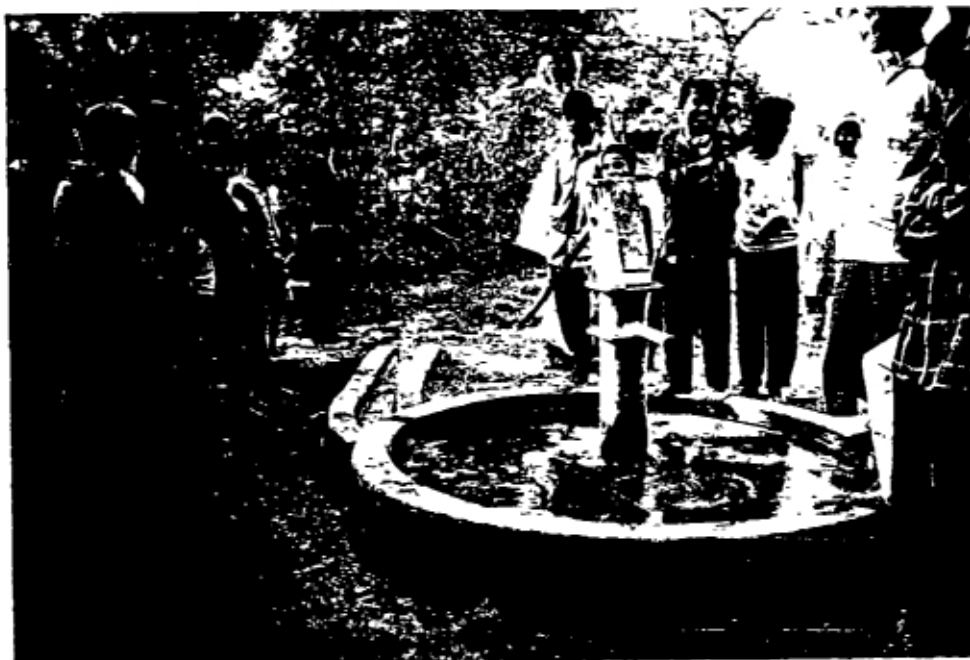


CASE STUDY  
on  
*Community Based Water Quality Surveillance and Monitoring  
under the CDD-WATSAN Project*

District : Allahabad, Uttar Pradesh



Conducted by .  
*Shivakamy Iyer*  
Consultant, Lucknow

on behalf of  
*UNICEF Field Office, Lucknow*

November 1996



## CASE STUDY

on

### Community Based Water Quality Surveillance and Monitoring

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District : Allahabad, Uttar Pradesh

Unsafe drinking water and unhygienic living conditions are a primary cause of diarrhoeal diseases especially among children below five years of age. Provision of safe water and proper sanitation is very essential for the control of diarrhoeal diseases. UNICEF launched the CDD-WATSAN (Control of Diarrhoeal Diseases Water and Sanitation) Project in rural areas of Allahabad District to bring down the infant mortality rate. This Project was implemented in two Blocks (Holagarh and Soraon) of Allahabad District by the Voluntary Institute for Community Applied Science (VICAS) with the support of UNICEF-Lucknow, Jal Nigam-Allahabad, Public Health Department and the District Administration

Under the Project the following activities were taken up in the villages of the two Blocks

↳ Village contact drives were organized to create awareness among the villagers about the importance of safe drinking water, personal hygiene and environmental sanitation. VICAS organized these village contact drives with the help of Jathas (groups) who spread out into different villages. These Jathas comprised of VICAS volunteers and some youth from a few villages. Each Jatha was led by a Jatha Nayak (Group Leader). There were 9 Jathas for Soraon Block and 11 Jathas for Holagarh Block. Each Jatha was given the responsibility to cover all the villages of one Nyay Panchayat. The village contact drives were conducted in Holagarh Block from February 1 to 20, 1995 and in Soraon Block from May 1 to 30, 1995. (Pages 21 and 22 provide information on the number of villages covered by each Jatha, names of the Jatha Nayaks and activities taken up during the Village Contact Drives held in Soraon and Holagarh Blocks respectively).

↳ Personal contacts were made with influential people of the villages, for example, Gram Pradhans, school teachers, village level government functionaries, health workers, members of youth organizations, anganwadi workers, etc to inform them about the Project and about different aspects of CDD-WATSAN.

↳ During these drives, IEC material including posters, pamphlets, etc with information about diarrhoeal diseases, water contamination, personal hygiene, environmental sanitation and many other aspects was distributed among the villagers

↳ A village coordinator was selected by general consensus during the course of the village contact drives

↳ Handwashing campaigns were also organized in the villages. These campaigns focused on the importance of washing hands. Information was also provided about diseases transmitted through unclean hands

↳ Demonstration programmes on how to use ORS packets were also conducted. The Public Health Department provided ORS packets to the villagers. VICAS also established ORS Wala Ghars (See Photograph No. 1).

↳ Water Quality testing was done by the Jathas in the villages of both Blocks. Samples of water from different sources like handpumps, wells, pipes, storage tanks, lakes, etc. were collected in bottles with the H<sub>2</sub>S strip and left for 24-48 hours. The H<sub>2</sub>S paper strip test is a simple, inexpensive microbial water quality testing procedure in which 20 ml water sample is directly collected from the

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water source in a 20 ml glass vial with a screw-cap and rubber liner containing pre-sterilized H<sub>2</sub>S paper strip, impregnated with specified culture media and left at room temperature for 24-48 hours. If the colour of water remains pale yellow, water is potable and if it changes to black it is non-potable. The test is presumptive in nature and is an indication of microbial (faecal) contamination of water based on H<sub>2</sub>S producing bacteria (See Pages 17 and 18 for details of the H<sub>2</sub>S Paper Strip Test).

- ↳ Forms were developed by VICAS for filling in details of water samples collected during the Water Quality Surveillance and Monitoring Programme (See Page 19). Identification Slips were also developed by VICAS and stuck on each water sample bottle (See Page 20).
- ↳ The Water Quality Surveillance results showed that India Mark II handpumps were the safest and most reliable source of drinking water. Villagers were encouraged to use this water for drinking and cooking purposes.
- ↳ Wide cemented platforms with drains were constructed around handpumps in villages of both the Blocks. Community members provided voluntary labour for this work. In some cases building material like sand, bricks, etc were also contributed by the community (See Photograph Nos. 2 and 3).
- ↳ The results also showed that water from most of the wells was contaminated. The primary reasons for this were that water level in the wells is very high, wells are not disinfected regularly, they have no overhead protection and unhygienic conditions exist around the wells.
- ↳ Wells were covered with tin shades that were coloured brightly with synthetic paints. Water of these wells was chlorinated through public demonstrations. The level of the wells was raised (See Photograph No. 8).

## DETAILS REGARDING THE WATER QUALITY SURVEILLANCE AND MONITORING INITIATIVE :

### 1 Holagarh Block

- 910 water samples from 92 villages were tested between February 1 and March 3, 1995
- 10 water sources from each village including handpumps, wells and other sources were selected for the testing procedure
- Out of the total of 910 sources, there were 272 samples of water from handpumps, 577 samples from wells and 61 samples from other sources
- A total of 336 samples (36.9%) were found safe
- Water from handpumps was found to be the safest. Out of 272 samples tested, 230 (84.6%) were found to be safe.
- Well water was found to be highly contaminated. Out of the 577 samples tested, 480 (83.2%) were found to be contaminated.
- Out of a total of 61 samples tested from other sources, 52 (85.3%) were found to be contaminated

### 2 Soraon Block

- 1090 water samples from 113 villages were tested between May 1 and June 15, 1995
- 10 water sources from each village including handpumps, wells and other sources were selected for the testing procedure
- Out of the total of 1090 sources, there were 212 samples of water from India Mark II handpumps, 310 samples from shallow boring handpumps, 483 samples from wells and 85 samples from other sources which included pipes, storage tanks and lakes



- A total of 630 samples (57.9%) were found safe
- Water from India Mark II handpumps was found to be the safest. Out of 212 samples tested, 91.5% samples were found to be safe
- Water from shallow boring handpumps was also found to be safe. Out of 310 samples tested, 259 (83.55%) were found to be safe
- Well water was found to be most contaminated. Out of the 483 samples tested, 384 (79.5%) were found to be contaminated

Detailed information regarding the water samples collected during the Water Quality Surveillance and Monitoring Programme has been maintained by VICAS. The water samples collected can still be found with the village coordinators in many villages. Villagewise separate files have been maintained where details of the surveillance are still available (See last Page for sample file cover). The forms for the Microbial Water Quality Testing were filled in duplicate and copies can be found with the village coordinators as well as at the VICAS headquarters

#### **SALIENT FEATURES OF THE PROJECT :**

The Project was initially implemented for a period of six months after which activities were suspended. After a gap of nearly six months the Project was restarted in January 1996 in a cluster of 30 villages in both the Blocks where WATSAN committees have been formed and members have been trained, caretakers and mechanics have been selected and trained

There is a great difference in the level of awareness, participation and enthusiasm among the people of the villages where further activities have been undertaken and where no further activities have been initiated

In the villages where further activities have been taken up, for example, Masni, Sangipur, Khutahana, Samaspur and Lakhapur Karan

- More people are aware about the Water Quality Surveillance process
- WATSAN committees are active and have held meetings
- WATSAN committees have played an active role and motivated the Gram Pradhans (who are also the Chairpersons of the WATSAN committees) to sanction covered pipes for the discharge of excess water instead of open drains (See Photograph No. 4).
- Caretakers are active and make all attempts to keep the area around the handpump clean but very few are confident of carrying out small repairs (See Photograph No. 5). People are generally not aware that caretakers and mechanics have been selected and trained
- Most platforms that were built during the initial phase of the Project are kept clean by the users.
- Handpump water is used not only for drinking and cooking purposes but also for bathing, washing clothes and vessels. Separate bathing platforms are urgently needed to prevent water logging at handpump sites (See Photograph No. 6).
- In some cases, drainage/disposal of excess water is a problem which is causing water logging in the surrounding area. The causes for this are insufficient length of the drain or broken ones, careless use of water outside the platform area, the main drain of the village passing close to the handpump site, etc
- A lot of IEC material was developed by VICAS and has been widely distributed in the villages. Posters can still be seen at some places and villagers still possess some of this material, for example, booklets, pamphlets, etc. But very few know what is mentioned in them. Slogans written on walls can still be seen (See Photograph No. 7).

In the villages where no further activities were taken up, for example, villages like Pashchim





Nara, Poorab Nara, Baladih, Oonchdih, Lehara and Padila

- Very few villagers are aware about the Water Quality Surveillance programme
- Many handpumps have stopped functioning and people have gone back to using water from unimproved sources
- There is water logging around the handpumps
- People get handpumps repaired on their own initiative. At some places it was mentioned that the handpump was government property and should be maintained by it
- There is a vast difference in the hamlets of some villages. While some people are very affluent and live in pucca houses, others live in thatched huts. The affluent families have their own private source of water and do not care about handpumps installed by the government, especially those at public places, for example, government schools

**PROBLEMS INVOLVED IN THE WATER QUALITY SURVEILLANCE INITIATIVE :**

- \* Very few people in the community could remember the Water Quality Testing process. While some mentioned that water was collected in a bottle, others had no idea about the initiative.
- \* Only the village coordinators (involved in the process of water quality surveillance) and the Jatha Nayaks who could be contacted knew how water had to be collected in the bottle with the H<sub>2</sub>S strip, how long it should be left and what the result signified (See Pages 17 and 18 for details regarding the H<sub>2</sub>S Paper Strip Test).
- \* It was mentioned by the Jatha Nayaks that when the bottle was given to community members for testing, they filled all the bottles with water from one source itself. That is why water testing was done by the Jatha members

- \* All the Jatha Nayaks who were chosen for leading the Jathas belonged to one village only. Consequently, this aspect has been a major cause for the low level of awareness among the people of other villages
- \* Another reason stated for not involving the community in this process was the lack of time
- \* No feedback has been given to the community about the results of the tests that were conducted. At a few places where people recalled the testing procedure, some villagers eagerly came forward to inquire about the results of the testing done in their villages

**TESTING OF WATER SAMPLES DURING THE CASE STUDY :**

22 samples of water from sources including India Mark II and III handpumps, shallow boring handpumps and wells were collected from 11 villages of Soraon and Holagarh Blocks during the study. The villages visited in the two Blocks were as follows

**A. SORAON BLOCK**

<u>Name of Village</u>	<u>Census Code</u>
1 Samaspur	337
2 Lakhanpur Karan	340
3 Lehara	405
4 Padila	420

**B. HOLAGARH BLOCK**

<u>Name of Village</u>	<u>Census Code</u>
1 Jagdishpur Masni	213
2 Khutahana	242
3 Sangipur	222
4 Pashchim Nara	152
5 Poorab Nara	154
6 Baladih	176
7 Oonchdih	175

(See Pages 15 and 16 for Maps of Soraon and Holagarh Blocks respectively showing a graphic representation of the villages visited during the case study).



- ⇒ 20 ml of each of the 22 water samples was collected directly from the water source into the 20 ml glass vial containing pre-sterilized H<sub>2</sub>S paper strip, impregnated with specified culture media and left at room temperature for 24-48 hours. The colour of water remained pale yellow in 14 samples and turned black in 8 samples
- ⇒ Of the 22 samples, 14 (where colour of water remained pale yellow in the glass vial with the H<sub>2</sub>S strip) were found to be safe while 8 (where colour of water turned black in the glass vial with the H<sub>2</sub>S strip) were found to be contaminated
- ⇒ 16 water samples (15 of India Mark II and 1 of India Mark III) were collected. 7 samples were from Soraon Block of which 4 were found to be safe and 3 samples of India Mark II were found to be contaminated. All these three contaminated samples were from sites in villages (2 from Lehara and 1 from Padila) where areas surrounding the platform were found to be extremely dirty and where no further activities have been undertaken. 9 samples were from Holagarh Block and all of them were found to be safe
- ⇒ 2 samples of handpumps with shallow boring (both from Lakhanpur Karan village of Soraon Block) were collected of which 1 was found to be safe while the other was found to be contaminated.
- ⇒ 4 samples from wells (1 from Soraon Block and 3 from Holagarh Block) were collected and all of them were found to be contaminated. These samples included wells covered by tin shades where platforms have been raised

This highlights the fact that handpump water is the safest source of drinking water. It is very necessary to maintain cleanliness around the handpump to ensure the safety of drinking water

(See Pages 6 to 10 for details of the water samples collected during the Case Study).

#### SUSTAINABILITY :

To achieve this

- \* It is necessary that the results of the Water Quality Surveillance process are disseminated among the members of the community as soon as possible
- \* This should be done at a public place where all villagers are brought together and proper prior intimation is given to everyone
- \* Reasons/causes for contamination should also be discussed and efforts should be made to take remedial action as soon as possible
- \* WATSAN committee members should be trained to undertake Water Quality Surveillance by themselves at regular intervals. Bottles containing H<sub>2</sub>S strips should be provided to these committees so that they are well-equipped to conduct the test
- \* The person/s being trained to conduct this test should be provided complete information about the test, the correct method of conducting it and the significance of the result
- \* It is very important that activities are also taken up in areas where the first phase was initiated. This will help in regaining the momentum that was generated earlier
- \* Participation of women and influential people of the village should be encouraged further and strengthened

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## VILLAGES VISITED

A SORAON BLOCK

1 Samaspur (337)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Users	1	handpump	safe	<ul style="list-style-type: none"> <li>* platform clean</li> <li>* handpump site used for bathing and washing clothes</li> <li>* only the village coordinator and some women knew about the water testing</li> <li>* WATSAN committee has been constituted including 5 women and 4 men</li> <li>* meetings have been held 2 - 3 times during which discussions have been held on safe water, diarrhoea, ORS, etc</li> <li>* Pradhan has provided pipes for some handpumps for the discharge of excess water</li> <li>* conflicts regarding water have lessened</li> </ul>	No problem
Users	2	well	contaminated	<ul style="list-style-type: none"> <li>* members of 6 households use the water of this well</li> </ul>	No problem
Caretaker and users	3	handpump	safe	<ul style="list-style-type: none"> <li>* members of 10 - 15 households use water from this handpump</li> <li>* labour input for the raising and construction of the platform was provided by the community</li> <li>* another handpump has recently been installed nearby through the Ministerial Quota Boring of this handpump has been done upto 80 feet only. Muddy water available from this handpump is not used for drinking purposes</li> <li>* slogans written during the village contact drive were still present</li> </ul>	* there were complaints that people dirty the platform and do not take any responsibility for cleaning it



,

2 Lakhanpur Karan (340)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Village coordinator	6	handpump	safe	* 2 months ago a 50 feet long drain was constructed ( <i>See Photograph No 3</i> ) * platform well-maintained	
Users	7	handpump (shallow boring)	contaminated	* surrounding area not clean	
Caretaker and family members	8	handpump (shallow boring)	safe	* women keen to participate in activities but need husband's permission to do so * very faint recollection about the water testing activity	* surrounding areas of the handpump not maintained properly

3 Lehara (405)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Caretaker and users	19	handpump	contaminated	* surrounding area not kept clean * some people remembered about the water testing and wanted to know about the results	* caretaker complained that people take no initiative to clean the platform of the handpump or its surrounding area
Some residents living nearby	20	handpump (installed at the Primary School)	contaminated	* the handpump has no platform * surrounding area very dirty * waste water collecting in deep ditch nearby * residents of this area are affluent and live in big, pucca houses	* the school master is rarely present at the school * no one is prepared to take on the responsibility for this handpump





4 Padila(420)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
No one could be contacted	21	handpump	contaminated	* surrounding area very dirty * there is water logging all around the handpump platform	No problem
Caretaker and users	22	handpump	safe	* platform kept clean * about 200 people and 100 animals use the water from this handpump * the handpump has been converted to India Mark III and has been repaired twice * money for the repairs was provided by few households	* the edge of the platform is very narrow and is uncomfortable

B HOLAGARH BLOCK

1 Jagdishpur Masni (213)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Caretaker of handpump and users	4	well	contaminated	* handpump not functioning as boring has failed	* people use well water for drinking, bathing, washing clothes and vessels
Caretaker	5	handpump	safe	* platform well-maintained * handpump cleaned by the caretaker one month ago	* very little water flows out of the handpump

2 Khutahana (242)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Users	9	handpump	safe	* the marking to show the date when water was tested still exists * platform clean	No problem
Caretakers and users	10	handpump	safe	* labour and bricks for the construction of the platform was provided by the people * the Pradhan has committed that he would get the drain constructed for disposal of waste water	No problem
Users	11	handpump	safe	* platform well-maintained * drain constructed very well	* it takes a lot of time for the water to come out of the handpump



3 Sangipur (222)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Caretaker	12	handpump	safe	<ul style="list-style-type: none"> <li>* platform clean</li> <li>* caretaker has developed a kitchen garden near the handpump site</li> <li>* waste water of the handpump flows into this garden</li> </ul>	No problem
Users and caretaker	13	handpump	safe	<ul style="list-style-type: none"> <li>* platform clean</li> </ul>	No problem

4 Pashchim Nara (152)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Users	14	handpump	safe	<ul style="list-style-type: none"> <li>* members of about 10 households use water from this handpump</li> <li>* platform around the handpump has been constructed</li> <li>* WATSAN committee has been formed</li> <li>* caretaker has been selected</li> </ul>	* caretaker has not been trained

5 Poorab Nara (154)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Users	15	well	contaminated	<ul style="list-style-type: none"> <li>* the well had no proper platform when water was tested earlier</li> <li>* the earlier test showed the water to be safe</li> <li>* people contributed labour for the transportation of construction material to raise the level of the platform</li> </ul>	No problem

6 Baladih (176)

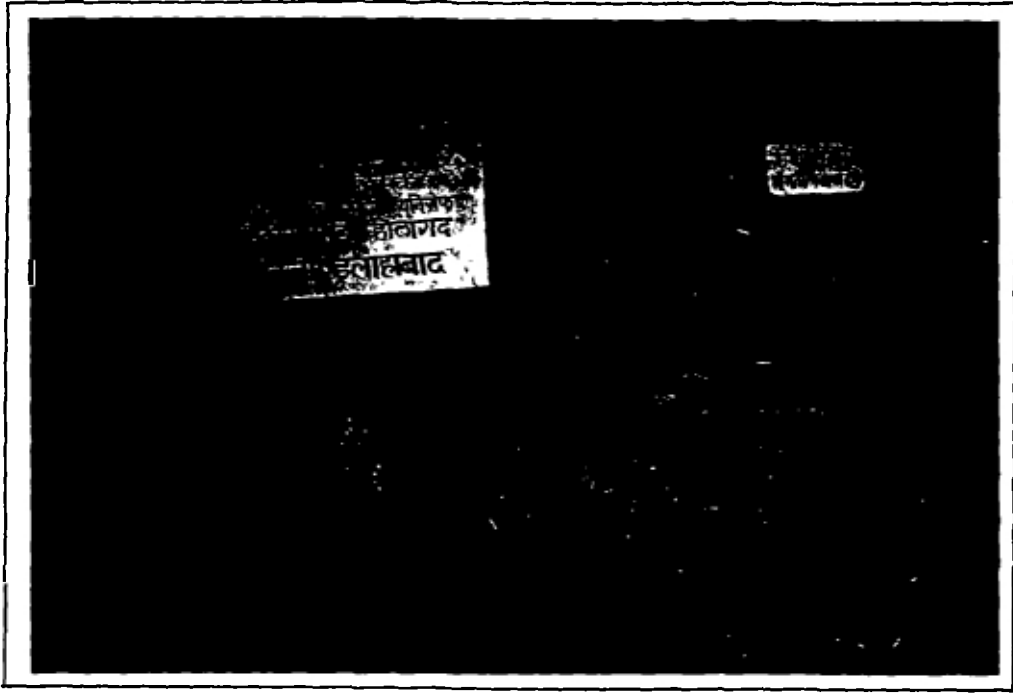
Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Users	16	handpump	safe	<ul style="list-style-type: none"> <li>* platform not kept very clean</li> <li>* waste water does not flow out easily</li> </ul>	* incline of the drain is not proper



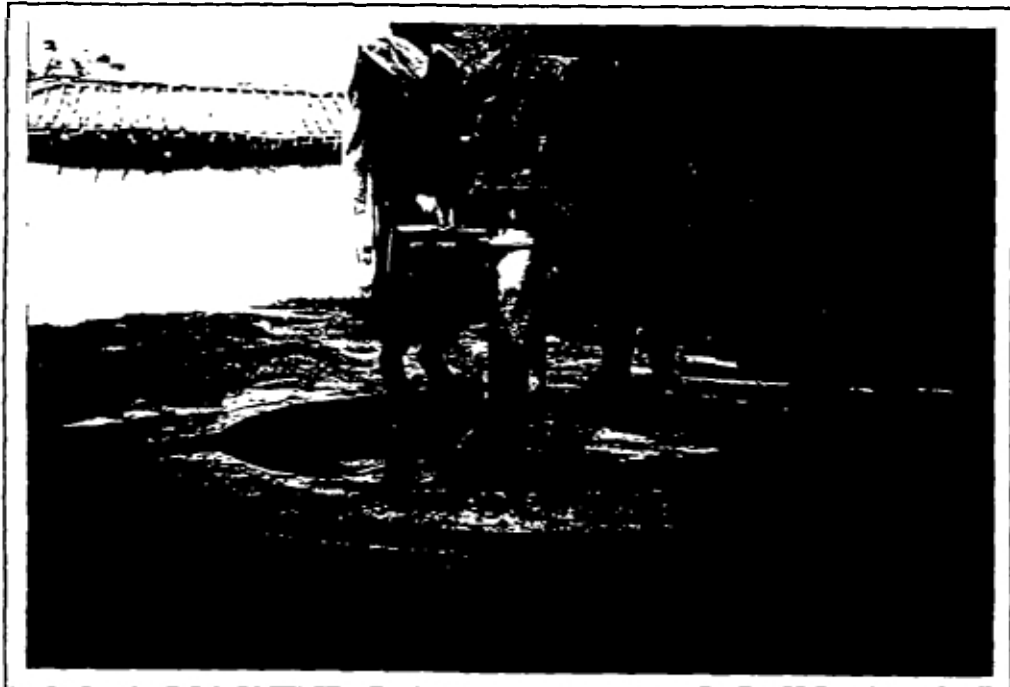
## 7 Oonchdih (175)

Person/s Contacted	Sample No.	Source of Water Sample collected	Result of Water Quality Test	Salient Features	Problems
Owner of well and users	17	well	contaminated	<ul style="list-style-type: none"> <li>* the well has been protected with a tin shed</li> <li>* 1 mason and 3 labourers worked for 14 days to raise the platform of the well and construct the tin shed</li> <li>* bricks and sand were provided by the local people</li> <li>* community members contributed labour - 7 people worked for 14 days</li> <li>* about 35 people from 4 - 5 households use the water of this well</li> <li>* the well has been disinfected atleast 3 - 4 times</li> </ul>	No problem
Caretaker and users	18	handpump	safe	<ul style="list-style-type: none"> <li>* platform not well-maintained</li> <li>* surrounding area very dirty</li> <li>* water logging all around the drain</li> <li>* some fruit trees have been grown in the vicinity of the handpump</li> <li>* people have collected money from all the households that use water from this handpump for carrying out repairs</li> </ul>	<ul style="list-style-type: none"> <li>* the main drain of the village flows near this handpump and this causes a lot of water logging</li> <li>* the closed pipe to be used as the drain for discharge of waste water is lying unutilized nearby</li> </ul>





Photograph No 1  
ORS Wala Ghar established by VICAS at the house of a  
caretaker in Village Sangipur of Holagarh Block



Photograph No 2  
Wide cemented platform with a drain for disposal of  
excess water in Village Baladith of Holagarh Block







Photograph No 3  
Motivated by the WATSAN committee, a 50 feet long drain was  
constructed 2 months ago in Village Lakhanpur Karan of Soraon Block



Photograph No 4  
Closed pipe sanctioned by the Pradhan for the disposal of excess  
water from handpumps in Village Samaspur of Soraon Block



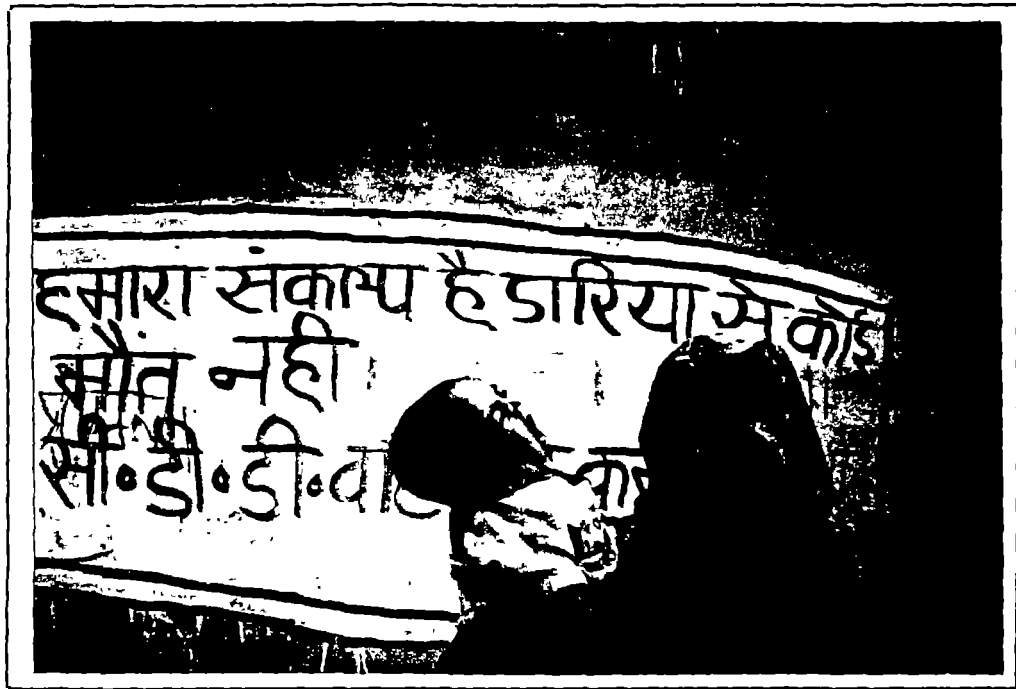


Photograph No 5  
Carctaker in Village Samaspur of Soraon Block  
demonstrating how she cleans the handpump



Photograph No 6  
Separate bathing platform constructed near a well in Holagarh Block





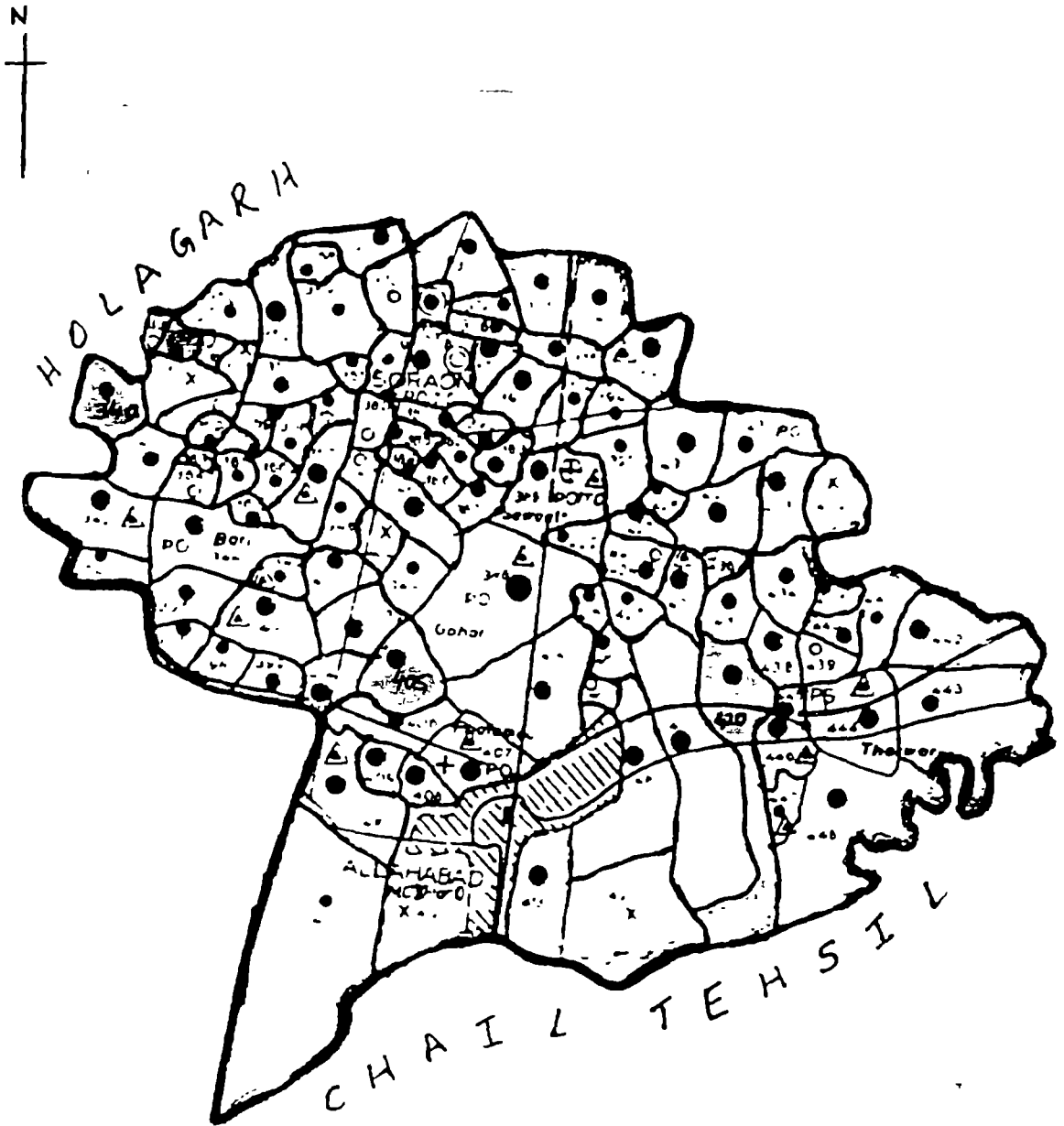
Photograph No 7  
Caretaker Ms Pramila Devi Slogan about diarrhoea written  
on the wall of her house can be seen



Photograph No 8  
Well with a raised platform in  
Village Oonchdih of Holagarh  
Block covered with a brightly  
painted tin shade Labour,  
bricks and sand for  
construction was provided by  
the local people



SORAON BLOCK



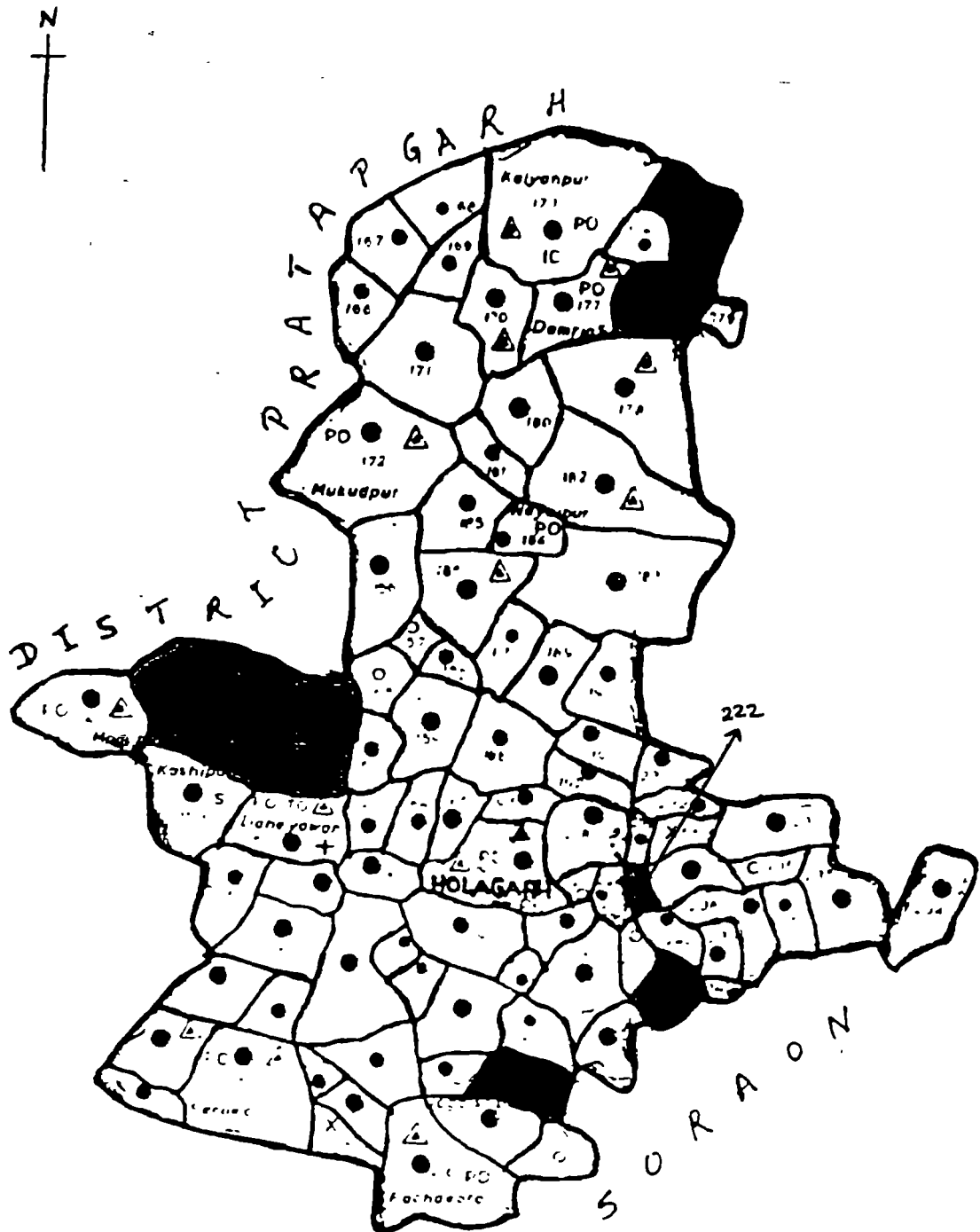
Villages visited :

- 337 - Samaspur
- 340 - Lakhanpur Karan
- 405 - Lechara
- 420 - Padila





# HOLAGARH BLOCK



Villages visited :

- 152 - Pashchim Nara
- 154 - Poorab Nara
- 175 - Oonchdih
- 176 - Baladih
- 213 - Jagdishpur Masni
- 222 - Sangipur
- 242 - Khutahana



# H<sub>2</sub>S PAPER STRIP TEST KIT

A field oriented bacterial test to monitor the quality of drinking water

APHA-AWWA-AWPCF Specified bacteriological water quality tests are expensive, non-potable and require the services of trained technicians and sophisticated laboratory facilities. To overcome these limitations, a simple P/A test method was developed. In this context APIC's new ready-to-use **BACTERIAL TEST KIT** enables you to monitor potable water sources and recreational water in tropical climates and to conduct emergency testing. The kit detects faecal contamination of drinking, surface and recreational water within 24-48 hours.

The method is based on the detection of H<sub>2</sub>S producing bacteria whose presence is consistently associated with the presence of the members of the coliform group in nature. Further more, enteric bacteria such as Salmonella, Proteus, Citrobacter and some strains of Klebsiella sps, Eschericia coli also produce H<sub>2</sub>S.

The method has been tested worldwide and has proved to be an effective tool in detecting faecal contamination of drinking water.

The H<sub>2</sub>S Paper Strip Test was one of the four **simple, inexpensive microbial water quality testing procedures** evaluated by the International Development Research Centre (IDRC), Canada. The research project was one of the principal objectives of the "UN International Drinking Water Supply and Sanitation Decade" to provide "Safe Water For All" by the year 1990. The results from the "three-continent, eight-country (Brazil, Chile, Egypt, Malaysia, Morocco, Peru, Singapore and Thailand) research project" have concluded that

*"In summation, the H<sub>2</sub>S Paper Strip Test is probably the best and simplest method to test remote water supplies, as well as for use in city and town laboratories. It is believed that the P/A and H<sub>2</sub>S Paper Strip techniques combined with the coliphage test, would provide an excellent assessment of the safety of potable water from bacterial and viral contamination"*

## SPECIFICATIONS :

<i>Culture Tube</i>	20 ml glass vial with screw-cap and rubber liner
<i>Composition</i>	Pre-sterilized paper strip, impregnated with specified culture media
<i>Inoculum</i>	20 ml water sample
<i>Inoculation Procedure</i>	As per directions for use, direct from source of water. no additional glassware required.
<i>Incubation</i>	At room temperature preferably between 30-37°C
<i>Incubation Period</i>	24-48 hours, depending upon the room temperature
<i>Observation</i>	: Whether colour changes from pale yellow to black
<i>Conclusion</i>	Potable or Non-potable
<i>Manufactured by</i>	A P Industrial Components Limited, Bhumtal



## PROCEDURE TO CONDUCT THE TEST :

- ☞ Fill the vial with water upto "Water Level Mark" (Figure 1)
- ☞ Cap it tightly and gently shake the vial
- ☞ Keep it at room temperature preferably at 30-37°C for 24 to 48 hours (Figure 2)
- ☞ Observe for blackening of contents after specified period. If colour turns black, water is not fit for drinking (Figure 3)
- ☞ Add few drops of disinfectant (that is, dettol, phenyl, etc.) and discard the vial

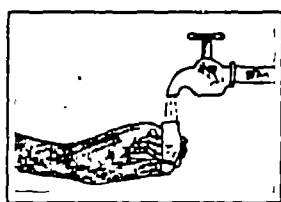


Figure 1

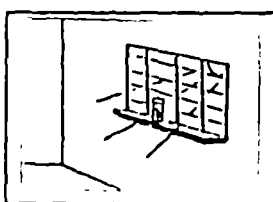


Figure 2



Figure 3

## INCUBATION PERIOD :

<u>Average Room Temperature</u>	<u>Period</u>
20°C	48 hours
25°C	42 hours
30°C	36 hours
35°C	30 hours
40°C	24 hours

### NOTE :

- ☞ The test is presumptive in nature
- ☞ At temperatures lower than 20°C, the test may take more than 48 hours (about 96 hours) to answer. In such conditions, one should wait for 96 hours to draw any conclusion about the quality of water
- ☞ The test is an indication of faecal contamination of water based on H<sub>2</sub>S producing bacteria

## CAUTION :

- ◆ Keep beyond the reach of children
- ◆ No liability accepted for accidents arising from mishandling or misuse
- ◆ Read instructions carefully before use
- ◆ Do not drink water from the vial in any case

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*Identification Slips developed by VICAS  
and stuck on each water sample bottle*

**पेय जल परीक्षण कार्यक्रम**

ग्राम.....विकास खण्ड.....  
तारीख.....समय.....  
जलस्रोत—हैण्डपम्प/कुआँ/नल/अन्य (✓)  
कोड नं.....  
संचालक—'विकास' सहयोग—यूनिसेफ

**पेय जल परीक्षण कार्यक्रम**

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संचालक—'विकास' सहयोग—यूनिसेफ

**पेय जल परीक्षण कार्यक्रम**

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तारीख.....समय.....  
जलस्रोत—हैण्डपम्प/कुआँ/नल/अन्य (✓)  
कोड नं.....  
संचालक—'विकास' सहयोग—यूनिसेफ



# डायरिया (दस्त और हैजा के खिलाफ-जल विज्ञान चेतना जत्था-मार्ग विवरण

'जल-स्वच्छता ग्राम सम्पर्क अभियान Village Contact Drive for Control of Diarrhoeal Diseases Water And Sanitation

विकास खंड-सोरांव, जिला-इलाहाबाद

क्र.सं.	जत्था नं० 1, कोड नं०	जत्था नं० 2, कोड नं०	जत्था नं० 3, कोड नं०	जत्था नं० 4, कोड नं०	जत्था नं० 5, कोड नं०	जत्था नं० 6, कोड नं०	जत्था नं० 7, कोड नं०	जत्था नं० 8, कोड नं०	जत्था नं० 9, कोड नं०
1.	सराय चन्द्र मान खाम (336)	चक मनमोहनदास (350)	धामापुर बलकरन (368)	भावापुर (384)	बखोली (396)	सिगारपुर (406)	कुरसब (414)	बजीराबाद (422)	मरियमपुर (436)
2.	सराय चन्द्रमान उर्फ मममपुर (337)	नसीपुर दरयाम (351)	राजापुर मल्हूआ (369)	डीहा (385)	बहोरिकपुर (397)	फाकामऊ (407)	रामपुर (415)	चक झालर राय (423)	तिल्हापुर नाहरपुर (437)
3.	सुतामई (338)	मुहम्मदपुर नोषवा (352)	राधोपुर जगनपुर (370)	असवा उर्फ हाजीगञ (386)	वृत्तिह/अरहसपुर (398)	गंछोपुर (408)	दुआरी (416)	उदयचन्द्रपुर (424)	बड़नपुर (438)
4.	अरुबपुर भटवापुर (339)	शेकनपुर (353)	धानापुर अलवालपुर (371)	बादलपुर (387)	सराय गोपाल (399)	रवापुर (409)	हरीरामपुर (417)	अइनपुर (425)	बमनपुर डेरा गदाई (439)
5.	ससनपुर करन (340)	बलकरनपुर (354)	अकारीपुर (372)	गोहरी (388)	गौरा (400)	मोरहू उपहार (410)	बहमनपुर (418)	टिकरी ता० पडिला (426)	ताजउदीनपुर (440)
6.	ससनपुर कादू (341)	तुलसीपुर (355)	राजापुर परसुराम (373)	सेवईय (389)	मलाक बतुरी (401)	मोरहू कछार (411)	जैतवार डीह (419)	जल्मपुर (427)	महीरपुर नाहापुर (441)
7.	सहावपुर (342)	महूपुर (356)	अहबीपुर (374)	फूलपुर/ससनपुर (390)	कत्यानपुर/जंगलपुर (402)	बैला कछार फाकामऊ (412)	पडिला (420)	चांनपुर बिगहिया (428)	पिबिउरा (442)
8.	सराय फते (343)	सराय लाल खातुन/शिथगढ़ (357)	पदरैया (375)	सरसा (391)	मलाक चौधरी (403)	रघुपुरा (413)	बैला कछार बाह्व खाना (421)	मटियापुर (429)	डेरा गदाई (443)
9.	बारी (344)	सराय अर्बून/हरमडिला (358)	देवबरपुर (376)	मुलापुर ता० अल्दापुर (492)	मदारी (404)			कुरगांव (430)	घरवाई (444)
10.	ससनपुर (345)	नरायनपुर (359)	दादू (377)	माधोपुर उर्फ राधवगंज (393)	सेहरा (405)			करोडी (431)	सहजीपुर (445)
11.	उमरही (346)	शेमानन्दपुर (360)	सोरांव (378)	शेखपुर सठवा (394)				चक डेरा गदाई (432)	जगदीशपुर पुरेखवा (446)
12.	सराय भोगी (347)	मोहम्मद पुर बखोली (361)	जगद शपुर बलकरन (379)	यूगुफपुर (395)				बिगहिया (433)	चक ठाकुरगाम (447)
13.	सराय वृत्तिह/सराय बीहर (348)	रोही (362)	राजापुर मकसूदन (380)					बनकेशर (414)	मनसैत (448)
14.	परसाद पुर (349)	गोपालपुर (363)	पिजापुर बरई जिह (381)					बनकट (415)	
15.		माधोपुर मलाक बतुरी (364)	राजापुर कस्बा (382)						
16.		जूड़ापुर दादू (365)	वदैया (383)						
17.		अलीपुर (366)							
18.		कृष्णापुर (367)							
योग	14 गांव	18 गांव	16 गांव	12 गांव	10 गांव	8 गांव	8 गांव	14 गांव	13 गांव = 113 गांव समूह

जत्था नायक — डॉ० रजना दाम, सुश्री मंजू, राजेश्वर सिंह, ओम प्रकाश विश्वास, हितकरन सिंह, नवल किशोर, राजकुमार यादव, सत्येन्द्र सिंह

कार्यक्रम — जन सम्पर्क • प्रधान एवं प्रधानाचार्य, नेहरू युवा मंडल, युवक मंगल दल, महिला मंडल, आगन बाडी कार्यकर्ता, स्वास्थ्य कार्यकर्ता, ग्रामस्तरीय समस्त अधिकारी, कारीगर एवं मिस्त्री से सम्पर्क • प्रगात फेरी • जल स्वच्छता कार्यक्रम सगोष्ठी • जनस्वच्छता एवं डायरिया पर विशेष चर्चा • ओ आर एम (पुनर्जल) पैकेट वितरण • ग्राम विज्ञान केन्द्र एवं विकास सगठन अथवा सी डी डी वाटसन कमेटी को रूपरेखा बनाना • हृदयम्प एवं कुओ का निरीक्षण • महिला केयरटेकर का चयन • जन प्रगतिगण एवं श्रमदान • टीकाकरण तथा मासिकृतिक कार्यक्रमों का आयोजन आदि। सहयोग—पुनिसेक, आयोजक—'विकास' बालेष्टरी इन्स्टीट्यूट फार कम्युनिटी एन्वाइड माडग, तकनीकी मार्ग दर्शन एवं समन्वयन—जल निगम इलाहाबाद



# डायरिया (दस्त और हैजा) के खिलाफ-जल विज्ञान चेतना जत्था-मार्ग विवरण

'जल-स्वच्छता ग्राम सम्पर्क अभियान' Village Contact Drive for Control of Diarrhoeal Diseases Water And Sanitation (VCD) CDD-WATSAN  
विकास खण्ड-होलागढ, जिला-इलाहाबाद

दिनांक	क्रम सं०	जत्था न० 1	जत्था न० 2	जत्था न० 3	जत्था न० 4	जत्था न० 5	जत्था न० 6	जत्था न० 7	जत्था न० 8	जत्था न० 9	जत्था न० 10	जत्था न० 11
फरवरी 1 से 20 तक 1964	1	भादपुर रामनगर	सूफीपुर/सुमुफपुर	बहादुरपुर	कल्याणपुर	बभनपुर	मैरी	रादासपुर	बेरावा	जगदीशपुर/गुफासी	सुलतानपुर अकबर	पुरोत्तमपुर
	2	पश्चिम नारा	राजापुर चौबारा	अनोढी	मादीपुर	सुलापुर/खरगापुर	भाहपुर कल्याणपुर उर्फ नेबादा	सराय ता० माहबपुर	खरमापुर	महेशपुर	जमानपुर	बनइमक
	3	कान्गीपुर	सराय गंगा रामपुर	छीतपुर नखनी	ऊँचडीह	सर्वगीहन/मिगढ	जीतपुर दयाल	जूहापुर बीहर	सरावां	सुलेमपुर उर्फ कमईपुर	भीरामपुर	पांरपुर
	4	पूरननाग	सुलतानपुर जैसिह	अचलपुर	उमरिया सारी	बृसिहपुर/रामगढ	बहादुरपुर	कस्तुरीपुर	अर्जुनपुर	फलेपुर	जादोपुर	सराय बाबू
	5		सराय मदन सिंह/चाटी	खेनापुर	बालाडीह	न्यायीपुर	जमुनीडीह	देवापुर	सराय चन्द्रभाम उर्फ नननसई	अबदाशपुर मसनी	मागीपुर	रैय्या
	6		जैसियासई	अरुवाँव	उमरिया बादल	हसनपुर	कस्तुरीपुर	बरई हरख	बाजहा	सराय रामदास उर्फ नेबादा	जगदीशपुर	बसईपुर
	7		दहियांवा	शुकुन्बपुर	जागापुर	चौबारा	होलागढ		चकमगागिरि	निकदिलपुर	दुर्गापुर	तबकलपुर
	8		सरायचन्द्रभान			बरदनी	सराय हरीराम			पंचशेबरा	बृसिहपुर	हरीडीह
	9		हथाराजपुर							जूहापुरकरनाई	गारबपुर	कृपालपुर
	10		तरती								परसूपुरनारी	ईमामकुनीपुर
	11		गिरधर पुर/गोडवा								मालापुर	उस्मानपुर
	12										पुबनपुर	मगवतीपुर उर्फ सुटहना
	13										कमानपुर	
जत्था नायक		—नरेश त्रिपाठी	रमा शंकर मिश्र	मनोज कुमार	ओम प्रकाश विश्वास	बुद्धि प्रकाश	नवल किशोर मिश्र	धमैन्द्र सिंह	अनिल कुमार	हितकरन सिंह	बल्लन शर्मा	प्रवीण कुमार

कार्यक्रम — जन सम्पर्क, प्रधान एवं प्रध्याताचार्य, नेहरू युवा मण्डल, युवक मंगल दल, महिला मण्डल, आगनबाडी कार्यकर्ता, स्वास्थ्य कार्यकर्ता, ग्राम स्तरीय समस्त अधिकारी, कारीगर एवं मिस्त्री से सम्पर्क, प्रयात फेरी जल स्वच्छता कार्यक्रम संगीष्ठी, जल स्वच्छता एवं डायरिया पर विशेष चर्चा, ओ० आर० एम० (युनजेल) पैकेट का वितरण ग्राम विज्ञान केंद्र एवं विकास मगठन अथवा सी डी डी वाटसन कमेटी की रूारेखा बनाना, हेल्थपम्प एवं कुओ का निरीक्षण एवं महिला केयरटेकर का चयन, जल परीक्षण एवं संप्रदान, टीकाकरण तथा सांस्कृतिक कार्यक्रमों का आयोजन आदि। सहयोग — युनिसेफ, आयोजक — 'विकास' वानेण्टरी इन्स्टीट्यूट फॉर कम्युनिटी एम्प्लाइड मसज्जम स्थानीय तकरीकी समर्थन एवं समन्वयन—जन विभाग



# Micro Bial Water Quality Test Report

Name of the Nyaya Panchayat \_\_\_\_\_ Code No \_\_\_\_\_

## Descriptions

1. No. of total Samples \_\_\_\_\_  
No. of ok (✓) \_\_\_\_\_ % \_\_\_\_\_  
No. of not ok (x) \_\_\_\_\_ % \_\_\_\_\_
2. No. of hand Pumps (India Mark II & III) \_\_\_\_\_  
No. of ok (✓) \_\_\_\_\_ % \_\_\_\_\_  
No. of not ok (x) \_\_\_\_\_ % \_\_\_\_\_
3. No. of hand pumps (shallow boring) \_\_\_\_\_  
No. of ok (✓) \_\_\_\_\_ % \_\_\_\_\_  
No. of not ok (x) \_\_\_\_\_ % \_\_\_\_\_
4. No. of wells \_\_\_\_\_  
No. of ok (✓) \_\_\_\_\_ % \_\_\_\_\_  
No. of not ok (x) \_\_\_\_\_ % \_\_\_\_\_
5. No. of others \_\_\_\_\_  
No. of ok (✓) \_\_\_\_\_ % \_\_\_\_\_  
No. of not ok (x) \_\_\_\_\_ % \_\_\_\_\_

\* VICAS

\* CDD-WATSAN PROGRAMME

\* Unicef

Sign. of Examiner

(Name.....)



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# स्मरणीय और अनुकरणीय सन्देश

सी० डी० डी० वाटसन प्रोग्राम

दस्त और हैजा के खिलाफ,  
ग्राम सम्पर्क अभियान ।

सबल जल परीक्षण प्रयोगशाला

हाथ धोओ अभियान

HAND WASHING CAMPAIGN

दस्त होये, बच्चा परत,  
पिलाओ ओ०आर०एस० होये मस्त ।

घर और गाँव साफ बनायें,  
दस्त और हैजा दूर भगायें ।

आओ हम सब हाथ बटायें,  
मिलकर अपना गाँव सजायें ।

आओ आत्म निर्भर बनें,  
अपना काम खुद करें ।