

## **CHAPTER 5**

### **REHABILITATION AND DEVELOPMENT AFTER EARTHQUAKE**

#### **INTRODUCTION**

The Kutch earthquake in Gujarat occurred on January 26, 2001, the country's worst disaster in a century, that resulted in unprecedented damage to life and property. Nature's fury of destruction left more than thirteen thousand people dead and more than a million homeless. Even innocent children, women and the old were not spared 7633 villages in 21 districts were affected all over Gujarat. The total loss to both public and private property is about 15,000 crores.

This earthquake had a Richter magnitude of 6.9 and surface magnitude  $M_s = 7.7^*$  and struck the region at 8.46 AM local time, with the shaking lasting for few minutes. Thousand of people were killed or badly injured in stone masonry building in villages as well in towns because of:

- ◆ Poorly constructed buildings collapsing either totally or partially;
- ◆ Walls collapsing within narrow streets, burying people escaping into them;
- ◆ United roofs and joints falling onto people;
- ◆ Free standing high boundary walls, parapets and balconies falling due to the severe shaking; and
- ◆ Walls falling over after cracking under lateral thrust of the roof.

The Government of Gujarat responded swiftly to the challenge. It took the world by surprise when rising to the occasion it restored power, healthcare facilities, water supply, telecommunications and transport facilities in a remarkably short time improving upon the international norm of 72 hours for such tasks. If these lifelines had not been restored the trauma would have been greater. It is now a little over 500 days, since the tragedy. Immediately after the emergency phase was over, the Government of Gujarat embarked on a momentous

\*RECORDED BY U.S GEOLOGICAL SCALE

journey of reconstruction with a plan whose long vision was to rebuilt Gujarat and ensure its 50 million people a higher quality of life and safe living environment.

The reconstruction is both purposeful and practical. The bottom line is involvement of community in decision making as well as in implementation. It's prime focus is not on doing a rush job of reconstruction but on attaining long term results without losing sight of immediate needs and that whatever is accomplished measures up-to national and international quality parameters. The other significant feature is that it seeks to build a capacity for disaster management and reduce Gujarat's vulnerability to future disaster.

The implementation is yielding positive results. Nearly four million of the people have moved into houses that have been repaired or reconstructed to disaster resistant standards.

The different livelihood support packages have enabled people to pickup the threads of their shattered lives again. The restoration of public infrastructure has triggered the growth process again in the state. Much headway has been made in social rehabilitation. The entitlement of women has been protected. With the repair and reconstruction of schools, a break in studies was averted.

The transformation will be quite a revelation to anyone who is visiting the earthquake affected areas now. During fieldwork it is observed that the roads are smooth & clean. And local people are optimistic about their future and some even said that earthquake appears to "Blessing in Disguise" as it leads to large development.

The role of the Government of Gujarat in helping people regain their confidence by shedding the fears that had gripped them after the earthquake has been the most important factor that has contributed to this transformation. It conducted continuous and intense campaigns through posters, pamphlets, audio-visual shows, folk-art and music to restore confidence.

The speedy transformation is also being made with generous help coming from the World bank, The Asian Development Bank, The European Commission, The Government of Netherland, The United Nations, various other donors and the international community in the form of financial assistance and partnership.

The reconstruction program has been able to consolidate and restore faith and hope among the people. Recreating their shattered dreams is the other larger goal. Till then the journey of purposeful reconstruction will continue. Gujarat's vision goes beyond the physical

reconstruction and aims to re-build an economically vibrant and industrially competitive state with a higher quality of life, in the true entrepreneurial spirit of converting a crises into an opportunity.

Gujarat made progress quickly and packages carefully prepared are a blueprint to rebuild broken lives and shattered lives more than a year after the event it is time to take stock objectively and honestly. In proper perspective, against the backdrop of the scale and intensity of the devastation, the extent of resources and the time required for even limping back to normalcy-let alone the more ambitious dream of a more prosperous and progressive Gujarat with better quality of life.

### **RE-DISCOVERING OF LIFE**

Along with rescue, relief operations were launched. Household kits, grains and cash doles, death and injury compensation were distributed for timely help and material were also supplied to voluntary organization for running the kitchens. The water supply was restored in 36 hours and power in Bhuj in 48 hours. Telecommunication facilities, rail, road transport were restored immediately. Health department worked non-stop to treat the injured and the affected 2500 doctors and 2500 paramedical staff worked round the clock, 17,000 operators were done and 167,000 were treated for injuries. For the four municipal towns of Kutch, cash assistance of RS 12000 per beneficiaries was provided towards intermediate shelter construction, special sites, with infrastructure facilities were provided to enable people to construct intermediate shelters in Bhuj. And entire restoration and reconstruction is going on by keeping in mind that entire district placed in Zone V with anticipated maximum seismic intensity of ix on MSK intensity scale.

### **IMMEDIATE RESPONSE**

- ◆ State's Government immediately sent 13,000 government official to the quake affected areas to monitor rescue, relief operation. International countries Britain, Mexico, France, South Africa came with rescue team in the initial phase.
- ◆ 200 water tankers rushed to Kutch within 36 hours. No village was without water for more than 36 hours. Normalcy in water supply restored within 4 day.

- ◆ Field hospital made functional at Jubilee ground, Bhuj by 11.00 A.M on the day 26 January 2001.
- ◆ Power supply restored within 15 days.
- ◆ 23 Satellite PCO's installed at different locations for free services.
- ◆ Key road and railway links re-established. Suraj Bari Bridge reopened for light traffic within 48 hours and Viramgam-Gandhidham railway route restored
- ◆ PDS (Public Distribution System) normalized within a fortnight, Free food kits distributed to 1,13,188 families.

### **Gujarat Government Response to Industrial Development**

Gujarat Government on 26/02/01 immediately after completion of one month of deadly earthquake announced RS 1000 crore package aimed at rehabilitation over 3,276 industrial units devastated by the quake. The Industries minister Suresh Mehta\* had said units falling in seismic Zones 4&5 would be entitled to assistance of 60 percent of the cost toward building, repairs and investment in plant machinery, with a ceiling of RS 60 lakh. In addition, the Government would provide bankable loan assistance of RS 20 lakh. No interest would be charged on this amount for two years.

The Government would levy electricity charges only on actual consumption of Power. Industries affected by quake would be exempted from payment of minimum charges for a year.

Industries minister of that time Suresh Mehta claimed that package was unique. The owner of a big unit which had suffered a loss of RS one crore would straight away get cash assistance of RS lakh coupled with the interest free loan of RS 20 lakh.

In another decision, the Government has decided to create a revolving fund of RS 15 crore for rehabilitation of the cottage industry which has suffered huge losses in Kutch. A sum of RS 5 crore has already been released. As the cottage industry alone has suffered losses to the tune of 69.45 crores.

\* Suresh Mehta, The industry minister of Gujarat at the time of Earthquake.

### **Town Planning**

- ◆ Development plan finalized and promulgated in all four towns.

- ◆ Town planning schemes notified.
- ◆ Relocation sites selected.
- ◆ Temporary Housing sites made functional
- ◆ More than 10,000 masons trained in seismic resistant technology.
- ◆ Trained engineers deployed for supervision and guidance regarding reconstruction and retrofitting.
- ◆ NGO's participation in services and infrastructure provision.

### **Highlights: Work Completed**

- ◆ 8,76,618 houses restored out of 11,51,065 damaged houses in 500 days, which is an international record.
- ◆ All 4,134 medical units functional in emergency/temporary structures, Rs 8 crores worth of emergency medicines and equipment supplied. Bhuj hospital under construction of RS 100 crores will be the first hospital to be built on Base Isolation Technology in the entire subcontinent.
- ◆ 42,535 primary school rooms already repaired. All repairs in primary sector through village civil works committee 19 out of 35 technical institutions repaired/retrofitted and work in progress in 10 institutions. Autonomous status to Bhuj engineering college; reconstruction at a cost of about RS 40 crores.
- ◆ Strengthening work completed for the 185 Km of state roads taken up in phase I and 443 Km of rural roads strengthened out of 1,406 Kms.
- ◆ Town Planning schemes for Bhuj, Bhachau and Anjar completed. Infrastructure development in progress. Plot allocations at relocation sites commenced.

## **COORDINATING AGENCIES**

### **United Nation Development Program /UNDP's Role**

The UNDP has been mandated by the UN system to coordinate the activities of various agencies working in Gujarat, especially in the worst affected Kutch region. In addition, UNDP took upon the responsibility of focal point in four sectors such as Shelter, Livelihood, Recovery, Information System and Coordination. The long term goals of UNDP interventions are to ensure vulnerability reduction and to ensure a sustainable recovery in the aftermath of the disaster.

## **The Relief Phase**

Immediately after the disaster the UN Disaster Management Team (UNDMT) recognized the need to help the local administration in co-ordination the relief supplies that were being flown in at the Bhuj Airbase ,every hour .Meanwhile,the United Nations Disaster Assessment and Coordination Team (UNDAC)was dispatched to Bhuj by the office for the Co-ordination of Humanitarian Affairs(OCHA) on 27<sup>th</sup> January 2001.

The members of UNDAC worked in collaboration with UNDMT,primarily to support the Indian authorities efforts in Ahmedabad and Bhuj in assessing the relief needs and in coordinating international assistance,including urban search and rescue teams.The UNDAC team than established an On-Site Operations Coordination Center(OSOCC)in Bhuj,to facilitate the coordination of international relief activities.The OSOCC became the focal point for establishing contacts with all major NGO/relief teams,present international coordination and information sharing for both government officials and NGO's as well as for providing assistance in the coordination of search and rescue operations.

Following the processes laid down by the UNDAC for creation and maintenance of the NGO's data base and their activities,UN volunteers were put in place by UNDP to continue the process .As there were about 300 agencies registered in the database,which were working here for relief and rehabilitation, the UN were made responsible for the collection of all information regarding the area of work,contact details,activities planned and progress.

This database proved to be the first intervention by UN system in order to, redirect the relief efforts to some rural areas, which were other wise, deprived of assistance. On the basis of this database, a Geographic Information System(GIS) was created.Through the GIS maps it became easier to physically mark areas where materials were going ,the kind of relief provided, the extent and kind of damage, the future requirements etc.

## **Kutch Nav- Nirman Abhiyan**

Abhiyan, as the Kutch Nav Nirman Abhiyan is known as a network of grassroots organization that was founded as a response to the devastating cyclone that hit in May 1998.Since than, Abhiyan has emerged as a network of voluntary organization in Kutch

undertaking coordinated planning ,lobbying and capacity building activities on a range of development concerns. Abhiyan is not directly implementing organization but it is a network of development organization implementing collectively.

## **CONCLUSION**

This natural calamity has lead to remarkable change in the development of Kutch district. As one goes through the development of Kutch district, it appears that worst thing happen for good, as new Kutch happen to originate, but the reason for all round development would not be expected and just has to be faced, as given in these lines, "It is a natural calamity and one cannot react to it as one would react to an enemy. It just has to be faced. Probably it is God's way of giving us an opportunity to change things for better".

And new Kutch is going to be better than the old one. In the temporary shelter sites the government is gradually providing the services, the roads are being made.

## REFERENCES

Gujarat State Disaster Management Authority ,*500 days of Rebuilding ,From tears to smiles 500 day saga of change* ,Government of Gujarat,Gandhinagar.

Gujarat State Disaster Management Authority,December 2001, *Guidelines for Cyclone Resistant Construction of Buildings in Gujarat* , Government of Gujarat,Gandhinagar.

Gujarat State Disaster Management Authority,February 2002,*Plain Truth*,Government of Gujarat,Gandhinagar.

Gujarat State Disaster Management Authority,Kutch Nav Nirman Abhiyan&United Nations Development Program,26 January 2002,*Coming Together*,3<sup>rd</sup> edition,Bhuj,Kutch.

Gujarat State Disaster Management Authority, 26<sup>th</sup> January 2002, *Gujarat-Epicenter of Progress* ,Gandhinagar,Gujarat.

Gujarat State Disaster Management Authority, March 2002, *Guidelines For Repair, Restoration & Retrofitting Of Masonry Buildings in Kutch Earthquake Affected Areas of Gujarat, Gandhinagar, Gujarat.*

Times of India, 26 February 2001, *Gujarat Government Response to Industrial Development*, Ahmedabad, Gujarat.

Times of India, 4 February 2001,*Economic activity comes to standstill in Gandhidham*, Ahmedabad, Gujarat.

Times of India, 4 February 2001,*Tremor-Resistant designs save industries in Hazira*,Ahmedabad, Gujarat.

The Economic Times,22 February 2001,*State to announce industrial Package soon*,Ahmedabad,Gujarat.

Times of India, 8 February 2001,*Quake takes sheen off Jewellery industry*,Ahmedabad,Gujarat.