



## **Strengthening of Water Quality Surveillance for Kachchh District**

The State Government through the Gujarat Water Supply and Sewerage Board (GWSSB) has been making commendable efforts to supply water to the affected villages. UNICEF has been supplementing their efforts by providing hardware support. However, water quality surveillance and monitoring was one area which was adequately attended by WHO.

Considering the health significance attached to the quality of water, it was felt essential to provide support to the District Water Laboratory of GWSSB at Bhuj. A project worth US\$ 93 000 has been taken up for providing following support to strengthen the water quality surveillance and monitoring activities in the Kachchh district:

- a. Manpower to carry out surveillance and water testing;
- b. Mobile water testing laboratories mounted on utility vehicles;
- c. Field-testing kits;
- d. Chemicals, glassware and miscellaneous items;
- e. Training of staff; and
- f. Strengthening and furnishing of laboratory building.

Under the project, checking of drinking water samples from all villages on regular basis by scientific staff, who will be provided vehicles to move in the field is envisaged. The findings of the visit and analysis will be reported to the concerned authorities for remedial action. The project is also expected to improve data bank and information dissemination.



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## Water Quality

The quality of drinking water is essential to the health of communities. Hence, WHO has accorded priority attention to the monitoring of water quality in the earthquake-affected Kachchh district. Chloroscopes were distributed to the government and local agencies during the first quarter.

Chlorination is considered to be the most essential operation in water treatment to prevent any morbidity related to drinking water, more so, in an earthquake-affected area. WHO, therefore, established a network for monitoring of chlorination in the four worst affected Talukas (sub-districts) of the district, through the support of the health department, Gujarat Water Supply and Sewerage Board (GWSSB) and German Federal Agency for Technical Relief (THW).

THW provided about 50 chlorination plants for villages, which were being managed through the *Gram Panchayats*. WHO entered into an agreement with THW to monitor the working of the plants. THW has withdrawn from the field since September 2001, and WHO is looking after the performance and providing technical guidance in trouble-shooting. As a result, chlorination in rural areas has appreciably improved and is regularly reviewed in the weekly health coordination meetings. This has helped to a great extent in preventing any water-borne disease so far.

WHO had provided 1 250 chloroscopes to field staff for measurement of residual chlorine and also imparted necessary demonstrations and training. The health staff in the field is regularly checking the residual chlorine in villages and reporting the performance in weekly coordination meetings held at the Taluka level. On an average, more than 85% samples show presence of chlorine. The representative of GWSSB present in the meeting takes note of the shortfalls and reports compliances in the next meeting. WHO surveillance officers persuade follow-up action during the following week.



Good understanding and working relations prevail between the Water and Health Departments due to advocacy by WHO. The quality surveillance mechanism has been appreciated by the State Government and it has requested for its replication in other earthquake-affected districts. WHO has considered this request under its future expansion plan that has become operational since December 2001.

Severe effects of the earthquake were reported in Kachchh district where WHO has been paying maximum attention. However, other districts suffered moderate to heavy damages, which included water services also. The districts other than Kachchh affected by the earthquake were mainly Rajkot, Jamnagar, Surendranagar, Ahmedabad, Banaskantha, Mahesana and Patan. The district laboratories for these districts are located at Rajkot, Gandhinagar and Palanpur. At the request of GWSSB, WHO also provided laboratory equipment for testing of water samples at these district laboratories. Chlorination practices on the lines of Kachchh district are planned to be taken up in other earthquake-affected districts also.



Demonstration of chlorine measurement in water supply by WHO staff



Online chlorine check by staff of district water laboratory at Bhuj



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## Capacity Building through Training and Awareness Programmes

It was essential to develop the manpower that would take up the new challenges posed by the situation. In these circumstances, WHO took up an extensive programme to provide training to the professional staff and create awareness among the user communities.

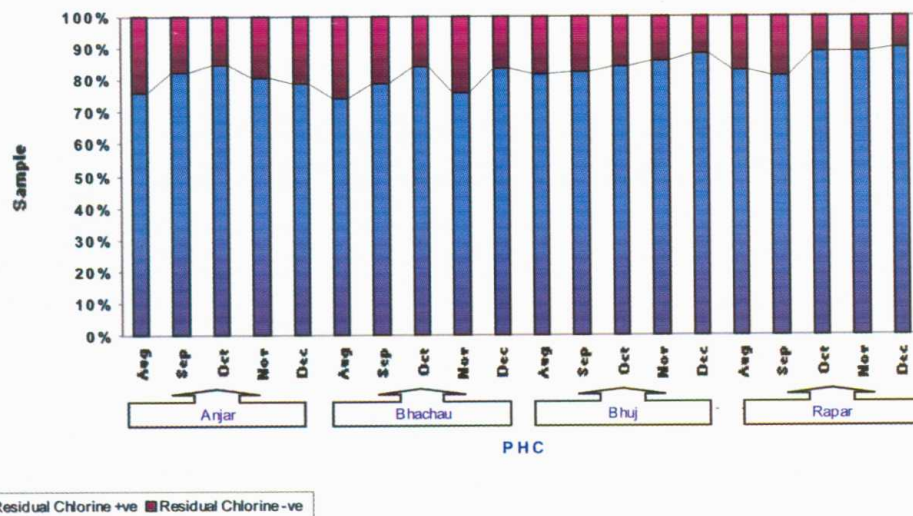
WHO took up training programmes for pump operators, linemen, water supply supervisors, health workers, PHC and sub-centre staff, village head and *Panchayat* members, conservancy staff of municipalities and representatives of NGOs. There are several Government agencies and NGOs working in the water and sanitation sector. Each agency has got its own mandate of work. To avoid duplication of work and to share the information, a sub-group on WATSAN activities was formed which meets regularly (initially weekly, then fortnightly and now monthly) to review and take follow-up action. WHO has been playing an active role in organizing such meetings and taking follow-up action. WHO also maintains regular contacts with other NGOs and UN agencies for concerted efforts.



Health message through religious platform  
at Anjar in Kachchh district



## Chlorination Status in Kachchh District from August to December 2001



Source: WHO Water and Sanitation, Gujarat



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## **Water and Sanitation Sector Review Workshop, Ahmedabad, 13 October 2001**

As recommended by Dr Dennis Warner, WHO Short-term Consultant, in his review mission report of June 2001, a one-day workshop was organized at Ahmedabad on 13 October 2001. The objectives of the workshop were:

- (1) To review the activities of the WATSAN sector in Kachchh, and
- (2) To invite suggestions for planning future activities.

The workshop was inaugurated by Hon'ble Mr Narottambhai Patel, Minister for Water Supply, Government of Gujarat, and was presided over by Mr SK Nanda, Secretary (Health), Government of Gujarat.

More than 50 participants from the Departments of Health and Water of the Government of Gujarat, NGOs and other UN Agencies participated in the workshop.

The Hon'ble Minister, in his inaugural address, lauded the role of WHO. He appreciated the joint efforts of WHO, the Department of Health and the Gujarat Water Supply and Sewerage Board (GWSSB) due to which major outbreaks of water-borne diseases could be contained. The Hon'ble Minister stressed the need for monitoring the disposal of domestic wastewater, and protection of the sources of the public water delivery system. More attention needed to be paid to chlorination of water and the water quality monitoring network required strengthening. He further said that the WHO activities should be replicated and expanded to other earthquake-affected parts of the State.

Mr SK Nanda, Secretary (Health), Government of Gujarat, said that a disease surveillance model linked to the water quality surveillance should be developed and more technical inputs provided to control the malaria menace. The information, education and communication (IEC) activities should be strengthened to decrease water-borne morbidity and mortality. The constraints in the sanitary facilities should be



removed through R&D activities, and adequate water supply and sanitation facilities ensured at all health infrastructures. He suggested that WHO should plan for long-term assistance to the State.

At the conclusion of the workshop, the following recommendations were made :-

**A. Drinking Water Supply**

- (1) Priority must be accorded to monitoring of drinking water quality.
- (2) Community-based approach should be encouraged.
- (3) Capacity building exercise should be made an ongoing programme.
- (4) WATSAN activities should be expanded to other affected districts and coordination between health and water supply departments established as done in Kachchh.
- (5) Documentation of data and experience gained should be ensured.
- (6) Support should be provided to water quality monitoring in urban areas.
- (7) Programmes to provide sanitary protection to the water supply sources should be undertaken.
- (8) WATSAN committees should be motivated.

**B. Environmental Sanitation**

- (1) Help must be extended to urban bodies in the treatment and disposal of wastewater.
- (2) Proper procedures for disposal of biomedical waste should be established.
- (3) Training manuals in Gujarati language should be developed.
- (4) Intersectoral coordination must be promoted.
- (5) Water and sanitation awareness programmes should be initiated.





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## **Inter-state Meeting on “Gujarat Earthquake: Health Sector Perspectives”, Ahmedabad, 6-9 November 2001**

With technical and financial support from WHO, the Government of Gujarat organized an Inter-state Meeting on “Gujarat Earthquake: Health Sector Perspectives” at Ahmedabad, from 6-9 November 2001. The purpose of the meeting was to introspect some of the policy, managerial and operational issues related to emergency response and preparedness.

50 senior government officials from Delhi, Gujarat, Himachal Pradesh, Manipur, Punjab and Rajasthan participated in the meeting, besides the Indian Army officials. From Gujarat, the Health Commissioner, the Health Secretary and senior government officials took active part in most of the deliberations.

The meeting was inaugurated by Hon’ble Dr Vallabhbhai Kathiria, Minister of State for Heavy Industries and Public Enterprises, Government of India. Hon’ble Mr Ashok Bhatt, Minister of Health and Family Welfare, Government of Gujarat, along with Mr SK Nanda, Health Secretary and Mr Joy Cheenath, Health Commissioner, also attended the inaugural session. In addition, the Health Minister also participated in the deliberations of the meeting on a number of occasions.



Inaugural session of the Inter-State Meeting on “Gujarat Earthquake: Health Sector Perspectives” held in Ahmedabad, from 6-9 November 2001. The meeting was inaugurated by Hon’ble Dr Vallabhbhai Kathiria, Union Minister of State for Heavy Industries and Public Enterprises





Various NGOs which were actively engaged in the earthquake-affected areas took part in the deliberations of the meeting. Amongst the UN agencies, UNICEF and UNFPA, besides WHO, participated in the meeting.

The Government of Gujarat organized a two-hour session through the state-owned remote sensing satellite for close interaction with those district-level officials who could not attend the meeting due to ceiling on the number of participants which was enforced to make the meeting more effective. In this session, the WHO team consisted of Dr Abdul Sattar Yoosuf, Director, SDE/WHO/SEARO; Dr Tej Walia, WHO Public Health Administrator, WHO Representative's Office, New Delhi; Dr Luis Jorge Perez, EHA/WHO/SEARO; Dr Lin Aung, STP-EHA/WHO/SEARO, and Dr Bipin Verma, WHO Focal Point for EHA Activities in India. The Government of Gujarat team consisted of Dr Joy Cheenath, Health Commissioner, and Dr Paresh Dave, Assistant Director, Health Education Bureau. About 1,500 district level officials participated through the satellite.

At the conclusion of the meeting, the following observations and recommendations were made :-

<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
1.	Dedicated work and appreciation.	It is unanimously resolved that appreciation should be expressed to all those who worked to save lives and minimize the losses to the community affected in the disaster-affected areas. This is more crucial for those who worked in the first 24 hours simply on their human instincts and in the absence of adequate resources.



<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
2.	Exemplary attempts to help their fellow brethren and courage seen in the local community.	Various stories and tales of battles for survival and outstanding courage should be recorded and published by the Government.
3.	Coordination had significant positive impact on the outcome.	A permanent state level coordination committee, with various stakeholders as members, should be an integral part of the Disaster Management Authority. Similar units could be formed at the district, taluka and village levels. The approach should be to build a transparent and efficient system.
4.	A permanent organization for disaster management is established by PMO. States are to prepare State plans.	The proposed plan by the Government of India should immediately be discussed and adopted with appropriate modifications.
5.	The disaster management plan is the immediate need and it should reflect ground level realities and applicable to local situations.	A disaster management plan should immediately be prepared and, if already prepared, should be modified with current information and technology.



<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
6.	The first response was unplanned and rescue operations in future require preparedness.	<b>The rescue teams should be identified, effectively trained and equipped with self-sufficient facilities for uninterrupted action. The need for rapid transportation of such teams with effective communication systems should be guaranteed. This is necessary for quick transfer of critical cases to nearest care centres and deploying other mobile medical units.</b>
7.	The nodal institutes have to be safeguarded so that the key facilities do not get damaged, crippling the relief operations.	<b>All nodal centres for health and medical care and other emergency and essential civil services should be assessed for their vulnerability to disasters. The plans should be implemented by allocating appropriate funds to apply technology for the new constructions of such centres before clearance for the work is given.</b>
8.	Active participation of local doctors and social workers is imperative.	<b>A detailed directory of various agencies that can assist in disaster management should be prepared and made available to all concerned.</b>



<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
		<b>All these agencies should have coordination so that their participation at any given point of time and place is ensured.</b>
9.	Periodic drills for the rescue activities will be necessary.	<b>All activities aimed at immediate action in a disaster situation should be subjected to periodic (once in six months) drills or mock events. This will require a manual detailing the person, task, time-frame and responsibility for the entire operation. The manual can be part of (or a separate identity) a manual covering guidelines for relief and rehabilitation issues.</b>
10.	Training and awareness are important in disaster management.	<b>A state Disaster Management Institute running multi-faculty courses and providing refresher courses recognized by the University is necessary. Such an institute in a border state like Gujarat will help in combating any situation related to man-made disasters like war. The institute should have the capacity to take up operational research on disaster management.</b>



<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
		<p>Simple modules and health education material for the general public should be prepared in vernacular and lessons on disaster management should be incorporated in school textbooks and college education. Till the institute comes up, appropriate regional centres should be identified to carry out this function.</p>
11.	<p>Disease surveillance and environment management have potential to prevent epidemics after disasters. WHO assistance in training and monitoring is commendable.</p>	<p>Disease surveillance by trained workers has to be a regular activity of the health sector. Better softwares and analytical methods and equipment must be made available for this crucial activity. The issues of safe water and sanitary waste disposal should be tackled even in normal times. The surveillance in the rehabilitation stage should include recording, managing and follow-up of injured and handicapped. WHO assistance should extend to other districts for betterment of surveillance and reporting system.</p>



<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
12.	The role of the media in a disaster is very crucial and should be utilized in best possible manner.	<b>A media cell within the health sector is needed. Some senior academicians and public health managers should be trained for media interaction. A close liaison with media should be ensured by frequent regular interaction.</b>
13.	Psychosocial and nutritional rehabilitation to the affected population.	<b>Necessary planning for long-term intervention should be made by the core groups and reviewed periodically.</b>
14.	Physical rehabilitation.	<b>An organization should be set-up for all such cases that may require physical and social rehabilitation.</b>
15.	Training for material management by using supply and management (SUMA).	<b>It is recommended that the personnel at CMSO be trained in supply and management (SUMA).</b>
16.	Planning for reconstruction and redevelopment of the health facilities is subjected to new initiatives which have been quite successful.	<b>It is recommended that the experience be supported, strengthened and disseminated. This particularly applies to the empowerment of the health sector for taking up the construction projects.</b>





<i>S.No.</i>	<i>Observations and Expectations</i>	<i>Recommendations</i>
17.	Coordination experience in the disaster management has been quite satisfactory.	<b>This experience needs to be documented. The team of experienced officers should be used effectively in future so that their skills are best utilized.</b>



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## **Expansion of WHO Activities in other Earthquake-affected Districts of Gujarat**

The administrative and coordination unit of WHO has been shifted to Gandhinagar, the state HQ, and it will continue to function as the State liaison office, while the disease surveillance unit will remain in Bhuj with minimal staffing.

His Excellency the Governor of Gujarat inaugurated the first state level liaison office of WHO India country office, in the presence of WHO Representative to India, Hon'ble Health Minister of Gujarat, and senior government officials.

Three surveillance officers (National UNV doctors) now share offices and other resources with NPSP officers in the field (Rajkot, Mahesana and Gandhinagar), to build on the existing system and network of different surveillance activities. Currently, five national UNV doctors and two national UNV engineers (water and sanitation) work in the field for the integration of disease surveillance and coordinated water quality surveillance in eight needy districts of north-west Gujarat.

In addition to the existing funds of Gujarat Earthquake Relief Mission, new funding from the European Commission is expected for integrated disease surveillance activities in these districts, based on lessons learned in Kachchh.

The new WHO office at the state HQ has started functioning as the state liaison office for WHO India country office. In addition to the integrated disease surveillance and regular liaison with the state authorities, many more activities are being considered.



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- Integrated disease surveillance in eight districts of Gujarat;
  - Coordinated approach with water quality, sanitation and environmental health;
  - Linkages with health sector disaster preparedness;
  - Developing guidelines for surveillance of noncommunicable diseases;
  - Developing a public health resource centre at the state HQ;
  - A disaster epidemiology training course for government officials;
  - Improvement of water and sanitation facilities in the health institutions;
  - NGO partnership for pilot, innovative projects in the fields of:
    - Indian systems of medicine;
    - Blood disorders; and
    - Prosthesis and rehabilitation.