forward. It was a first of its kind meeting after the formation of the Resource Centre where all the stakeholders came together to chalk out a plan for the future.

Background

Looking at the need and in an attempt to make a beginning towards converging knowledge, experiences and activities together; the two networks, i.e. the Arsenic Knowledge and Action Network and the Fluoride Knowledge and Action Network organized meetings with the intention of moving towards a “Resource Centre for Water Quality and Health Issues in Assam” from 9th to 13th march, 2015. Government Departments (Water and Sanitation Support Organization, Public Health Engineering Department, Health and Family Welfare Department), Civil Societies (various NGOs and citizens), Academics (Several departments of Gauhati University, Cotton College, IIT-G, and other colleges) and UNICEF participated in the meetings and also endorsed the setting up of Water Quality and Health Resource Centre at Guwahati, Assam. The main way forward for the Water Quality and Health Resource Centre were seen to be as:

- It would not only bind all efforts on water quality but also enable different actors to organize and collect together, access as well as use all information and act.
- Centre for Microfinance and Livelihoods (CML) in Guwahati had agreed to incubate the centre for a period of one year.
- We saw the resource centre constantly being fed with information that would come in through different actors and the information being made available and being used by a variety of actors for their different purposes
- Better communication with all stakeholders was an important need expressed by the Water as well as Health departments. We plan to enable this through a partnership with these departments in several Water quality affected districts. The idea is to engage with existing government efforts, understand the communication gaps and try to fill it, in order to evolve a communication strategy for Water quality issues in Assam. Eco Concepts would be coordinating this activity on behalf of the networks under the banner of the Resource Centre.
- The placement of this Resource centre within the current institutional landscape of Assam is important. An initial study of institutions and their roles will be done to bring out what is already happening on this front in Assam and how we could come in to bring out a focused effort. Aaranyak will be coordinating this effort on behalf of the networks under the aegis of the Resource Centre.

Objective

Following were the objectives of the meeting:

- Discuss way forward for the Resource Centre
- Try to bring individual works in the field of water quality by different stakeholders under one umbrella and centre them around the Resource Centre
- To decide on the affiliation of the Resource Centre
- To initiate ideas to complement individuals and organisations working in the field of water quality
- To make Resource Centre more resourceful
- Ways to accommodate Interns and necessary support for the Resource Centre
- Ways to get government and other agencies interested in the resource centre

Agenda

3:00 PM	Welcome address by Partho Patowari, CML Moderation over to Partha Jyoti Das, Aranyak
3:05 PM	Round of Introduction: Few lines on area of work and the reason that interests you to attend this meeting
3:20 PM	A brief about the growth of the Assam Network since last two years and its activities by A.B Paul
3:30 PM	A detailed discussion by all the participants on ways to Strengthen the Water Quality and Health Resource Centre and its Challenges
5:00 PM	Observation by Samhita Borooah, TISS
5:15 PM	Consensus on four focus areas for the next month moderated by Partha Jyoti Das, Aranyak
5:30 PM	Film Screening: Tale of Tapajuri, a film on Fluorosis
5:40 PM	Vote of Thanks by Nilutpal Das, Eco Concept

List of Participants

Name	Organisation
Partha J Das	Aranyak
AB Paul	Retd. PHED Executive Engineer
BP Sarma	Retd. PHED Chief Engineer
Dr Arundhati Deka	Directorate of Health Services
Samhita Borooah	TISS
Moharana Chaudhry	Tezpur University
Nripendra Kr. Sarma	PHED, Assam
Dharani Saikia	Community Worker
Nayan Das	Aranyak
Dr Rubi Kataki	Regional Dental College
Manik Ch. Baruah	C-NES
Dr Abhinandan Saikia	TISS
Kishalay Bhattacharya	A.E (PHE)
Dr Mamata Goswami	Dept. Zoology, Cotton College
Partho Patowari	CML
Usha Dewani	India water Portal
Nilutpal Das	Eco concept
Jyotirmay Das	saciWATERS, Hyderabad
Jyotishmita Devi	IRMA, Gujarat

Proceedings of the Meeting

Mr. Partho Patowary from Centre for Microfinance and Livelihood (CML) gave the welcome address. He began by giving a short introduction to CML's work in the areas of livelihoods and natural resource management and mentioned that water is also an important component of the work they do in collaboration with Tata Trust. He said that the need for a Resource Centre on water quality was long felt in Assam where people from diverse backgrounds could come together and share ideas to improve the state of water in Assam. He then welcomed all the participants and congratulated the whole group for coming together which was long due to unite on the issue of water quality. Mr Partho Patowary pointed out that at the end of meeting we should come up with three to four achievable goals that the group can take up for the next one or two months. He then requested Mr Partha Jyoti Das of Aaranyak to take over as the Moderator.

Mr Partha Jyoti Das at the onset officially endorsed on behalf of the Resource Centre that Nilutpal Das from Eco Concept is the Coordinator of **Water Quality and Health Resource Centre**, Guwahati which was not done earlier. After that he asked all the present to introduce themselves and also speak about their work related to water quality.

After the round of introduction, Mr. AB Paul, Retired. Executive Engineer, PHED, narrated the story of Arsenic and Fluoride study in Assam and what led to the origin of the Resource Centre. Mr. Paul started by saying that microbiological contamination has always received more attention than geogenic contamination. This is mainly because disease due to microbiological contamination in water is more prevalent but at the same time diseases due to geogenic contamination are also causing havoc in the lives of millions of people across the world. Therefore we should also pay attention to geogenic contamination of water. To achieve good health for all the PHED and Health departments came into existence in Assam. He then described how he would go to the villages in Assam with Dharani Saikia, a Community Worker and work with the community identifying cases of Fluorosis and Arsenicosis. He also described his meeting with Mr.

Sunderrajan Krishnan and Mr. Rajnarayan Indu and about his experiences in Delhi during a conference on Fluoride in 2013. In that conference the cause of Assam was taken up. It was declared in the conference to launch a campaign in Assam called, "Unite for Assam: Unite for Water". A report was prepared after visiting fluoride affected villages in Assam. After that a meeting was conducted in Kolkata supervised by the American Water Association. Through this meeting the cause of water quality of Assam was taken up on an international platform. A case study of Jhabua in Bihar where the affect of Fluorosis was found to be reversible inspired Mr Paul and his team. With close partnership with INREM, Mr. Paul started facilitating PHED in Assam to work towards providing safe water to the people and also provide micronutrient supplements. Due to this intervention there have been at least four success stories in Tapatjuri area of Nagaon district in Assam. He also congratulated the Health Department on coming forward to coordinate with the Resource Centre. Mr. Paul also mentioned that one of the main jobs of the Resource Centre would be to facilitate and support the Fluorosis mitigation programmes of the PHED, Health, Nutrition departments and NRHM. He also said that Manganese is another metalloid which is found in Assam's water beyond the permissible limit along with Arsenic and Fluoride. This problem also needs to be addressed. He further listed down what could be the reason for excessive contamination of groundwater in Assam. He holds Petroleum exploration and indiscriminate use of chemical fertilizers in tea gardens as possible reasons for excessive contamination. He concluded by saying that the above situations definitely has some story to tell about the increasing number of Fluorosis and Arsenicosis cases in Assam.

Next Mr. Partha J Das urged everyone to ask if they have any question or doubt regarding the stance and functioning of the Resource Centre. After that the stage will be open for suggestion on what should be the activities as a Resource Centre in the next couple of months. Mr. Nilutpal Das added that the meeting is more than just for planning activities for the Resource Centre. The meeting is also about discussing each one of our individual works related to water quality

management and try to arrive towards the end of the meeting at the possibility of bringing each one of our works under a common fold that is the **Water Quality and Health Resource Centre**. The meeting is also about trying to understand our individual works and how our work can benefit other members of the group present here.

Dr. Mamata Goswami, Department of Zoology, Cotton College pointed out her apprehension regarding variation in data testing results. During her study on the presence of Arsenic in groundwater, the data she found differed by huge margin from that of what PHED had found. She is at a loss as to how to correlate between different sets of data. Mr Nilutpal answers her query by saying that during the earlier meetings held in Tezpur, Jorhat and Guwahati it was discussed that there is no set protocol or system for data analysis, therefore everyone rejects each other's results. Dr. Mamata Goswami further mentioned that she had tested water from hand pumps which were maximum 60 ft deep and found Arsenic content whereas PHED tests water samples for possible Arsenic contamination from deep tube wells which are more than 120 ft deep. She identified that that could be a reason for the difference in the data.

Mr. Kishalay Bhattacharya, Assistant Engineer, PHED, explained that PHED employs a three-tier groundwater testing system for the presence of Arsenic. The first tier involves water sample testing by Arsenator at the field level. Then the water sample is sent to zonal level laboratories where it is tested through Spectrophotometers. Water samples with more than 50 ppb Arsenic are again crosschecked at the Central Laboratory to confirm the presence. He further said that there is very minimal chance of any discrepancy in the results of PHED.

Dr Mamata Goswami said that she had employed the AS testing method which is the latest and presently one of the most advanced techniques for water testing. To further corroborate her findings with PHED's findings she tested her water sample from the same source in PHED's laboratory which gave her the same result as earlier.

Mr. AB Paul explained that the system followed by PHED and other institutions to collect water is necessarily not the same and so the discrepancies may arise. PHED collects water samples from government approved sources whereas other institutions may collect samples from anywhere. It was a mandate of the PHED and UNICEF that only government installed tube wells had to be checked which were always at the depth of more than 120 ft.

Mr Nripendra Sharma from PHED reiterated the same point that the point source of the water from where the sample is being collected, the time of collecting the sample: during the boring, just after the boring or many days after the boring and seasonal change, knowledge and dedication of the field workers collecting water samples, all these factors can be responsible for variation in the end results. He cited a story about a river in Bihar called Babuniya which is contaminated with Arsenic against the common belief that surface water does not contain Arsenic.

Dr Abhinandan Saikia, Professor at TISS- Guwahati added to the point that water quality is not static but dynamic. It is also important to see the number of times water samples are collected from one point source. With the number of real estate mushrooming and with indiscriminate pumping of groundwater it is very likely to get diverse data from the same locations at different times by different testing institutions.

Mr. Nripendra Sharma agreed to what Dr Saikia pointed out and said that in such a situation it would be wrong on our part to generalize our thoughts and concepts about water testing. He emphasized on the utmost need to validate the data found by different institutions and to follow one set of accepted testing guidelines to arrive at some kind of conclusion.

Next, Mr Dharani Saikia, a member of Aaranyak and also an active Community Worker expressed his concern about the work of the Resource Centre. He made his apprehensions very clear in front of the group present. He said that we have had meetings where we have already discussed about water testing etc. but now that we have a Water Resource Centre we could focus our work more on the remedy. He listed down four suggestions that he considered could be the activities of

the Resource Centre. The first suggestion was to work in close collaboration with the PHED in providing safe drinking water to the community. Secondly, work in collaboration with the Health Department in providing medical assistance to the affected people. Thirdly, some livelihood options should be provided to the people who have been already paralyzed due to fluorosis. Lastly, to plan out on how to garner funds for carrying out the above three activities. Mr. Saikia further suggested that as a group it is high time we accepted that groundwater in most parts of Assam is contaminated and unhealthy and thereby move ahead towards solid mitigation strategies.

Mr. Partha J Das defended the argument saying that it is the first meeting of the Resource Centre and there are no clear agendums for the meeting and it is an open platform. Moreover the technicalities of water testing etc. are also important so we cannot totally ignore them. Mr. Das requested that some of the technical issues can be sorted out at individual levels and a more filtered version can be raised in the Centre. Next, Mr. Nilutpal Das added that the Resource Centre can help individuals and organisations interested to work on water quality issues financially and technologically. Partha J Das said that the organisations which helped in the formation of the Resource Centre, SaciWATERS and INREM and the funding agency, Arghyam did not give a specific mandate or a rigid structure on how the Resource Centre should run. Therefore the Resource Centre can be very flexible in its approach and innovative in its working style. He suggested all present that why not we set up our objectives from the meeting itself. He further suggested that the Resource Centre can become a facilitating centre for both Government agencies such as Health department, PHED, etc. and Academicians and NGOs to come together and work towards the common cause.

Dr. Arundhati Deka from the Directorate of Health Services suggested that the Resource Centre can itself become a Research Centre in coming times. Mr. Partha J Das also suggested that the Resource Centre can strengthen and support government agencies and NGOs working on water quality issues. The Resource Centre can provide capacity building workshop to government and NGO workers. It can also work towards addressing the information gap, reaching out to people who are

consuming highly contaminated water without their knowledge and make them aware of the issue. On the debate on membership of the Resource Centre he said that all the present in the meeting can be considered as members and members can keep adding on. We can be more accommodative and flexible in including other members. Anyone who has something to contribute towards the Resource Centre can be members of the Resource Centre. Next, Mr. Nilutpal Das asked what should be the affiliation of the Centre. On this Mr. Partha J Das said that the issue of affiliation should not arise because established civil society organizations like SaciWATERS and INREM have catalyzed this idea of a Water Resource Centre and they are behind us to foresee. He also feels that if in due course of time the Centre grows then it can become a registered society itself. So as of now we may not worry about affiliations. He also mentioned that the Resource Centre being housed at a reputed institution and peopled by individuals from reputed institutions has high credibility.

Mr. BP Sharma, Retd. Chief Engineer, PHED, said that he found fluoride in the groundwater of his own house in Guwahati. After people came to know that they started pestering him to check their groundwater too. Dr. Abhinandan Saikia asked Mr. Sharma if there has been any kind of zonification done on the presence of Arsenic and Fluoride in groundwater. Mr. Sharma replied to it saying that there has not been any zonification done of that sort. One reason could be that everyday newer places are coming to light which are found to be affected by Arsenic or Fluoride contamination. Mr. Sharma further said that Health department and PHED are two of the major departments and if they wish they can work together to solve the problem. There is also a communication department of the government which can also work for the awareness of the people. He said that he himself had developed so many communication materials which got lost somewhere. The need of the hour is to have someone to play the role of a watchdog, a facilitator or a coordinator.

Mr Partha J Das said that maybe we can expect that from this platform of ours. Next Mr. Nripendra Sharma said that the Research Centre can also look into the matters of policy advocacy. He mentioned that in many of the official meetings earlier he had suggested that

the anganwadi and lower primary school children could be provided calcium rich food under the mid-day meal scheme or otherwise. But it has not been carried forward by the Social Welfare Department or Anganwadi centres. May be we could do advocacy for this at the policy level. Next he explained about the dangers of using RO filters as how the waste water is discharged without taking any precautionary measure and the water seeps down under the soil from where deep tube wells draw water. This increases the concentration of Arsenic and Fluoride in groundwater. This has not been addressed by anyone. He also said that even in places where surface water is used or stored in reservoirs for future use should be periodically checked if they are contaminated at the source or after they are moved to reservoirs.

Next Mr. Partha J Das confirmed that there is a programme at national level on Fluoride but wanted to know if there is any policy on Fluoride. Mr. Nripendra Sharma replied that there is no policy as such but there is directives to find and use alternate source of water in Fluoride affected areas.

Next Mr. Dharani Saikia suggested that along with the Resource Centre acting as an information centre it could also house a laboratory to test water samples. Dr. Mamata Goswami pointed out the huge cost involved in setting up a laboratory. Therefore Mr. Saikia's suggestion to set up a water testing laboratory was kept as a long term mandate which may not be addressed immediately.

Next Dr Rubi Kataki from the Regional Dental College explained how she identifies the presence of Fluoride in water of a particular area. She said that if she encounters a case of Dental Fluorosis, she asks the patient from which area she or he belongs. Then she sends the water sample collected from that place to laboratory for testing. If the laboratory confirms the presence of fluoride she tries to find out for how long the people have been using that water. Consumption of that water for long period can also cause skeletal fluorosis. She suggested that if in future she encounters such issues she can intimate the Resource Centre about it and the Resource Centre can take matters further. The Resource Centre can work together with the Health and PHED department to address the

problem. She also said that the Nutrition department and Orthopedics can participate in the Resource Centre. Nutrition department can work towards providing better nutrition to the affected people and Orthopedics can treat the skeletal fluorosis patients.

Next Mr. Dharani Saikia and AB Paul pointed out that many doctors are not aware of Fluorosis and they diagnose it wrongly. On this Mr. Partha J Das suggested if the Resource Centre can facilitate exposure trainings on dental and skeletal Fluorosis for all government Dentists and Orthopedics where expert in the field of Fluorosis can be invited to impart training. Dr. Mamata Goswami suggested that awareness among the community is also necessary. Mr. BP Sharma reiterated her point saying that people already know that bottle gourd and Amlas are good for health but they are not motivated enough to include them in their food habits. He said that awareness at improving dietary habits should also be focused on. He also said that people must be trained in developing domestic water filters. He further suggested that some villages can be included in a pilot project to create awareness. Dr. Mamta Goswami expressed her concern as to how affective awareness programmes will prove in villages where most people are from extremely poor economic background and also illiterate.

Dr Abhinandan Saikia identified that there is also scope for sociological studies. Mr Dharani Saikia shared his thoughts on how Govt. has already spent Rs. 1.2 lakhs per household at Tapatjuri to tackle the water problem but it proved useless whereas the same amount of money could have been spent for relocating the people to some other place. Mr. Manik Boruah from Centre for Northeast Studies and Policy Research (C-NES) pointed out that earlier they were concerned only about bacteriological contamination. Only recently the realization about Arsenic and Fluoride came to the fore. He suggested that advocacy is required on how we can reduce the price of packaged water so it is affordable to all. He also suggested that we discuss about the dangers of constructing dams in a state which is facing acute problem of water and how we can make water testing/information facility available locally.

Mr. Partha Das wanted to know the other areas beside Tapatjuri which are water quality hotspots and need

intervention. The group answered to his query. Bonda, Karbi Anglong, Jorhat, Titabor, Majuli, Golaghat were pointed out as other volatile areas in Assam. Mr. AB Paul reported that 7 blocks have been identified as blocks with very high concentration of Arsenic. He also said Karbi Anglong and Bonda, and some blocks in Dhubri are also above the danger levels. He said that Golaghat has fluoride but there is no sign of the disease among the people.

Everyone present agreed upon the immediate need to find and work on alternative sources of drinking water.

Next Ms Samhita Barooah from TISS- Guwahati summed up the whole discussion.

She suggested that there could be a skill and vulnerability study and assist the people affected by fluorosis in starting some kind of livelihood based on their ability and not letting their disability to become a hindrance. She also mentioned that TISS, Guwahati has

diploma course on Early Child Development and vocational training. Students who have passed their class 12 can join the course. She also said Resource mobilization should not always mean mobilization of funds. Everyone in the room can contribute with whatever resources they have, students can study the problem, dentists can conduct dental camps, NGOs and Mass Communication professionals can help with creating awareness through community radio, etc. We need people to join these dots. For example, some water filters are lying in the PHED and there is nobody to distribute them among the community, so can we appoint some agency or individual to distribute them in the affected village. This can again provide a livelihood to some people. Dr. Abhinandan Saikia suggested that we could visit a hot spot to get a first hand exposure of the ground situation. To this Mr. Nripendra Sharma pointed out that too much visiting makes affected people angry. We can go to a place where some intervention has been done instead. Mr. Dharani Saikia asked if there was any possibility of carrying forward any initiative for employing the disabled in different fields in collaboration with TATA Trust.

Recommendations:

- Mr. Partha J Das suggested that next meeting should have a focus on funding mobilization and that participants should suggest agenda for the next meeting beforehand. From what has been documented today, we should start drafting the aims, objectives, mission, etc. and then finalise the date for the next meeting
- To make a committee to help with the resource documentation of the different processes of the Resource Centre where each member can take turns to do so as not to overload Mr. Nilutpal Das
- Mr. AB Paul called for field support as there are very few people actually going and working in the affected villages

Proposed Activities for the month:

- Visit to one hotspot to understand the ground situation
- Identify hot spot for both Fluoride and Arsenic, including GIS mapping
- TISS- Guwahati students will develop a street play to be performed in villages for awareness generation
- Historical documentation of Mr. A.B Paul's life and work revolving around Arsenic and Fluoride by Mr. Partha J Das
- Dr. Arundhati Deka will arrange a camp at a water quality hotspot and Mr. Dharani Saikia will take care of the logistics
- Mr. Partha Das will identify hotspots from his own sources
- TISS- Guwahati students will intern at Aranyak and at the Resource Centre
- Arsenic and Fluoride Knowledge and Action Networks will be requested for seed funding of around Rs. 5 lakhs after the next meeting to carry out the activities of the group