



# ADRC Highlights

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## ➤ Change in 6 years after the Great Hanshin-Awaji Earthquake, Kobe

6 years have passed since the Great Hanshin-Awaji Earthquake occurred and took as many as 6,400 lives on January 17, 1995. In Hyogo prefecture, severely affected area, they had many events such as the 1-17 Hyogo Memorial Walk, Memorial Ceremony for the victims, and the Memorial Project for Restoration.

The infrastructures like roads, railways, and ports have quickly recovered, and almost all the victims in temporary housing had moved out to their rebuilt houses, or public housing for restoration. However, combined with economical depression in Japan, some industries in the affected area have been in financial difficulties. Not only the problems of industry, people in that area still have a lot of issues to be solved, and need more considerate and thoughtful administrative measures.

The below indexes show the present situation of restoration in the affected area picked out from the information by the Hyogo prefectural government (issued in October, 2000).

### 1. Population

As of October 2000, the population in the affected area has recovered to the 99.5 % of that before the earthquake. However, the population in the Nagata ward, the most affected area, still remains 81.1 % of the population before the disaster after falling into the 66.4 % of the pre-calamity population in October 1996.

### 2. Income

The average income of the resident of Hyogo prefecture has recovered in 1996 to the level before earthquake, and has been changed in the same trend as the transition of national income.

### 3. Amount of Shipment of Products

The amount of the shipment of products by manufacturing industry (1999) still remains 85.2 % of that before the earthquake.

### 4. Local Industry ("Chemical Shoes")

The amount of the production of "Chemical Shoes" devastated by the earthquake has eventually recovered to the 80.0 % level before the earthquake after falling down to 43.0 % level.

### 5. Number of Stores

The analysis of the trend of the wholesalers and retailers in the affected area shows the 8.4 % decrease in the number of wholesalers and the 12.0 % decrease in that of retailers compared to the data before the earthquake. The percentage of the decrease is much bigger than national average.

### 6. Number of Tourist

The number of tourist to the affected area has been gradually recovering as the number of the tourist has steadily increased by 6.4 % before the disaster.

### 7. Amount of Import/Export of Kobe Port

Although the Kobe Port had fatal damage that the 177 out of 186 berths became useless, all the berths were recovered in 1996. Immediately after the disaster, the amount of Import/Export had fallen down to the 60 % of that before the earthquake. However in 1997, the amount had increased to 102 % of the pre-disaster level. Nonetheless, the amount of 1998 decreased under the influence of the depression.

## ➤ Recent Natural Disaster in Asia

### □ A Great Earthquake hit West India

A severe earthquake of magnitude 7.9 rolled across the entire Indian subcontinent on 26 January, as it rocked buildings from Pakistan to India to Nepal. It struck at 8:46 a.m. Indian time (0316 GMT). The epicenter was near Bujh in Gujarat State, west India.

According to the Emails from The Natural Disaster Management Division of the Indian Ministry of Agriculture, who is the ADRC's Counterpart, 14,276 people are confirmed dead in the Gujarat State. Please find further information on [ADRC's Website](#), which lists various latest information of this disaster.

ADRC made a quick analysis on this disaster based on the information, ADRC collected.

### • Extent of Damage

Based on the table on the damage by city sent from NDM, ADRC added the population and distance from the epicenter (23.40N, 70.32E) and summarized as below.

City/Town	Killed	Injured	Dis tance	Population		Direc tion
				A	Range	
Ahmedabad	738	828	240	A	2,876,710	E
Amreli	0	12	220	D		S.E
Vadodara	6	42	320	C		S.E
Bharuch	9	33	340	C	1,031,346	S.E
Bhavnagar	3	29	260	C		S.E
Bhuj	12,781	54,239	50	C	150,000	S.W
Banaskantha	33	126				
Gandhinagar	3	7	240	C		E
Jamnagar	114	1,708	110	C		S
Junagadh	8	75	210	C		S
Mehsana	0	41	210	D		E
Navsari	18	18	380	C		S.E
Patan	37	407	190	D		N.E
Porbandar	9	72	210	C		S
Rajkot	337	2,033	130	B	559,407	S.E
Surat	50	154	350	A	1,498,817	S.E
Surendranagar	89	1,743	160	C		S.E
Palampur	37	49	250	D		
Others	4	38				
<b>Total</b>	<b>14,276</b>	<b>61,654</b>				

Range-A: >1,000,000 B: 500,000-1,000,000 C: 100,000-500,000  
D: 20,000-100,000 E: 5,000-20,000 F: <5,000

The damage extends not only Bhuj (population: 150,000), nearest city from the epicenter and Ahmedabad (pop: 2.87mil), which is the main city in the Gujarat State (pop.44.23mil) but also Surat, which is more than 300km far from the epicenter and some other cities/ towns far from the epicenter. Within 100km from the epicenter, there are 6 cities/ towns which are not listed on the table, besides within 300km, there are 29. In this connection, the actual death toll may increase drastically.

### • Historical Earthquakes in Gujarat State

According to the data on historical earthquakes in India downloaded from USGS, 80 earthquakes were occurred in Gujarat (20-25N, 68-75E) out of 1,167 records in India from 1063 to 1984 (mainly after 1600). 685 earthquakes higher than M5 are registered all over India, and 27 in Gujarat. So, the number of earthquakes in Gujarat is not so many. However, an earthquake measuring M8 occurred very close to current epicenter on 1819/6/16 killing 3,200, besides M7 earthquake killed 156 on 1956/7/21. So, north west part of the Gujarat, where Bujh is located comes under Zone V (most vulnerable to earthquakes, where historically some of the country's most powerful shock have occurred.) on the Seismic Zonation Map published by the Indian Standards Institutions (ISI).

If you have comments or needs for this Newsletter, please write to ADRC in the right box.

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