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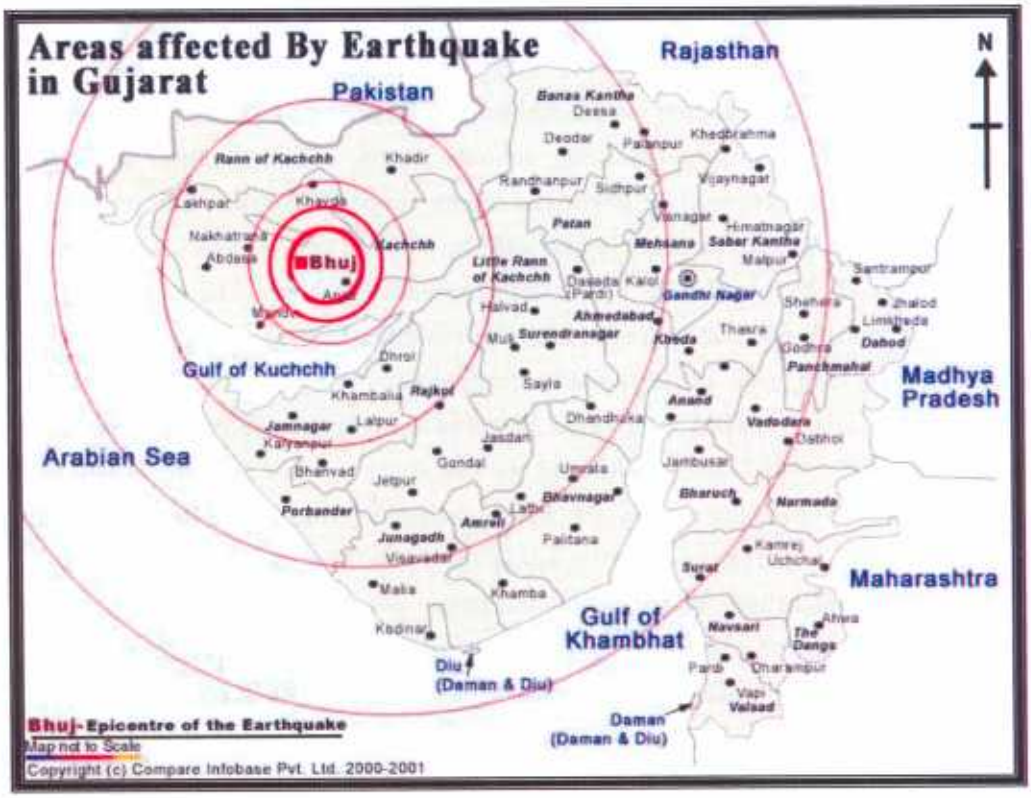
Backdrop

The devastating earthquake that hit the Kachchh district of Gujarat on 26 January 2001 affected 37.8 million people. Housing, schools, roads, communication systems and power lines were all completely destroyed which resulted in a loss of livelihoods as well as lives. The Government of Gujarat and the national and international community responded quickly to this disaster with emergency relief services. The emergency phase lasted until mid-March 2001. Since then, the rehabilitation phase began, keeping in mind the long-term goal of sustainable development. The United Nations Disaster Management Team (UNDMT) in India prepared a comprehensive report on the UN System response. WHO was designated as the focal agency for the health sector response and a cooperating agency for water, sanitation, food and nutrition. From the beginning, WHO was instrumental in acting as a link between the Government and NGOs, and coordinating activities to minimize overlap and maximize available resources. WHO played a vital role in protecting and promoting the health of the people through improving the quality of water supply and establishing a disease surveillance system.

The first quarterly report from 26 January - 30 April 2001, and the second report covering the period 26 January - 31 July 2001 were brought out earlier. This is the third report in the series for the period 1 August 2001 - 31 January 2002.



The main areas of activity of WHO in the last six months were:

(1) To support the re-establishment and rehabilitation of health services in the earthquake-affected areas with special attention to primary health care;

(2) To provide technical advice to the Government, UN agencies, bilateral agencies and NGOs on priority public health issues in the aftermath of an earthquake;

(3) To collaborate in the health sector coordination;

(4) To support the Government in establishing disease surveillance in the earthquake-affected areas, including an early warning system and capacity building for rapid response to epidemics;

(5) To provide technical support for emergency repairs of water distribution system, water treatment and distribution, sanitation and solid waste disposal, food safety, vector and zoonoses control; and

(6) To expand all WHO activities in other earthquake-affected districts.

WHO Team in Bhuj (October 2001)

Designation	*Number*
Team Leader	**1**
Disease Surveillance Coordinator	**1**
Water and Sanitation Specialist	**1**
Surveillance Officers (NUNVs)	**6**
Administrative Assistant	**1**
Logistics Assistant	**1**
Information Technology Assistant	**1**
Data Entry Operator	**1**
Drivers	**7**

- Technical advice and coordination in the health response to the emergency situation, disease surveillance, water and sanitation to the Government of Gujarat and other UN agencies.
- Working closely with international and local NGOs to support their activities and assist with coordination within the health sector.

Health Sector Coordination

WHO was requested by the United Nations Disaster Assessment and Coordination (UNDAC) Team to support public health and health sector coordination in Gujarat through restoration of public health services as soon as possible following the earthquake, and to maintain its presence in the state to help ensure that public health care was given adequate attention in the period of time after immediate relief and before complete restoration of the health services. WHO is the lead agency to support health sector coordination and cooperation amongst international agencies.

- Good coordination between WHO, Government, UN agencies, national and international NGOs.
- Thirteen meetings of Health Sector Coordination Group held during the period of six months.
- Sub-sector group meetings held regularly every fortnight.
- Weekly coordination meetings at Taluka level in four most affected talukas, viz. Anjar, Bhachau, Bhuj and Rapar.

The first health sector coordination meeting was held on 5 February 2001 in the field headquarters of the International Federation of the Red Cross and Red Crescent Societies Field Hospital at Lallan College. Till 30 April 2001, ten health sector coordination meetings had been held, while during the period of six months from 1 May to 31 October 2001, a total of 13 meetings took place.

During the second and third quarters, as the need for intensive coordination decreased, the meetings were taking place fortnightly instead of weekly. The district government health officials regularly attended the meetings. Attendance at the meetings decreased towards the end of the third quarter as many agencies finished their work and left the area.

Meeting Days in Bhuj

Month	*Number*	*Dates*
May	**2**	**10, 24**
June	**2**	**7, 21**
July	**2**	**5, 19**
August	**3**	**2, 16, 30**
September	**2**	**13, 27**
October	**2**	**11, 25**
November	**1**	**29**
December	**1**	**20**

WHO is responsible for the health sector meeting minutes and the e-mail system was used effectively to communicate them to government officials in the state headquarters, all the agencies attending the meetings and even to those organizations whose representatives were unable to attend the meetings.

During the third quarter, with the initiative of the Collector and District Development Officer of Kachchh, an executive committee was established. The responsibility of NGO coordination was assigned to UNDP, while the responsibility of health sector coordination continued to remain with WHO.

Meetings at Planet Bollywood, International Federation of Red Cross and Red Crescent Societies (IFRC), Bhuj

Health Sector Meetings on Thursday	**Time**
Psychosocial support	9.00 A.M.
Reproductive and child health	11.00 A.M.
Rehabilitation and prosthesis	2.00 P.M.
Health promotion	4.00 P.M.
General health sector	6.00 P.M.

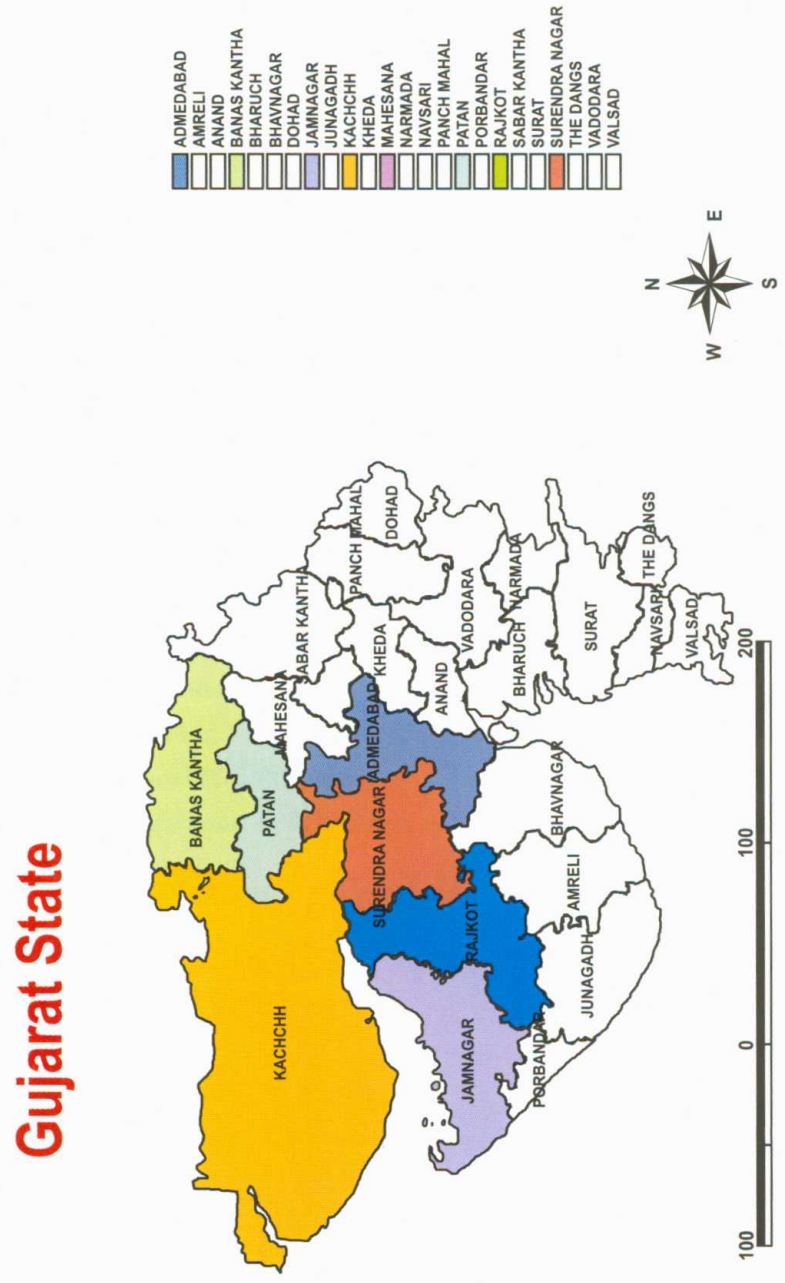
The health sub-sector groups of psychosocial support, reproductive and child health, rehabilitation and prosthesis and health promotion have maintained their schedule of regular fortnightly meetings throughout the six months.

The sub-groups of hospitals and infrastructure restoration were dissolved. The nutrition group was separated and the responsibility for coordination was taken by WFP.

Organizations attending the meetings:

Abhiyan
Action Aid
American Red Cross
FICCI - CARE
CESVI (World Aid from Italy)
Catholic Relief Services (CRS)
Government of Gujarat (GoG)
Handicap International
Health Services, Bhuj
Hospital for Mental Health, Bhuj
International Federation of Red Cross and Red Crescent Societies (IFRC)
Kutch Vikas Trust (KVT)
Life Line Express
Merlin
Oxfam, India
Oxfam, UK
Save the Children Fund (SCF), UK
Self-Employed Women's Association (SEWA)
UNDP
UNICEF, Gujarat
Voluntary Health Association of India (VHAI)
WHO, Bhuj

Title of Sub-group	*Lead Agency*	*Meetings*	*Key Issues*
Psychosocial Support	American Red Cross (ARC)	13	1. Training of teachers and health volunteers. 2. Innovative activities like painting and essay writing. 3. Diagnostic and counselling camps with the involvement of psychiatrists from the Civil Hospital. 4. Psychosocial Support workers' directory prepared by the lead agency. 5. Extension of activities to other districts.
Reproductive and Child Health	UNFPA / Integrated Population & Development (IPD)	11	1. Ten mobile vans provided by UNFPA. The activities include preventive, promotive, and curative health services. 2. Training of traditional birth attendants (TBAs) by various agencies. Focus on increasing institutional deliveries. 3. Adolescent girls' fair: an innovative tool. 4. Planning for Pulse Polio 2001-2002. 5. Growth Monitoring Campaign linked with measles, immunization and vit.A supplementation.
Restoration of Health Infrastructure	UNICEF	3	This group was dissolved in July 2001. Revived again in November 2001. Weekly meetings held to assess the progress of construction.
Prosthetic and Orthotic Rehabilitation	Handicap International	13	1. Stress on community-based rehabilitation. 2. Attempt to collect trauma-related data from different agencies, though the quality of data was not good. 3. The compiled data handed over to government authorities for further validation. 4. SAFARI camps to provide care to the needy people. 5. Training activities.
Health Promotion	Oxfam	13	1. Colourful posters and handouts developed in local language carrying health messages about malaria and personal hygiene. 2. Use of electronic media, religious platforms, street plays. 3. Presence at public fairs. 4. Training activities. 5. Demonstrations, e.g. chlorination.


Gujarat State
ADMEDABAD
AMRELI
ANAND
BANAS KANTHA
BHARUCH
BHAVNAGAR
DOHAD
JAMNAGAR
JUNAGADH
KACHCHH
KHEDA
MAHESANA
NARMADA
NAVSARI
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PATAN
PORBANDAR
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Communicable Disease Surveillance and Response

Highlights

- Sustained active involvement of private sector due to regular meetings, transparency in data and consistent feedback.
- Weekly epidemiological summary with data analysis and use of Geographical Information System (GIS), also available on the WHO website.
- Training of medical officers and paramedical staff for disease surveillance and diseases of public health importance. (Provided technical inputs on biochemical warfare, also).
- Epidemic preparedness and adequate response ensured at the district and sub-district level.
- Coordinated response to malaria outbreak - mobilization of medicine, fogging and spraying machines, and manpower (Operation Health, Kachchh).
- Regular situation review meetings with the health department officials and district administrators.
- Development of a platform for crucial review during malaria outbreak through field coordination meetings by WHO.
- Provision of equipments and necessary support to establish the Public Health Laboratory at Bhuj.

Immediately after the earthquake, experienced surveillance medical officers already working under the National Polio Surveillance Programme of WHO (NPSP) in the state and neighbouring areas were mobilized to the worst earthquake-affected district of Kachchh. With technical guidance and direction from the NPSP coordinator of the West Zone, these surveillance officers established an immediate disease surveillance system. Mobile medical teams (approximately 450) mobilized from all over the state were the main reporting units. Very soon PHCs/CHCs and hospitals became functional in tents and also started reporting.

A surveillance format was agreed upon with the government in the local language, with the assistance of NPSP state surveillance officer located at the state HQ. It was a daily syndromic reporting system and aggregate data were analyzed at the sub-district and district levels. With the same sources and methods for data collection functional all over the district of Kachchh, a regular weekly epidemiological summary (disease surveillance report) was released/published in the health sector coordination meeting. This practice continued in the second and third quarter, which was very well appreciated by all including the senior government officials.

In the second quarter, a new multi-disease standard surveillance format was prepared in consultation with the government counterparts, with inputs from international NGOs. This was a mixed approach in many contexts. It was a disease-specific and a syndromic approach, combining both institutional and field surveillance. It collected aggregate secondary data and primary case-based data in certain identified diseases of public health importance. It involved the fixed and mobile medical institutions of both the state and central governments. It also collected data from short-listed private practitioners and all NGO/Trust hospitals of the district. In addition, international NGOs camped in the field for medical services were also included in the reporting network. This new weekly surveillance system was expanded to include all the state government institutions of the district, i.e. all ten talukas of district Kachchh.

WHO standard case definitions were accepted in consultation with the Government of Gujarat and treatment protocol advocated. The WHO surveillance unit conducted an exhaustive training programme of all medical officers of reporting units and private practitioners. The topics included were:

- Concepts, principles and methods of epidemiology;
- Disease surveillance - reporting and analysis;
- Outbreak investigation and epidemic preparedness;
- Acute respiratory tract infections;
- Diarrhoeal diseases;
- Malaria;
- Dengue fever; and
- Biochemical warfare.

Senior district and state level government officials from the health department, experts from the Regional Family Welfare Centre of the Government of India, Ahmedabad, and independent renowned consultants participated as resource persons in this training programme. This WHO initiative was very well converted into a Continuous Medical Education programme by good coordination among WHO, government and international NGOs. Many NGOs made use of the WHO established training platform for various training programmes on health and nutrition, mental health, prosthesis and rehabilitation.

Training Category	No.
PHC medical officers	36
MOs - State dispensary	40
MOs - Mobile team	124
MOs - Community Health Centre	16
MOs - Civil / Referral hospitals	8
Sub-district public health professionals	22
Paramedics / ICDS workers	160
MLVs	245
Private practitioners	57

Presentation by WHO staff of Malaria case study at Bhuj

Training course for Medical Officers of Rapar Taluka PHCs at Rapar in Kachchh district

These training programmes were very interactive, with group work and exercises. All the participants took very active interest in them. Through this, medical officers (government and private) were sensitized for epidemic preparedness and trained in reporting, investigation procedures and rapid response.

National United Nations Volunteer (NUNV) doctors with the government counterparts met and convinced the identified private practitioners for the regular reporting. They assisted in collection, compilation and analysis of these weekly reports. They continuously nurtured the system by providing the regular feedback, training and

technical material, chlorine tablets, ORS, IV solutions, chloroquine and primaquine tablets, and chloroscopes. The state government or international NGOs working in the aftermath of the earthquake provided all these medical supply items and equipments with WHO coordination efforts.

In India, private practitioners of a district reported for the first time, throughout the last nine months, in the aftermath of the earthquake. National UNV doctors provided all necessary reporting formats and trained them in the various procedures. Regular technical meetings in the evening using the platform of Indian Medical Association were organized. WHO ensured the participation of senior government officials in this meeting to provide feedback to the private reporting units. The 'Action' component of the surveillance was given proper emphasis in these meetings. Private practitioners extended full support and cooperation to the health department and very much appreciated WHO's efforts to bring the two together. In addition to reporting of diseases of epidemic potential, private practitioners also assisted the government in immunization campaigns, cleanliness drives, health education and hygiene promotion. Their role in controlling the malaria epidemic was very important and appreciated by the government health department. They helped in radical treatment, drug resistance and G6PD deficiency studies, public acceptance of insecticide spraying and fogging, and malaria talks on TV and Radio. WHO ensured proper and timely feedback to all these private reporting units and ensured complete transparency in the data and reporting.

After regular reporting from all over the district, baseline data for certain common syndromes and diseases were worked out. Non-availability of the previous year's data and uncertain/unknown denominator made it very difficult, but in consultation with the state level health officials, the figures used in the last pulse polio immunization campaign (January 2001) were considered as authentic population figures.

Syndrome / Disease	A*	B**
Bloody diarrhoea	0.48	0.16
Watery diarrhoea	4.63	1.35
Gastroenteritis	0.13	0.05
ARI	13.33	4.43
URTI	11.03	3.61
LRTI	2.30	0.82
Fever	4.02	1.74
Malaria	0.21	0.11

** Weekly incidence rate per 1 000 children below five years of age in Kachchh District*

*** Weekly incidence rate per 1 000 persons (all age groups combined) in Kachchh District*

An early warning system was established, based on weekly data comparison against this baseline data for the ARI, fever and diarrhoeal diseases. A regular system of weekly situation review meeting with the district officials was established. WHO surveillance officers provided detailed information where action was necessary to prevent/control the rising trend of a particular illness or syndrome.

Hepatitis E in Rapar, food poisoning in Mandvi and Bhuj, cholera in Gandhidham, outbreak of fever in Abdasa and Nakhatrana, and malaria in Rapar and Anjar, are few examples of the use of early warning system. In all cases, proper and timely information to the district authorities and prompt action significantly reduced further morbidity and mortality.

Once the disease surveillance system became fully established, its integration with the polio Acute Flaccid Paralysis (AFP) surveillance, TB control programme, and malaria control programme was worked out in consultation with the concerned officials. Each and every case of AFP got reported immediately and the concerned SMO/NPSP was informed of it.