

REVIEWED PAPER

33rd WEDC International Conference, Accra, Ghana, 2008**ACCESS TO SANITATION AND SAFE WATER:
GLOBAL PARTNERSHIPS AND LOCAL ACTIONS****Institutionalizing community led action for sanitary survey***Vinod Kumar Mishra & Arvind Kumar Singh, India*

Bacteriological contamination in drinking water is the major source for child mortality. Developing countries are facing problem of cholera, dysentery, diarrhoea, typhoid and jaundice. Therefore prevention of bacteriological contamination is necessary for sustainability. In Uttar Pradesh, there are large number of people suffer from water related diseases as they draw unsafe water from private shallow hand pumps and dug wells, which is a major cause of avoidable morbidity and mortality. The only viable option today is developing a process of water quality surveillance, through which people can develop the necessary knowledge and skills to monitor the quality of water they consume, undertake corrective measures and sustain the same on their own. Under National Rural Drinking Water Quality Monitoring and Surveillance Programme, Mr. V.K. Mishra and Mr. Arvind Kr. Singh has developed the Community Led Action for Sanitary Survey (CLASS) is an IEC tool to facilitate community to undertake sanitary survey, water quality bacteriological testing and analysis of all drinking water sources in the village and develop collecting action for remedial measures.

We would like to present our field experience of CLASS, Inter Personal Communication tool to share knowledge based “Innovative idea” pilot tested in 99 Gram Panchayats of Bakshi ka Talab block of district Lucknow in Uttar Pradesh.

Background

Despite of good coverage (almost 97%) of water supply in rural areas of Uttar Pradesh, quality of drinking water continues to be a major concern. To address the issue pertaining to water quality, Uttar Pradesh is currently implementing GOI's ongoing National Rural Drinking Water Quality Monitoring & Surveillance Programme (NRDWQM&SP). Under Information, Education & Communication activities, a new innovative tool “Community Led Action for Sanitary Survey” (CLASS) developed, not only to motivate community to encourage their involvement in programme but also to develop a participatory model of community based water quality monitoring system down to bottom at Gram Panchayat level.

Class

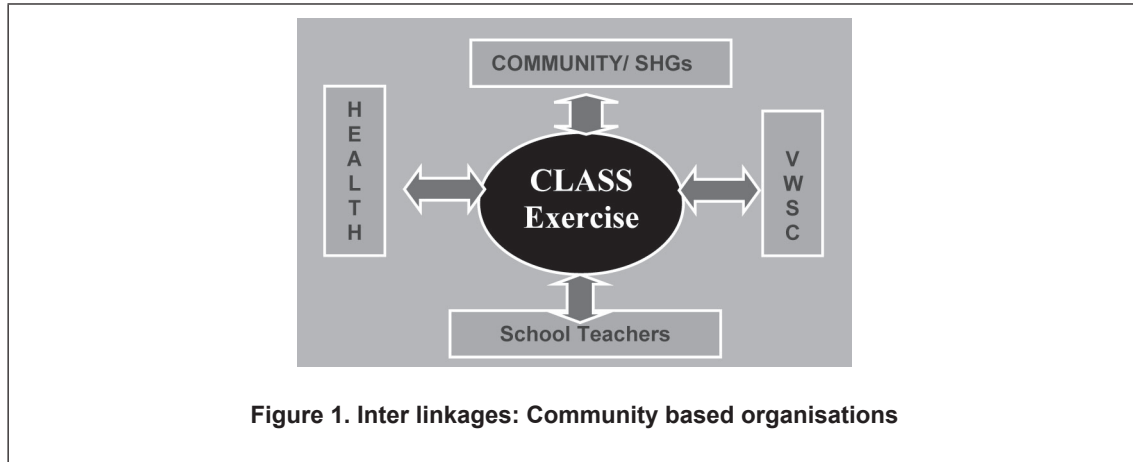
Community analysis of all drinking water sources in the village and collective realization of risks associated with different sources and related water usage, handling and management practices could trigger collective action at the community level. This collective action could be in terms of undertaking remedial measures and ensuring use of safe water by all in the village.

In case of bacteriological contamination, which is a universal phenomenon in the state of Uttar Pradesh, the realization could include that people in the village are drinking shit mixed water. This could create a sense of disgust and trigger immediate collective action.

Who would facilitate CLASS?

Initially external facilitators would facilitate the process and gradually facilitators from the community would undertake the responsibility of taking it forward. These community facilitators would be the natural leaders who would emerge during the process of CLASS facilitation on the ground by external facilitators.

The community facilitators may include members from different kinds of community based organizations such as SHGs, VWSC, ASHA, along with community level workers such as ANMs, teachers etc. The members of Gram Panchayat could also be identified and encouraged to be CLASS facilitators. Besides all this, any willing person from the village emerging as a natural leader could be groomed as a community facilitator.



The young and women having the trust of community from among the emerging natural leaders would be more appropriate for training them as CLASS facilitators.

CLASS activities

- Introduction and rapport building with community members.
- Facilitating Three 'D' mapping—Diseases, Drinking Water Sources, Defecation areas
- Facilitating calculation of expenses on water and sanitation related illnesses.
- Facilitating calculation of faeces, Focus group discussion on sanitation scenario in the village.
- Visit to defecation areas, if required
- Facilitating sanitary survey of different types of water sources in the village on a sample basis by external facilitators; assessment of risks associated with surveyed water sources and calculation of cumulative risk in the concerned cluster.
- Demonstration of taking water samples from different sources by external facilitators.
- Demonstration of water testing using H₂S vials for testing bacteriological contamination (Thermo Tolerant Coliform, Strepto Cocci).
- Sharing of results of testing with community
- In case community shows interest and is willing to initiate collective action, facilitate a process of identification of natural leaders and division of responsibilities in terms of allocating different water sources to different natural leaders to carry out sanitary surveys of water sources allocated to them. A complete community action plan for water quality monitoring and surveillance is chalked out. It is important to note that the exercise has to be carried out for all the water sources in the village including privately owned sources. External facilitators do not press the community either for initiating collective action or action planning. This should come about as a considered and willful action by the community.
- A date is fixed up with the community for follow-up visit. In the first follow-up visit, the results of H₂S vial test and other related information on water quality are shared with the larger community. Follow up of community action plans by creating enthusiasm among the community members would be the central activity during follow-up visits.
- Remedial action based on the findings of water quality monitoring exercise would be demonstrated during follow-up visits.
- Registration of safe water sources in the village is finalized by the community, which also puts a cross mark on unsafe sources of water.
- Facilitating collection of operation and maintenance cost of water quality monitoring and setting up of community monitoring system and a system of sharing information with block and district offices would also be a part of these follow-up visits.

Process of CLASS experienced in one Gram Panchayat: Deori Rukhara

Deori Rukhara is Gram Panchayat (Village) about 12 Kms away from the Lucknow (capitol of state Uttar Pradesh, India)city, in Bakshi ka Talab Block. Population of the Deori Rukhara village is 3700, which is distributed in about 635 houtholds. This village panchayat comprises two revenue villages and eight hamlets as follows.

1. Deori Rukhara revenue village with seven hamlets: Deori, Rukhara, Gosaipurva, Sirsa, Girant, Sukhadi and Loharnpurva.
2. Revenue village Tikari with one hamlet Tikari

In this village panchayat, there are mainly four types of drinking water sources available and are being used for drinking purposes. 40 India Mark II hand pump, 45 Submersible pump, 58 Shallow hand pumps and 6 Dug well. The community consist of many caste majority are from socially excluded community.

The exercise began with a meeting with Gram Pradhan in which the team shared the objectives of the visit and requested for his support to the initiative. He suggested initiating the process from the hamlet Sukhadi, which happens to be his hamlet. Field visit entailed a rapid process involving mapping to identify water sources, demonstration of sanitary survey on different types of water sources and demonstration of testing of water quality in few cases. The community members thereafter conducted the surveys and testing of sources on their own in their hamlets. This became possible with the help of natural leaders that emerged during the process and volunteered to undertake the responsibility. The team took the help of these natural leaders in gathering the community members for the exercises in different clusters. The exercise was conducted with a more detailed process including 3 D mapping and calculations etc as envisaged in the CLASS exercise.

Discussions were held on existing water sources and their quality, linkages with open defecation practices and health problems, community perception of the water being safe or unsafe. Calculation of quantum of shit (faeces) produced in villages and possibilities of its getting mixed up directly or indirectly with water, which they consume, were also pointed out. Community member mentioned the resultant water borne diseases. They also worked out that approximately Rs.7, 62,000 per year are spent on medical expenses in their Gram Panchayat (GP). This is only rough estimate of money spent on medicine and does not include transport, loss of wages etc.

Thereafter, discussion was held on willingness of community/people to test water quality of their water sources and also willingness to contribute about Rs 1 or 2 per month per family as community contribution. Once community showed interest and was willing to pay, community identified 2-3 persons (facilitators) from each hamlet for water quality testing (bacteriological) and sanitary survey. Then a list was made as to which person would take the responsibility of the respective villages to conduct the survey:

Following facilitators from different hamlets undertook the responsibility to conduct sanitary survey and water testing in the respective hamlets:

Deori:	Kalluram, Gayaprasad, Raj rani w/o Muneshwar
Girant:	Ramdayal Maurya (BDC member), Shivsingh, Ramkumar Maurya
Rukhara:	Anil Kumar Singh, Anuj Kumar, Uday Pratap, Umesh Kumar (President- Jal Prabhandan Samiti) and Dharmendra
Loharanpurva:	Ramvilas Gautam, Ramshankar Vishwakarma alias Bhailal, Uday

Demonstration of Sanitary Survey and water testing by using H₂S vial for some sample water sources (of different types) was conducted by the team. Safe disposal of H₂S vial was also explained. Sanitary survey formats for different types of drinking water sources were made available to community. After the demonstration, the community facilitators felt confident to carry out the survey and water testing on their own and volunteered to undertake the exercise in their hamlets. Accordingly, they were entrusted with the responsibility of testing and sanitary survey of the remaining drinking water sources.

After that people from all hamlets were called at common place at Moteshwar Mandir near main village Rukhara for addressing issues pertaining to the positive results (if water gets black in colour) then what is supposed to be done and who will do and how much time is required?

Some four villagers volunteered to undertake certain remedial and protection measures within a few days to a month. After, the meeting the team had a round of hamlets Sirsa, Sukhdi, Loharanprva, Girant and Tikari to collect the results of the survey and testing. In Girant, demonstration of disposal of H₂S vial was also demonstrated.

Outputs

- Few potential natural leaders emerged during the process. Mrs. Raj Rani from Deori hamlet was found to be the best of the lot. She had taken lead in her hamlet and with support of her son and Ms. Sarojini Devi conducted water testing and Sanitary Survey of 47 drinking water sources of Deori hamlet. Mr. Bhaiya Lal despite being physically challenged, undertook responsibility and carried out the survey in

his hamlet. Shiksha Mitra Mr. Vijai Kumar took the responsibility of his hamlet as well as of the adjoining hamlet.

In all, five community facilitators undertook the responsibility of conducting sanitary Survey and water testing of all drinking water sources in their respective hamlets

Sr. no	Village/hamlet	Name of person	Contact number
1	Deori	Mrs. Raj rani	-
2	Rukhara	Mr. Umesh Singh	9889898240
3	Sirsa	Mr. Vijay Kumar	-
4	Tikari	Mr. Kali Charan, Retd Masterji	9415785825
5	Sukhadi	Mr. Ram Kumar	-
6	Loharanpurva	Mr. Bhaiya Lal	9236060314

- Despite unfavorable conditions including political undercurrents in Gram Panchayat, the team was able to motivate six key persons to undertake Sanitary Survey and water testing of 149 water sources (40 India Mark II handpump, 45 Submersible pump, 58 Shallow handpumps and 6 Dugwell) of Gram Panchayat. The community is presently using all 149 water sources for drinking purposes. Outcome of the Sanitary Survey and water testing conducted by community is as follows:

Village/hamlet	No. of HHs	Water sources	Water sources with levels of risks as per sanitary survey				No. of sources with test result unsafe
			Very high	High	Medium	Low	
Girant	42	4	-	1	0	0	1
Deori	150	47	1	22	12	12	18
Rukhara	40	27	0	0	3	24	5
Loharanpurva	68	12	2	2	5	3	8
Sukhadi	97	19	0	10	4	5	7
Gosainpurva	26	5	0	1	3	1	1
Sirsa	60	6	0	3	3	0	1
Tikar	164	29	0	5	8	16	16
Total	647	149	3	44	38	61	57

Test result (unsafe): After 48 hours of sample collection, color of sample water is turned Black, source is bacteriological contaminated.

To know the physical conditions of water sources class facilitator used different survey formats for different water sources for sanitary inspection. These formats carrying 8 -12 questions pertaining to construction of water sources, surrounding sanitary conditions, process of disinfection, intake, storage, distribution, etc. in the questionnaire, if 90-100% answers are Yes, then it is very high risk. Incase of 75-90% answers are Yes then it is High Risk and if answers between 60-75 % are Yes, is Medium Risk and if 0-50% answers are Yes then risk is low. As per above mentioned criteria community has done sanitary survey of all 149 drinking water sources. Findings of Sanitary Survey in Deori Rukhara village given in table no.2.

Under the Class process community has taken water sample in H2S vial to know the bacteriological contamination. Out of 149, 57 water sources are found unsafe due to bacteriological contamination. Hamlet wise details of types of sources found unsafe in H2S vial test is as follows:

Village/hamlet	Unsafe water sources				
	India Mark II hand pump	Private hand pump	Private submersible pump	Well	Total
Girant	1				1
Deori	2	10	0	6	18
Rukhara	0	1	4	-	5
Loharanpurva	3	4	1	-	8
Sukhadi	2	2	3	-	7
Gosainpurwa	0	1	-	-	1
Sirsa	0	-	1	-	1
Tikar	3	9	0	4	16
Total	11	27	9	10	57

After the result community of Deori Rukhara village expressed their commitment to undertake certain remedial/protection measures. For example, Kamlesh and Lallu stated that they would repair the broken platform of their hand pumps within 15 and 10 days respectively. Kamlesh also said that he would arrange chlorine tablets from the PHC and use them till his hand pumps gives safe water. Awadh Bihari said that he would take care of maintaining cleanliness of two government hand pumps (one installed in front of Kashi's house and the other near Shambhu's house). Through Class process community understand the major causes.

Key learnings of Class process from Deori Rukhara village

- Communities are able to conduct sanitary survey and bacteriological testing of water sources (using the H₂S vials), if facilitated properly. Competition would be required to be created to engage communities in undertaking remedial and protection measures, which would be the real challenge.
- Some natural leaders emerge during the process, who are willing to undertake responsibility first in their hamlets and later in the neighboring hamlets.
- There is a likelihood that if some incentive could be provided in terms of daily allowance/honorarium and mobility support, some natural leaders would be willing to undertake the responsibility of facilitating the exercise in neighboring Gram Panchayats.
- Start with favorable conditions such as selecting a small Gram Panchayat in the remote part of the block. The GP should be socially and culturally homogenous with supportive political leadership and conducive local government machinery. Most importantly there should be a history/strong tradition of collective local action.
- Chemical testing should be introduced only after the community has successfully conducted the bacteriological testing and sanitary survey of all the water sources and started undertaking remedial and protective measures.
- Prior information about the field visit through active involvement of block machinery would help in creating conducive environment and acceptability for the exercise.
- The objectives of the visit should be shared with the community and be taken up only if they agree for the same, if not then the village should not be taken up for the exercise.
- The CLASS exercise should be undertaken in all the hamlets of the Gram Panchayat and not just at few places. This is necessary to elicit ownership by the community for the exercise undertaken and also for its results.
- Follow-ups must be undertaken in consultation with the natural leaders and Gram Panchayat to facilitate remedial and preventive measures

Conclusion

There is direct correlation between the results of sanitary survey and testing results of H₂S vial (Bacteriological contamination). Class process will ignite the community based water resource management at grass

root level in sustainable manner. If community realizes the root cause of water borne diseases they can take responsibility to protect their water sources. Three -D mapping in community is very effective (defecation habits/drinking water sources condition/diseases expenditure) and it also enhance the capacity of natural leaders/community to take their own decision to protect their drinking water sources. This can be replicable in any village for any drinking water source. This process will also provide insight for implementation of National Rural Drinking Water Quality Monitoring & Surveillance Programme initiated by Government of India.



Photograph 1. Shallow hand pump: unsafe for drinking

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Note/s

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