

# Guidelines

for

## National Rural Drinking Water Quality Monitoring and Surveillance Programme



**Rajiv Gandhi National Drinking Water Mission**

Department of Drinking Water Supply

Ministry of Rural Development

Government of India

New Delhi

January 2006

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# ABBREVIATIONS USED IN THE GUIDELINES

WHO	World Health Organization
UNICEF	United Nations Children's Education Fund
NRI	National Referral Institute
NICD	National Institute of Communicable Diseases
SRI	State Referral Institute
NRDWQM&SP	National Rural Drinking Water Quality Monitoring & Surveillance Programme
O&M	Operation & Maintenance
DDWS	Department of Drinking Water Supply
SHG	Self Help Group
NGO	Non-Governmental Organization
IEC	Information, Education & Communication
HRD	Human Resource Development
CCDU	Communication & Capacity Development Unit
SWSM	State Water & Sanitation Mission
DWSM	District water & Sanitation Mission
PHED	Public Health Engineering Department
VWSC	Village Water & Sanitation Committee
GP	Gram Panchayat
ARWSP	Accelerated Rural Water Supply Programme
PRI	Panchayati Raj Institution
TA/DA	Traveling Allowance/Daily Allowance
FTK	Field Testing Kit
ASHA	Accredited Social Health Activist
UT	Union Territory
MIS	Management Information System

# **GUIDELINES FOR THE NATIONAL RURAL DRINKING WATER QUALITY MONITORING AND SURVEILLANCE PROGRAMME (NRDWQM&SP)**

## **1.0 BACKGROUND**

The National Workshop held on 7-9, August 1997 on 'Water Quality Monitoring and Surveillance', jointly organized by Ministry of Rural Development and Ministry of Health with support from WHO and UNICEF, had recommended institutionalization of drinking water quality monitoring and surveillance systems in the country. As drinking water quality monitoring, and quality surveillance are two distinct but closely related activities, requiring drinking water quality monitoring by suppliers of the drinking water and surveillance by the Health authorities, the workshop had also recommended close collaboration between drinking water supply agencies and Health authorities all over the country. The enormous task of drinking water quality monitoring and surveillance in rural areas requires 160 lakh samples to be tested annually with a norm of one sample per 200 population.

In order to institutionalize Water Quality Monitoring and Surveillance systems four pilot projects were implemented in Nellore (Andhra Pradesh), Sehore (Madhya Pradesh), Allahabad (Uttar Pradesh) and Kangra (Himachal Pradesh) based on Catchment Area Approach. After analyzing the findings of these pilot projects, it has been decided to scale up the programme all over the country. Accordingly, an Implementation Manual on National Rural Drinking Water Quality Monitoring and Surveillance Programme was got prepared through All India Institute of Hygiene and Public Health, which was circulated to all State Governments in January 2004.

For implementation of the programme, operational aspects mentioned in the Implementation Manual on National Rural Water Quality Monitoring and Surveillance Programme like drinking water quality standards, epidemiological and health aspects of water quality, sampling procedures, specifications for laboratory space, equipment, chemicals and glassware's for district water quality testing laboratories, role and responsibilities of SRIs, NRI, etc. will be followed. Since the cost norms suggested in the Manual are outdated, and in some cases not specified, it is felt necessary to update the same on realistic basis and share with the States through these Guidelines. Therefore, for cost norms, these Guidelines should be referred to for implementation of NRDWQM&SP.

As the infrastructure available in the country for monitoring the quality of drinking water supply is inadequate it was decided to adopt a community based approach, involving the available sub-district level

infrastructure for drinking water quality, testing e.g. educational, technical and private sector institutions.

## **2.0 OBJECTIVES**

- Monitoring and surveillance of all drinking water sources in the country by the community.
- Decentralization of water quality monitoring and surveillance of all rural drinking water sources in the country.
- Institutionalization of community participation and involvement of PRIs for water quality monitoring and surveillance
- Generation of awareness among the rural masses about the water quality issues and the problems related to water borne diseases.
- Building capacity of Panchayats to own the field test kit and take up full O&M responsibility for water quality monitoring of all drinking water sources in their respective PRI area.

## **3.0 STRATEGY**

### **At the National level:**

- The Department of Drinking Water Supply (DDWS) to monitor the entire programme.
- National Drinking Water Quality Coordination Council to advise DDWS for planning and supervising the implementation of drinking water quality monitoring and surveillance in the States
- Establishing a well structured information flow between Government, Technical Institutes, District Laboratories and grass-root functionaries.
- Identification of National Referral Institute (NRI)
- Training to State level functionaries.

### **At the State level:**

- Identification of State level Referral Institute
- Taking up State and Region specific IEC activities involving PRIs, Co- operatives, Women Groups, SHGs, NGOs by CCDU/SWSM
- HRD- Training to be imparted to district, block and GP level functionaries.
- Testing of atleast 10 % of the samples tested which include positively tested samples by the district water quality testing laboratories apart from routine cross-verification by the State laboratory. The State level Laboratories would also be involved in testing concentrations of rare elements and extend all necessary

- help in providing water quality testing reports to the State Governments during the periods of natural calamity and disasters.
- The district laboratories / PHED are expected to test at least 30 % of the water samples tested by GPs and compulsorily where possibility of contamination is reported by the community (VWSC/GPs).
  - The district and State laboratories shall compare the concentration of contaminants with respect to limits prescribed by Bureau of Indian Standards in **IS-10500**.
  - Identification / Registration of safe drinking water sources in all rural habitations (Gram Panchayat wise)
  - Sanitary inspections of drinking water sources should be done atleast once in a year initially, there after as situation demands.
  - 100 % testing of all sources at village level by grassroot level workers from VWSC/GP.

#### **4.0 FUNDING**

Under the programme, 100 % funding would be provided for IEC activities, HRD activities, strengthening of district level laboratories, procurement of field test kits, travel & transport cost, data reporting cost, stationery cost, honorarium to district level surveillance coordinators, water testing, documentation and data entry costs to the States for strengthening water quality monitoring facilities as per approved norms for water quality monitoring and surveillance programme and ARWSP guidelines. The existing personnel (both technical and non-technical) in several departments like PHE, Health, Rural Development, Panchayati Raj etc., would be mobilized and involved.

O&M of the field test kits including refilling costs for field test kits, cost of disinfectants, minor remedial expenses, annuity and mobility, honorarium to grass root workers, and honorarium to GP level coordinator will be covered by community contribution.

One field test kit per GP shall be provided. In addition, demo kits shall also be provided as per the following breakup: - **State/SRI -1 no. District-3 nos. & Block-2 nos.**

The funds for implementation of the Programme will be released by Government of India to the SWSM/PHED/Boards, based on criteria like number of drinking water sources, number of GPs, Block Panchayats, districts, total rural population, etc. in respective States.

State Governments then release funds relating to IEC and HRD to the CCDU. Funds for setting up of new laboratories and strengthening of

existing district level laboratories and administrative expenses shall be released by the States to DWSM/District laboratory.

Fund flow and strategy for procurement of field testing kits may be decided by the respective State/UT Government.

For meeting recurring costs of field test kits and other expenses, the community could contribute @ Rs 1 per family per month and deposit in the VWSC accounts with separate ledger.

## **5.0 ILLUSTRATIVE LIST OF THE ACTIVITIES UNDER IEC AND HRD**

### **5.1 *Training of Members of PRIs / VWSCs / Standing Committee of PRI on water quality and sanitation***

- Water quality issues including health related diseases
- Water quality monitoring
- Sanitation and hygiene

### **5.2 *Training of NGOs district level officers, State level functionaries on***

- Social mobilization
- Water quality monitoring and surveillance
- Sanitation and hygiene

### **5.3 *IEC strategy which may include***

- Inter-personal communication (door to door contact)
- Audio-visual publicity
- Hoarding and wall writing etc
- Slogans, picture frames, group meetings, street play, participatory rural appraisal and exhibition may be used as a tools. **A suggested Media and Communication strategy is given at Annex-1.**

### **5.4 *Training of school teachers at village, block, district level, Health workers, Anganwadi workers for promotion of water quality monitoring and surveillance***

## 6.0 COST NORMS

### 6.1 IEC activities

- As per the weightage of population in the State (**total budget = Rs 120 crore for 5 year period**)
- IEC activities to be carried out at State, district, block and Panchayat levels as per requirement.
- IEC activities at village level may include awareness camps for one day with 25 participants and a cost of Rs.100 per participant is allowed, as per CCDU guidelines.

### 6.2 Training

- No. of persons to be trained at **State - 2**
- No. of persons to be trained at **District – 4, Block- 5 & GP –5**
- Maximum No. of **persons per course** at all levels **should not exceed 25.**
- Maximum Cost per course: **District officials at the State level: Upto Rs.1,92,500 for 5 days excluding TA/DA** (for TA/DA average Rs.2000 i.e TA-Rs.1500, DA-Rs.100 per day) **Block officials at the District level- Upto Rs.30,000 for 3 days inclusive of TA/DA and GP functionaries at the block level - Upto Rs.15,000 for 2 days inclusive of TA/DA.**

### 6.3 Laboratories

- For **strengthening – Rs.1.00 lakh per lab** (further financial support to be assessed based on SRI report and NRI recommendation).
- For establishment of **new lab – Rs.4.00 lakh per lab as per the existing norms.**
- Till such time the new district level laboratories are set up and made functional, the DWSS may identify technical institutions like CSIR labs, Engineering colleges, Polytechnics, +2 level schools, district health laboratory, etc. for implementation of the Programme.

### 6.4 Field test kits

- Unit Cost of field test kit shall be upto **Rs.2500 (on FOR destination basis) for chemical parameters – FTK** would be provided to all GPs on the norm of one kit per GP.
- **H<sub>2</sub>S vials/Strips at a unit cost of Rs.18** will be used for bacteriological testing – Testing should be done 4 times per year.
- Savings generated from procurement of field-testing kits, if any, can be utilized for procurement of additional kits.



- **GP/WSC to ensure testing the quality of all drinking water sources in their PRI area including private drinking water sources.**

#### **6.5. Travel and transport at GP level**

- **Rs.60 per quarter per GP** (The average cost of travel by bus is expected not to cost more than **Rs 30 per trip** between the village and the block/district HQ).

#### **6.6 Data reporting at district level laboratory**

- **No. of sample x Rs.0.70**

#### **6.7 Stationery to GPs – Rs.50 per GP per year**

#### **6.8 Honorarium to District level surveillance coordinators**

- **Rs. 1500 per month honorarium** for one coordinator per district preferably an employee from local Health Dept.

#### **6.9 Consultancy fees to NICD (NRI) and SRI**

- **For NRI - as per MoU agreement.**
- State level Training – 2 persons per State – funding as per Key Resource center guidelines.
- **For SRI – Rs 4.8 lakh per year** to be paid for technical consultancy, tours and travel, documentation and stationery.

#### **6.10 Water testing, documentation and data entry fee to district laboratories**

- **Rs.90 per sample.** It is estimated that **30 % of total water quality sources in the State may be required for testing.**

#### **7.0 COMMUNITY CONTRIBUTION:**

It is estimated that a contribution of **Rs. 1 per family per month** could meet all the below mentioned expenses.

#### **7.1 Refilling cost at GP – Rs. 500 per kit**

#### **7.2 Annual Honorarium to ASHA/ Anganwadi/Science teacher/Health personnel & other grass root level workers for awareness, testing and record keeping (5 nos. per GP) – @ Rs 500 per person per annum**

#### **7.3 Cost of disinfectants, minor remedial expenses, etc at the GP level - Rs 1500 per annum per GP**

**7.4** Annuity costs – **Rs 250 for GP per year**

**7.5** Honorarium to GP level Coordinator - **one person per GP @ Rs. 1200 per annum**

## **8.0 MONITORING OF THE PROGRAMME**

- Monitoring through regular field inspections by officers from the State level and the district levels is essential for the effective implementation of the programme. DWSSM should constitute a team of experts in the district who should review the implementation in different blocks frequently. Such review should be held at least once in a quarter. Similarly the SWSSM should conduct review of the programme in the districts once in 6 months.
- The inspection should be made to check and ensure that the water quality monitoring and surveillance programme has been done in accordance with the norms and also whether the community has been involved in the analysis of water samples using field test kits.
- Inspection should be done to check whether the water quality information of a Gram Panchayat has been displayed transparently in Gram Panchayat (by wall painting or special hoarding for which IEC funds could be utilized)
- In addition, Government of India may also send its Review Missions to the States to assess the quality of implementation of the Programme.

## **9.0 REPORTS**

The Reporting mechanism shall be as follows :-

- The GPs/VWSC should furnish test reports to district laboratory once in 3 months.
- The water quality testing data of the district lab shall be updated in the online MIS package once the same is installed.
- The State lab shall further update the district level data based upon its observations. Till the MIS is put in place, the State Governments shall submit the district-wise water quality monitoring results to this Ministry, once in every 3 months.

## **10.0 ANNUAL AUDIT**

The district implementing agency should get the accounts audited annually by a Chartered Accountant and submit the report to the State Government and Government of India, at the time of release of second or subsequent installment.

## **Suggested Media and Communication Strategy**

### **1. MEDIA CAMPAIGN PLANNING AND DEVELOPMENT PROCESS**

#### **1.1 Overview**

The communication strategy will be used to structure and guide media plan for National Water Quality Monitoring and Surveillance Programme. A concurrently produced plan will identify and recommend various components in an integrated communication mix (such as media outreach, Internet and other types of new media, and partnerships) to effectively reach, motivate, and enable members of the target audiences to adopt water quality measures for better health

#### **1.2 Scope of Work**

An integrated communication plan at the central level will, act as a platform under which various states will make the state specific plans for effective dissemination of information and a change in behavior in the target audience.

The **communication strategy statement** will clearly define the target audiences for the campaign, the communication objectives for each target audience (i.e., what we hope to accomplish through communication), and the most promising message strategies to affect each objective (i.e., how we plan to communicate).

The **media plan** will be developed which will act as a blueprint to guide the cost-effective and maximum reach media action plan. This will specify, for a given level the recommended media mix (i.e., the proportion of media weight given to TV, radio, print, outdoor, and Internet advertising) and placement within each medium nationally and locally to achieve maximum reach and frequency with all target audiences.

#### **1.3 In Sum**

These documents will generate a communication campaign that will carry Importance of safe water in an integrated, strategic, and aggressive manner. The campaign will take full advantage of the complementary strengths of paid advertising, integrated marketing communications, strategic alliances to ensure the most effective possible use of the government's media expenditure.

### **2. NATIONAL COMMUNICATION STRATEGY.**

#### **2.1 Target Audience Defined**

##### **2.1.1 Primary audience:**

- Women members of the family.
- Head of the household.

- Primary school children for awareness.
- Youth audience (Approximately ages- 8 to 14 yrs)
- High school-age young adolescents (approximately ages 14-18), focusing specifically general hygiene practices and importance and methods of water quality testing in schools for awareness (They are the change agent for future.)

### **2.1.2. Influencers in the villages**

- School teachers
- Anganwadi workers.
- Health department staff including ASHA
- Panchayat president/ members.
- NGOs/ CBOs / Youth clubs
- Local influential people like priest, father of church, etc.

### **2.1.3 Influencers in the District level / Block level.**

- District level implementers (DM/CEO/ Other district agencies.)
- BDO and other implementers.
- NGOs/CBOs/Youth clubs.
- Political people.
- Professors, lecturers, from Universities, Colleges and other reputed research organization.

## **2.2 Communication Objectives**

**Communication Objective 1:** “Water is everybody’s business”  
Create an awareness regarding it.

**Communication Objective 2:** Generate the understanding about “Operation and maintenance cost should be fully boreed by community”

**Communication objective 3:** Questioning the quality of water. (The ill affect of impure water can be highlighted)

**Communication Objective 4:** Enhance people’s understanding about pure and safe drinking water (What is Quality water?)

**Communication Objective 5:** Change the perceptions of the people regarding safe drinking water and sanitation. (Increase felt demand of pure water and sanitation)

**Communication Objective 6:** Enhance personal and social skills of the people regarding better handling, storage of water.

**Communication Objective 7:** Enhance skills of the grass-root level workers for testing water and monitor it periodically to ascertain its quality as well as report it to the concern authority.

## 2.3 Strategies

The following three strategies are proposed to guide the creation and implementation of integrated communication.

**Strategy 1:** Maximize the delivery of messages through multiple media and interpersonal channels at different level.

**Strategy 2:** Region and problem specific communication strategies should be utilized.

**Strategy 3:** Involve grass root level organization and people in developing area specific campaign and messages to ensure campaign speaks to/for them (and is accepted).

**Strategy 4:** Use real members of the target audience to demonstrate behaviors and consequences (i.e., make the audience the message).

## 2.4 Communication Channel Analysis.

Very objective of this programme is to bring perceptible behavior change in the target audience regarding issues related to water quality It varies from generating awareness among the filed functionaries regarding importance of water quality the necessity for testing, ill effects due to unhygienic practices of water handling. This behaviour change should be a sustainable one, which will not die down soon. For this purpose the vehicle used are the various communication channels. A cost benefit analysis is required before we introduce various channels in the whole process

### 1. Interpersonal Communication

It is the most primitive form of communication, which yield maximum results. The target audience directly interacts and there are very few chances of any communication gap. The chances of communication barriers are very less. This media is extensively used in all the programme. The advantage of this channel is, the message can be communicated to the target audience who are illiterate. For the above message to be delivered a dedicated team of workers are required who can deliver the message. The disadvantage to the above channel is, The per person contact cost is very high along with a series of trainings are required for the staffs to deliver proper communication messages across the target audience.

### 2. Mass media- Print.

Mass media print is a cost effective medium to reach a vast number of populace at a single go. It is a credible medium and the presence of a vast number of vernacular print mediums the reach increases many fold. The disadvantage with this medium is a precise message with more visual effects attracts audience attention.

### 3. Mass media- Wall painting, Hoarding Posters, Banners:

Mass media of the above type reaches to a large audience very easily. The visibility of this media is very high. People remember the message. Capital cost on per person reach of this media is very low. Due to longevity of the message it act as a reminder media for the audience.

#### **4. Mass Media-Audio visual. (Video van, Branded van)**

Mass media Audio Visual is a very good media to reach to a larger audience. Here with a very precise message the target audience can understand the need of a behavioral change. The cost of reaching per person is relatively higher. But it is a recommended media for a large-scale dissemination of message.

#### **5. Traditional media.**

In India folklore are very famous and various traditional channels like Street theater, Puppets show, Story telling, folk dances exists. They have a huge impact on the target audience. Due to the message in the local language keeping a pace with their traditional belief systems they are very helpful to change the perception of the target audience.

### **2.5 Plan of action**

Following is the outline of action plan in the introductory phase. Each of these sections is elaborated in the following pages.

#### **2.5.1 Introductory phase action plan**

- I. A National Campaign Launch through Electronic and other print media channel.
- II. PR campaign for Secondary audience, political mass etc.
- III. State specific strategies to be developed by the respective States.

#### **2.5.2 Other activities in the first Year**

- I. Special Television Programming. (Talk Show, Other events)
- II. Special Internet based campaign for WQ issues.
- III. Promotion and Support of School Peer and Youth Mentor Activities.

### **2.6 Introductory phase of NRDWQMSP**

#### **2.6.1 National Campaign Launch**

The launch of the National Rural Drinking Water Quality Monitoring and Surveillance Programme is an unprecedented opportunity to put the issue of Importance of Drinking Water Quality in Water and Sanitation Sector. Effectively implemented, it will:

- Create a national attention about this issue through news and feature coverage in media outlets that reach the target audiences.

- Build understanding of and support for the campaign goals among partner groups and stakeholders.

The campaign launch needs to generate excitement and a sense of something "new" so that target audience, will take notice. It should be a multifaceted "happening," ideally coinciding with the rollout of the advertising nationally one month prior to the launch of the Programme.

This can happen, in part, through unique media partnerships with paid advertising partners. (For this proposals from various agencies can be asked. As per the Reach of the media and it's target audience acceptability, the selection of media can be carried out)

A month can be dedicated exclusively for broadcasting Water Quality messages through advertising, entertainment, and information programming on national and local news papers and magazines, seen by millions. Launch events would introduce the campaign's graphic symbol, and perhaps slogan to successfully communicate the essence of the campaign messages to all target audiences

One-page paid advertisements in major newspapers (In national English dailies, Hindi,) could announce the launch and call for people's participation in the Catchment Area Approach. The broadcast and the special WQ Testing kits may be showcased at the launch event and special media kits may be developed for the reporters.

Representatives from all walks of life like specialists, NGOs, CBOs, media organizations, could be invited to the launch event. For public private partnership corporate may be included for the launch of this event.

## **2.6.2 Other Activities in the first year :**

### **2.6.3 State Specific Action Plan To Be Developed**

For proper communication campaign **area and problem specific communication strategies** need to be developed. As here we are trying to change the behavior of a large number of local population, all efforts should be concentrated to generate awareness of local population. For this States has to identify and start media campaign as per the suitability of local populace in regional flavor. State Referral Institutes along with CCDU may provide necessary inputs to SWSM for preparation of State specific IEC Action Plan.

## **3. INTEGRATED COMMUNICATION PLAN WITH STATES:**

Multiyear communication campaigns like this will be planned most effectively and implemented in phases, as priorities will shift depending upon program and various external factors. So the campaign will always undertake planning process that will take into account:

1. Principles, strategies
2. Undertake midterm Evaluation/feedback from campaign activities in progress
3. Relevant external and internal factors.

A proper institutional set up is very essential for the Programme. The IEC action plan at various level will vary keeping in mind the overall IEC strategies. The details of Institutional frame work supporting this programme can be as below :-

#### 4. Recommended Elements in introductory phase communication strategies:

Sl. No	Purpose	Audience	Communication channel	Message
1.	Pre launching publicity	1. General public. 2. Implementers.	1. AV- Channels and Print media with in one month of prior to launch.	1. Pre publicity on every week for four consecutive weeks.
2.	Launching the programme	1. Political leaders. 2. State officials. 3. Implementing agencies. 3. General public. 4. Target audience.	1. Audio visual channels- Primarily all News channel (NDTV, ZEE, AajTak, DD national) 2. Print media- National Dailies, Vernacular media.) 3. Hiring PR agencies.	1. Need of a programme like NWQMSP. 2. Need of safe drinking water showing the ill effects of polluted water.
3.	Highlight the need of Safe drinking water.	1. Primary target audience and secondary target audience.	1. TV / Radio spots. 2. Training manual development on Water quality testing and use of kits.	1. Message as above.
4.	Community participation in safe drinking water.	1. Primary audience, Influencers.	1. Documentary films should be prepared.. 2. IPC manuals prepared. 3. Use of traditional media	1. Issue based local films in regional language. 2. Develop a standard region/ State specific script with NSD.



5.	Strengthening of state laboratories	1. Implementers.	1. Pin Mailers should be sent to the individual members.	1. Need for strengthening of labs as per GOI focus.
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### 5. Recommended Elements in Integrated Communication with States:

Sl. No	Purpose	Audience	Communication channel	Message
1.	Development of State specific Communication Strategies.	1. Implementers	1. Develop a Communication Strategy as per the requirement and problems of various states. 2. Arrange region specific workshop with the help of CCDU and SRI to finalize the communication strategies of the states.	1. Before starting the effect in the state.
2.	Develop Interpersonal Communication manual, And Training Manual.	1. Workers and Implementers.	1. Mass media, (Flip charts and Pamphlets)	1. Safe drinking water and its need.

### 6. CONCLUSION

In conclusion, the Programme encompasses the resources for educating and enabling local populace to understand and participate actively. This can be accomplished most effectively through national and integrated communication campaign with states. By delivering strategic messages through multiple complementary channels, an integrated communication campaign has the potential to cut through the clutter to shape the beliefs and behaviors that will influence consumption of safe drinking water.

Each of the diverse elements of this integrated communication plan is made in accordance with the communication strategy. As these program elements unfold in a carefully coordinated manner, a productive synergy to shape behavior should emerge in future.