



Best Practices and Case Studies on Disaster Management:

The Maharashtra Experience



An initiative under Disaster Risk Management
Programme

March, 2008

Foreword

There has been a paradigm shift in Disaster Management recently as prevention, preparedness and mitigation are being given more importance compared to the traditional rescue, relief and rehabilitation. Under this paradigm, Government of India and UNDP launched the 'Disaster Risk Management' (DRM) programme in 169 districts across 17 states in the country, including in Maharashtra.

In Maharashtra, the DRM is being implemented in 14 districts and seven Municipal Corporations. The Relief and Rehabilitation Department, Government of Maharashtra is the nodal agency for the implementation of this programme in the State. During the course of implementation of the programme, a number of innovative strategies and processes have been adopted which in turn lead to very interesting and encouraging results .

Edited by
S C Mohanty

Authored by
Sudhir Kumar

Published by
Relief & Rehabilitation
Govt of Maharashtra
Mantralaya,
Mumbai-400 020
INDIA
Tel: 022-22040804/0
Fax: 022-22023039

This document has been produced under the Government of India and UNDP's Disaster Risk Management Programme.

This document is an attempt to capture some of the best practices and case studies on disaster management initiatives of the Government of Maharashtra. Some of the activities are the offshoots of the DRM programme.

I sincerely believe that this endeavor of the Relief & Rehabilitation Department of the Government of Maharashtra would be useful as a reference material for different stakeholders of disaster management.

M. Ramesh Kumar
Principal Secretary, R&R
Government of Maharashtra

Contents

Title	Page No.
Foreword.....	1
Contents.....	3
Introduction.....	5
1. Pestom Sagar: A Step towards Self-reliance	7
2. Construction of Technology Demonstration Unit during Masons training, Osmanabad.....	13
3. Disaster Management at Religious site: Pedkai Mata Temple, Dhule	15
4. Disaster related slogan on Auto-rickshaws.....	19
5. Response during Golden hours was Key	21
6. Screening of Do's and Don'ts in Movie halls	25
7. Street play on Disaster Awareness	27
8. Capacity Building Paid Dividend, Ahmednagar	29
9. Mass Rally for Awareness about Disaster	33
10. A PRI Member averted the Disaster	37
11. District Search and Rescue Team	43
12. Pavilion on Disaster Management for Awareness.....	45
13. Post-flood Reconstruction in Maharashtra.....	49

Introduction

Ministry of Home Affairs, Government of India and UNDP in association with the State Government are implementing the Disaster Risk Management [DRM] programme in 169 districts across 17 States. In Maharashtra, the programme is being implemented in 14 districts namely Mumbai City, Mumbai Suburb, Kolhapur, Pune, Satara, Latur, Osmanabad, Raigad, Ratnagiri, Sindhudurg, Thane, Nashik, Ahmednagar and Dhule. In addition, Urban Disaster Management Programme [UDMP] is being implemented in seven multi-disaster prone Municipal Corporations namely Greater Mumbai, Pune, Nashik, Bhiwandi-Nizampur, Nagpur, Aurangabad and Thane.

The Relief & Rehabilitation Department, nodal agency of disaster management in the State, is also the nodal department for implementation of the DRM programme in Maharashtra. The programme objectives are:

- Preparation of Disaster Management Plans
- Training & capacity building, and
- Mass awareness

These activities are being taken at the State, District, Taluka and Gram Panchayat level. The project duration is from 2003 to 2008.

Implementation arrangement:

The Relief & Rehabilitation has been identified as the State Nodal Agency for the programme. A 16 member State Steering

Committee under the chairmanship of the Chief Secretary, GoM has been set up to monitor and review the programme. UNDP is supporting the implementation at various levels of the administrative structure by recruiting and assigning National UN Volunteers at State, Division, Districts and Corporation levels.

As the programme is being implemented over a vast geographical area and also due to in-built flexibility, a number of innovative processes, systems and partnerships have evolved. It has also led to a number of interesting and positive outputs in disaster management arena.

During the formal and informal discussions, it has been advocated that such practices and outputs needs to be documented for the benefit of disaster management stakeholders. With this in view, 12 best practices and case studies have been selected from urban as well as rural areas. They cover themes as varied as mass awareness generation, training and capacity building, and emergency response and risk reduction.

Pestom Sagar: A Step towards Self-reliance

“ It’s your life, you have to take the first step of disaster preparedness” told G. R. Gaonkar of the Pestom Sagar Housing Society of Chembur, Mumbai during an interaction with officers of the Municipal Corporation of Greater Mumbai [MCGM] and UNDP.

Due to the unprecedented rainfall on 26th July 2005, life came to standstill in Mumbai, the financial capital of India, which otherwise never sleeps. The Pestom Sagar Housing Society got inundated like several other hundreds of housing societies of Mumbai.

After the normalcy was restored, the office bearers of this society were restless to find a lasting solution.

They were determined to do something



Members of Pestom Sagar Housing Society with Emergency rescue kits

but they were searching for an effective guidance. The MCGM and Relief & Rehabilitation Department, Government of Maharashtra organized a series of training and capacity building programmes on Search and Rescue [SAR] including flood management for the NGOs and CBOs under the

Government of India-UNDP Disaster Risk Management [DRM] programme. Shri. Prakash Barshikrar of Pestom Sagar, while attended this programme, got acquainted with first-aid skills, basic level search and rescue techniques, and flood management.

He also came to know about the emergency rescue kit including flood rescue operation from the literature given to the participants.



Participants got hands on experience of the first-aid and basic SAR techniques. The resource persons were drawn from the

Civil Defense, Mumbai, UNDP and MCGM.

The office bearers of the Pestom Sagar recount this training programme as the ignition point. The Pestom Sagar Housing Society, an association of 120 buildings, has approx. 25000 inhabitants. The officer bearers decided that the first step for flood preparedness should be the availability of the basic level emergency rescue equipment mentioned in the training

material. The Society procured some equipment from its own source and also received a few from a corporate house. Now the Society has an emergency rescue kit which includes life buoys, life jackets, stretcher, rescue ropes, fire extinguisher,



fogging machines, tree cutters, claws, hooks, drain cleaners, etc. The Pestom Sagar initiative was covered and applauded by a number of print as well as electronic media. A corporate house gifted one mechanized rubber inflatable boat to the society.

,Shri J. Balasuramaian and Dr. Sangole attributed this unprecedented initiative of the Housing Society to 'the pursuit for Self-reliance'. Elaborating on the point, Dr. Sangole mentioned that the housing societies have to prepare their disaster management plans, store basic SAR aids, etc as it is almost impossible for a single agency to meet demands in a situation like 26/7 in Mumbai.

One Society member has earmarked a Toyota Qualis as disaster management vehicle. Society has also created a disaster management cell where the equipment are stocked. This cell has a telephone so that any member requiring assistance of the disaster management team of the society can contact and get the required assistance. Some of the youths of the society are being trained in search and rescue. The police personnel of the nearby police station are also being imparted training on rescue operations including floods, life saving skills, etc as police is among the first responders in any disaster. Replying to a question on what next, the office bearers replied that the school students and youths of nearby slums are next target for capacity building activities.

Whether this initiative is a flash in the pan, Mr. Barshikar one of the key members behind it, mentioned that the disaster preparedness has been included in the cleanliness activities of the Society so that the preparedness initiatives are sustained.

One of the MCGM Officers replied that the Pestom Sagar initiative has boosted their morale and it will infuse zeal in future community based training programmes. The MCGM has received a number of calls from other housing societies for conducting similar programme for its members. The initiative of Pestom Sagar has awakened a number of housing societies and one never knows how many Pestom Sagar are in the making when one is reading this story.

Construction of Technology Demonstration Unit during Masons training, Osmanabad

Based on the philosophy 'Seeing is believing', the concept of Technical Demonstration Unit 'TDU', has been propagated for



adoption of earthquake resistant construction techniques.

In Osmanabad, the mason training was

combined with the construction of TDU. In association with the Public Works Department, a five-day Masons' Training Programme on Safe Construction Practices was organized. The resource persons were from from Swayam Sikshan Prayog -- an NGO.

During this five-day training programme, the masons were exposed to the effects of the earthquake on house, essential features for earthquake resistant construction, quality of materials, etc. The theory was followed by hands-on training in which masons constructed a 18 'x 12 ' TDU. The masons were given participation certificates. One of the participants beaming

with confidence after acquiring the earthquake resistant construction skills, mentioned that he would go an extra mile to persuade the owners to go in favour of earthquake resistant constructions in future.



The TDU has been constructed in the District Collectorate campus as every day several thousand people visit different offices located in the campus. All necessary information including the bands, openings in wall, etc regarding the earthquake resistant constructions have been prominently displayed near the TDU.

Disaster Management at Religious Places: Pedkai Mata Temple, Dhule

Religious places draw several thousands, and in some cases even several lakhs of devotees in a day. Some of these places are located on hill tops. Approach roads or stairs are very narrow which makes the lives of devotees vulnerable to hazards. In the past, some of the religious places namely Mandhar Devi of Satara, Maha Kaleshwar temple of Ujjain, Sabarimala shire of Kerala, etc have witnessed gory stampedes, leading to loss of several lives.

Taking a cue from such incidences, the risk assessment and



resource mapping was done for Pedkai Mata Temple in

Sindhkheda taluka, Dhule where a fair is held in April / May every year.

This place of worship is situated on a hill at about 200 meters above the mean sea level. The Trust managing the affairs of the temple had constructed a structure mainly of ramps connecting the three tier platforms to enable the devotees reach the temple. However, the site is highly vulnerable for the devotees especially during the fair / *Mela* as railings and separate exit paths were missing.

Before the annual fair, a comprehensive risk analysis and response strategy including identification of resources was finalized.

In association with the Temple Trust officials and other stakeholders, following risks were identified:

- No railings on ramps that are used to ascend/descend from the temple at about 200 mtrs high.
- There was no separate exit way
- The site was in forest and nearest hospital is 40 Kms. away
- Religious rituals of breaking coconuts, offering *Ghee*/ oil and performing/ offering prayers by lighting lamps within the small area in front of temple on the top most platform (without roof) leads possibility of making the

platform slippery and cases of heat stroke due to rise in humidity level in hot sun (about 47° C temp.)

- First aid facility at the site was not efficient.
- No framework for communication and evacuation to the hospitals.
- Devotees exposed to hot sun for several hours may lead to heat strokes.

The site was thoroughly examined with the help of Government Officials and following preventive & mitigation measures were decided :

- Create temporary but firm railings on the ramps on both the sides.
- Divide ramp by using steel pipes/ bamboo barricades for separate in and out traffic.
- Arrangement for first-aid facility during the fair and keep an ambulance and a physician with paramedical staff stationed at the fair.
- To liaise with Police for sufficient Police deployment at the fair.
- To demarcate suitable place for offering ghee / breaking coconuts / lighting lamps near lower tiers away from the sanctum sanctorum.

Police personnel and volunteers were deployed to regulate the traffic of the devotees.

All went smoothly till 11: 20 am on 6th April 2006. At this time the in flow of the devotees was at its peak. It was noticed that the return devotees had almost stopped at the base of the hill and heavy congestion of devotees at the top ramp could be seen. The upward flow was still on and there was probability of stampede. The barricades dividing the in & out ways was shifted closing the out way. Immediately the in flow at the hill base was stopped and started clearing the crowd by sending the devotees to the base of the hill.

At noon, a small fire erupted and though fire was localized but the smoke reached to the top of temple, which created panic among devotees. The fire was put off soon by pouring water by the volunteers. But the panic did not give rise to stampede. The possibility of a disaster was averted as the lower floors and ramps were cleared sufficiently in advance and that provided ample space for exit.

Disaster Mitigation related slogans on Auto-rickshaws

One of the studies suggested that investment of one dollar in disaster preparedness and mitigation before a disaster would save the loss of 40 dollars due to the disaster. In the same pursuit, a key initiative for disaster preparedness is the generation of mass awareness on disasters. On the aegis of the DRM programme an innovative idea of using auto-rickshaws as message carrier was used.

The process started with a meeting between the DRM implementing agency of Satara and Regional Transport Office (RTO), Satara district. During the discussions, it was decided that the rear side of auto-rickshaw had a very high visibility and that space was not yet tapped. Moreover the auto-rickshaw has to visit the RTO for registration. Considering these aspects, it was decided that slogans on Disaster awareness theme may be written on the back of the auto-rickshaw.

It was also decided that the slogans should be small and catchy so that viewers remember it for a longer period. It was also decided that slogan should be in local language i.e. *Marathi*.

On 8th June 2005, at RTO, Satara, all line departments of district, representatives from urban local bodies, NGOs namely

Rotary club, Lions club, Youth organizations namely NSS, NYKS, College and School students and other civilians were invited. The function started with lectures on disaster management theme by officials of RTO and Revenue Deptt. This was followed by launch of the slogan writing on Auto-rickshaw. Slogans namely ' *Bhukamp pratirodhak Ghar - Surakshit Ghar*' [Earthquake resistant home -- Safe home] was written on the back of auto-rickshaws.

It has helped in creating awareness regarding earthquake resistant houses. As this was an innovative medium, hence



media gave wide coverage, which led to further awareness about disasters. Approximately 50 auto-rickshaw were covered in the first phase. It is being planned to make such an arrangement mandatory.

Response during golden hours is the key

In order to check disaster preparedness and identify areas of improvement, the District Disaster Management Authorities of Maharashtra were busy in conducting mock drills on 10th October 2007. Shelpimpalgaon village in Khed taluka of Pune district checked its preparedness; but the occasion was not a mock drill, but a real-life accident.

At around 7 pm on 10th October 2007, on the International Natural Disaster Reduction Day, a tanker carrying bromine gas, turned turtle on the highway near Shelpimpalgaon village and started leaking. The entire population of this village numbering



Shri. Daundkar, *Sarpanch* and Shri Mohite, *Dv. Sarpanch* at Office

about five thousand was thus exposed to high risk of gas poisoning.

Shri. Sarjerao Daundkar, Sarpanch and Shri. Eknath Hanumant Mohite, Dy. Sarpanch of the village quickly swung into action as soon as the report of accident leakage from the tanker reached the village. The information about the accident and its location was communicated to the villagers through the speaker installed over the village temple. The villagers were advised through this temple speaker to not to enter the area within one km radius of the accident site as bromine is toxic.

The village youths were deployed on both side of the accident site to divert the traffic. Also volunteers were deployed to stop the animals from entering the accident site. Approx. fifteen people suffering from nausea, vomiting, etc were given treatment at the Primary Health Centre.

The Village Disaster Management Committee members informed about the accident to the District Control Room and Tehshildar of the taluka. On receiving information that water should not be sprayed on leaking bromine, Shri. Daundkar ensured through its volunteers and other village level office bearers that nobody sprayed water on the leaking bromine.

The Industrial Safety department, Revenue department, Health department and other corporate houses, the effect of leaking bromine was neutralized and normalcy was restored.

The Circle Officer of the region, admitted that the response during initial few hours by the PRI members along with the help of the local youths helped in preventing the accident turn into a disaster.

The village disaster management committee including the PRI members were trained in disaster management under the Disaster management Programme. Shri. P.S. Jadav, the Village Development Officer mentioned, "In rural areas, basic information like what to do and what not to do in the event of any accident or disaster, whom to contact, etc are very important and the disaster management training helped me and my fellow villagers". He also mentioned that these training and orientation programmes have brought a sea-change in the approach towards disasters as pre-disaster activities were unheard of in the past.

Regarding the response in the aftermath of tanker accident, Shri. Sarjerao Daundkar, Sarpanch mentioned that the trained youths in disasters management were real asset and pre-disaster planning was the key. He added that the use of temple

speaker for warning dissemination was as per the disaster management plan.

If one analyzes the case, it clearly emerges that the response by PRI members during golden hours contained the accident and it did not get converted into a disaster.

Screening of Do's and Don'ts of Disasters in Cinema Halls

It is a well-established fact that one of the least expensive yet highly effective preparedness measures is the mass awareness generation. To create awareness among the public about disasters and precautionary measures required to be taken before and at the time of various disasters such as Earthquake, Flood and Fire, screening of do's and don'ts in cinema halls is being undertaken in several cities of the State.

In a meeting with city administration, this issue was discussed and administration accepted the idea. Considering the diverse population, slides were prepared in Marathi, Urdu, Hindi and Telugu languages. Simultaneously, a meeting was held with the owners of the Cinema halls to obtain their consent to display slides in cinema halls. During this meeting, it was decided that the slides would be screened during intervals.

A letter was issued as per the discussions with Officers and Cinema Hall owners from Collector Office and Municipal Administration to all the Cinema Halls in the respective areas regarding showing of the slides in the Cinema Halls at the time of interval.

In Bhiwandi city, the slides were made in four languages namely Marathi, Urdu, Hindi and Telugu and are being screened in all 16 Cinema halls. In Kolhapur also the slides are being screened in Marathi. Slide contents are do's and don'ts related to Earthquake, Flood and Fire. A few more cities are in the process of screening the do's and don'ts in the cinema hall situated under their respective jurisdiction for mass awareness generation.

This has been very effective in spreading awareness about simple do's and don'ts about different disasters.

Street play on Disaster Awareness

Street play is one of the most popular mediums for mass awareness generation. For the first time in the State, a street play on disaster awareness theme was conceived and prepared in consultation with NSS of Gogate Jogalekar College, Ratnagiri.

The volunteers of National Service Scheme [NSS] are very active in Maharashtra. They carryout IEC activities on various social themes. The process of street play on disaster awareness kicked off with the consultation meeting with Professors of Gogate Jogalekar College. During the consultation meeting, professors were requested to prepare a draft script of the street play. The draft script was discussed and modified by the officials of district administration, state administration and UNDP. The play is in local language i.e. *Marathi*.



The street play covers both natural (Flood, Earthquake, Cyclone) as well as manmade

(Road accident and fire) disasters. It also captures information about five methods of handling the injured persons. In addition, it also gives information about the district disaster help line no. 1077. Do's and Don'ts related to these disasters are displayed on placard in the background. The play is enacted by 12 volunteers including two female volunteers. To enhance the effect, background music using local musical instruments is used. So far, this play has been enacted at more than hundred locations which include at bus stops, government offices and other public places.

The play was recorded and a CD was prepared with dialogues in English as sub-titles. This CD has been shared with other State Governments in the country. An offshoot of this initiatives was the increasing involvement of NSS volunteers in the disaster risk management activities. These young volunteers are showing great interest and coming forward for other disaster management related initiatives such as preparation of college disaster management plans, poster competition on disaster themes, etc.

Such efforts have been replicated in other programme districts like Kolhapur, Sindhudurg, Osmanbad and Latur. Volunteer teams are performing street plays on disaster management themes in rural as well as urban areas.

Capacity Building Paid Dividend, Ahmednagar

“Capacity building of different stakeholders, especially Disaster Management Volunteers is perhaps the most important activity in any community based disaster management programme” mentioned Mr. Suresh Keshavrao Dike, *ex-Sarpanch* of Jainpur village, Ahmednagar district during an interaction. He added that the trainings helped him to build his own and his peer groups capacity which was so critical in effective and efficient disaster management.

Ahmednagar, one of the DRM programme districts, is the biggest district of Maharashtra in terms of geographical area -- covering 5.6 percent of the total area of the State. It has 1586 villages and 1310 Gram Panchayats spread within 14 talukas. These talukas have been grouped into four sub-divisions for administrative purposes. Ahmednagar is a drought-prone district and the average rainfall is about 498 mm. However, the year 2006 was different as this district witnessed unprecedented floods.

One of the villages that was devastated by the floods of 2006, is Jainpur. Jainpur village is located in Newasa taluka of Shrirampur sub-division. Mr. Dike, an ex-PRI member, remembers the situation of August 2006 when release of 2.81 lakh cusses of water in Godavari river from

Nandurmadhameshwar dam in Nashik district coupled with the heavy rainfall in Ahmednagar, wrought havoc across the district. His village, Jainpur, was heavily flooded due to release of water from Nandurmadhameshwar and backwater of Jaikwadi dam. The villagers still remember the exemplary role played by Mr. Dike during response operation.

As soon as water started entering the low lying areas, he immediately informed the tehsil office as well as the district



Mr. Dike [left] during one of the capacity building

Control Room on 1077 and kept on updating the situation of his village. Leading from the front, he with the help of village talahti, police patil, other PRI members and a few volunteers, undertook the evacuation task. The local vehicles were used for

shifting people to safer places. With the help of Saibaba Sansthan and Shaneshwar Sansthan, the food packers were arranged for the evacuated population.

The rainfall was relentless and was raining cats and dogs, hence water level was rising. As a response as well as precautionary measure, Mr. Dike with the help of Mr. Dnaydev Patare, Director, Ashok Sahekari Sakhar Karkhana arranged a private hodi [small boat] from the nearby village for the rescue operation. On further rise of water level in village, he contacted the tahsildar and then the district control room and two columns of army was pressed into evacuation task.

Considering the importance and usefulness of the training programme, Mr. Dike has been attending most of the disaster management training programmes conducted at tehshil and district level. He is also being called for experience sharing during community level training programmes conducted under the Disaster Risk Management programme. The then Tehshildar of Newasa tehshil Mr. Anturlikar has tons of appreciation for Mr. Dike and the Resident Deputy Collector of Ahemdnagar Mr. Bhausahab Dangade shares the same comment.

Mr. Dike whose wife is the sitting *Sarpanch*, revealed that the training programme conducted in May 2006 for the Panchyati Raj Members, helped him to understand the nuances of disaster

management especially, flood management. Importance of coordination, two-way communication, pre-flood planning, identification of safe shelters, usage of local resources, toll free district control room number, etc were also some of the takeaways of the trainings for Mr. Dike. The training programme had covered topics namely, Introduction of Disaster Risk Management and Disaster Risk Management Programme, Disasters and types of disasters, Role of PRI members in disaster management including awareness generation, emergency response and availability of resources and Preparation of Village Disaster Management Plans.

Mr. Dike is currently busy with the rehabilitation work but he is pushing the agenda of disaster preparedness at community level, as he is convinced and has reaped the benefits of disaster preparedness and planning.

Mass rally for disaster awareness

It is often said, 'Educating a single child means the same as creating awareness among three generations altogether.' Following the same maxim young students were selected as vehicle of mass awareness generation. This time the medium for awareness generation was mass rally. The theme was various kinds of disasters -- both natural as well as man-made.



The idea of holding rally on disaster management themes with the help of school children was first discussed with the District Education Officer of Ratnagiri district. Following the discussion, each and every school and college of the district was contacted. Detailed information about the aims and objectives behind the rally and expectations from them were clearly explained to each educational institution.

School authorities overwhelmingly responded to this call. Each



school was provided with adequate number of card board papers, marker pens, and slogan sheets for preparing charts and banners on different themes of disasters. The idea was that children would carry banner during the rally.

The rally was organized in three phases in the district -- on 30th January 2006, 3rd February 2006 and 7th February 2006. As many as 365 schools, 7 B. Ed colleges and 13 Sr. colleges took part in this rally. Approximately 1,82,000 students participated in the rally.

On the rally day, the students started the rally from their respective schools, went through villages and gathered at the taluka headquarters or at a pre-decided place. The Tehasildar,

Block Development Officer, Police Officers, etc also participated in the rally. Disaster related pamphlets containing do's & don'ts of disasters were distributed during the rally. Each and every village of the district was covered by the rally. The rally dispersed after speech on various disasters at the place of meeting.

This proved to be a massive mass awareness programme as 1.83 lakh children participated and almost each road and village was mapped by the students during their march. The banner carried by the students was useful in spreading information about do's and don'ts of disasters. Important outcome of the rally was the discussion on disaster management subject among parents after the rally was over.

Similar type of rally was organized in Thane district in which more than two lakhs students participated.

A PRI Member averted the disaster

Satara is a picturesque district of Maharashtra, which boasts of hill stations like Mahabaleswar and Panchgani. These scenic district often bears the brunt of Nature's fury in the form of severe floods. Krishna, Koyna and Warna river passes through the district. This district is also highly vulnerable to earthquake



Training Programme for PRI Members, Satara, 16th May '06

as Karad and Patan talukas of this district witness the tremors quite often. In 1967, this district was hit by a major earthquake named Koyna earthquake.

Considering the vulnerability of the district to multiple hazards, the Disaster Risk Management programme is being implemented in Satara district, along with other thirteen districts of the State. Under this programme a series activities are being undertaken in the district aiming at disaster risk reduction. Recognizing that the Panchayati Raj Institutions [PRI] are an important cogs in disaster management wheel, a one-day orientation programme was organized on 16th May 2007 for PRI members at district and taluka levels. The idea behing the training programme was to initiate the first step of capacity building at the community level. The resource persons were drawn from the Revenue Department, NGOs and UNDP. Topics namely Basics of Disaster Management, Disaster types, Earthquake Risk Management, Flood Management, Roles and responsibility of PRI members in Disaster Management, etc were covered.

One of the participants of the training programme was Shri. Tukaram Patil, member of Karad Panchayat Samiti. Shri. Patil attended this programme very enthusiastically as his taluka and village is highly vulnerable to the risks of floods and earthquake. But he did not expect that his disaster management knowledge and skills would be put to acid test within a month of the disaster management orientation programme.

Sal Shirambe village under Karad taluka received heavy rains like other parts of the district during June-July 2006. There are

five small dams and check dams in and around the village. One of the dams is located at the village boundary. Due to incessant heavy rainfall, the water holding capacity of this earthen dam became full and as such water started overflowing.

Shri. Patil realized that the dam is likely to fail as there was no sign of the intensity of rainfall abating. He could foresee that the failure of the dam was sure to lead to a big mishap, for 10-15 families were residing in proximity to the down stream region. Also these families rear cattle. Also there was the likelihood of other parts of village getting affected by the dam failure.

He quickly swung into action. With the help of village youths, people were shifted to nearby temple and village school as they were located at elevated land. The Public address system installed in the *Gram Panchayat* [GP] office was used to warn villagers regarding the possibility of dam failure.

The worst fear of Shri. Patil came out to be true. After about two hours of the completion of evacuation, the dam breached and water started entering the houses of the 10-15 families settled in the down stream. However, there was no loss of human life or cattle, as they were already shifted to safer shelters.

Shri. S.M. Hazare, Gram Sevak of the village has loads of appreciation for Mr. Tukaram Patil. One can imagine the devastating situation, had Tukaram not have taken the effective



Tukaram Patil pointing the repaired earthen dam

and efficient pro-active steps. Mr. Shakur Mulla, President, Nehru Yuva Mandal, Salshirambe added that the loudspeaker helped in quick dissemination of warning. Like him, many other villagers feels indebted to Tukaram.

Mr. Tukaram Patil unambiguously mentioned that the orientation programme helped him on two counts: it motivated him as the PRI members to work during disasters and, lectures and discussions helped him to understand the importance of early warning and pre-disaster activities. He is willing to participate in future training programmes on disaster

management. Also he wants that the capacity building of his fellow villagers be taken up as he himself is convinced of the importance of capacity building.

District Search and Rescue Team

The first few hours after a disaster are known as 'Golden hours' in the parlance of disaster management. Maximum lives can be saved during this period. Therefore, search and rescue is considered as the first and the most important task in the post-disaster period. A well-trained and properly equipped professional search and rescue [SAR] team, at least in each district, is therefore considered as highly essential.

Acknowledging the importance of SAR teams at the district level, the Government of Maharashtra issued Government Resolution [GR] in June 2005 for the constitution of search and rescue [SAR] team in every district of the State. The 36-member SAR teams have been constituted as per the guidelines of Ministry of Home Affairs, Government of India.

The composition of this SAR team is as follows:

Team Commander - 1

Deputy Team Commander - 1

Operation Group - (3 groups)

Group I - 8 members

Group - II - 8 members

Group III - 8 members

Technical support

IT - 1

Communication Expert - 1

Engineering - 2

Doctor - 1

Paramedic (male) - 1

Paramedic (female) - 1

Administrative support

Administrative Officer - 1 Support staff - 2

Total - 36 members

Members of this team have been drawn from Police, Fire Services, Home Guards & Civil Defense, NGOs, etc. All districts



team have been constituted and training is being imparted by the National Disaster Response Force, Pune. Training module covers Collapse structure Search & rescue, Flood water rescue, Medical First Response and Rope rescue. The trained team members were very effective during floods of 2006 and 2007. Also the trained members are doubling as trainers to SAR teams at taluka and village levels.

Pavilion on Disaster Management for Mass Awareness Generation

This year, Latur district celebrated its Silver Jubilee. On this occasion, among other events, an exhibition was arranged by the district administration. Relief and Rehabilitation Department, had put a pavilion in the exhibition from 16th to 20th January, 2008. This exclusive pavilion was inaugurated at the hands of Shri. Vilasrao Deshmukh, Honourable Chief Minister of Maharashtra and Dr. A. R. Antulay, Hon'ble ex-Chief Minister of Maharashtra.



The pavilion's theme 'disaster management cycle' was conceptualized and executed under the direct supervision of

Shri Ramesh Kumar, Principal Secretary of the Relief & Rehabilitation Department.

At the beginning, the Latur earthquake of 1993 and its impact was displayed, followed by the response statistics and photographs. The reconstruction and rehabilitation was captured through photographs and models of reconstructed houses, relocated villages, public amenity buildings such as schools, hospitals, talathi office, etc. The community participation process involved in reconstruction and rehabilitation process was also displayed. Preparedness was next and in this section rescue equipment, inflatable boats, photographs of training and mass awareness activities were covered. District, taluka and village disaster management plans were displayed along with Guidelines and Standard operating Procedures.

The disaster management pledge was the next section, where visitors took oath by signing on a flex board to work for creation of a disaster resilient society. IEC materials ranging from safe construction, cartoon booklet on earthquake preparedness, do's and don'ts of different disaster and pocket disaster management guide were extensively distributed to the visitors.

Live shows of Street plays, Puppet shows, Folk dances and songs (*Powada* and *Lawani*) on disaster management themes



were organized on regular intervals. Also, films on disaster management themes were screened continuously. More than two lakh people visited the pavilion and appreciated the innovative theme based exhibition on disaster management.

Post-flood Reconstruction in Maharashtra

Reconstruction and Rehabilitation is an integral part of Disaster Management. The disaster risk mitigation and preventive measures should be a part of the overall post-disaster reconstruction and rehabilitation policy. The Government of Maharashtra incorporated flood mitigation and preventive measures in the post- floods Reconstruction programme.

Floods during the year 2005 and 2006 affected most districts of the State. Economy suffered colossal financial loss. Poorest of the poor were the worst hit. Over 10,000 villages were severely affected. Losses of agricultural crops, lands and shops amounted to over Rs. 5400 crores.

The State Government rose to the occasion and extended relief and assistance to all families with special focus on destitutes. Assistance of over Rs.1300 crore was provided. This included Rs.471 crore as gratuitous relief to destitute persons, Rs. 460 crore to farmers for the crop damage and Rs. 44 crore for enabling them to reconstruct their dilapidated houses. Over Rs. 100 crore was spent to restore the damaged civic amenities.

For two consecutive years, providing relief to the extent of Rs. over 1000 crore each year was a huge burden on exchequer. There was an urgent need to frame a viable public policy to avoid recurrence of socio and economic hardships.

The State Government through a policy resolution dated 9th Jan'2006, introduced a rehabilitation policy for all the flood-affected families. The policy provides free plot measuring 1500 sq. ft. to each farmer and 1000 sq.ft to each non-farmer, besides a newly constructed house of plinth area 250-300 sq. ft over the plot. Each house costing about Rs. 1.80 lakh to 2.50 lakh has to be financed by State Government fund and Chief Minister's Relief Fund with Rs. 10,000/- contribution by the concerned beneficiary. Policy solicits involvement of NGOs and other private commercial bodies. The policy promulgated during the year 2005 was extended to cover the affected villages of floods 2006 also.

A Project Management Consultant was appointed to survey all the affected villages and prepare a project report. There was a need for construction of over 9500 houses in 70 villages spread over 14 districts. Three year phased programme was devised. To speed up the implementation, three models were worked out:

1. State Government-led Contract-driven
2. Owner-driven, and
3. Donor-driven.

The strategy worked out well. So far 249 houses along with civic amenities have already been handed over to people in Raigad. Construction of 1233 houses in Ratnagiri, Satara, Yavatmal and Solapur are nearing completion and are likely to be handed

over shortly. Construction work of 1710 houses has already started in Nanded and Sangli districts. Tenders related to works related to over 2500 houses in seven districts, namely- Parbhani, Nanded, Satara, Bhandara, Gondia, Pune and Yavatmal are in the process of finalization. Estimated cost of the project is approximately of Rs. 200 Crore.

As regards the rehabilitation of the affected villages during the year 2006, preparation of plans and estimate of 128 villages out of total 414 has already been taken up and will be completed soon. Villages where Government land is available for resettlement, works have been taken up promptly.

- Government policy dated 9th Jan'2006 requires that flood lines are re-demarcated after fresh survey all over the State with an objective of identifying vulnerable human settlements, which need translocation to safe locations. 80% of survey work is complete.
 - New locations of rehabilitation are safe from natural calamities like flood, landslides and earthquakes.
 - Architectural and engineering design of the houses have earthquake-resistant features. Safety of sites is sought to be strengthened through measures like blasting of huge boulders on hill slopes supplemented by water courses training and afforestation.
 - This People centric welfare policy has a focus on sustainable development.
-
-

Disaster Information Line

**Principal Secretary, Relief & Rehabilitation
Government of Maharashtra : 1070**

**State Emergency Operation Centre : 1077 / 22027990/
22854168**

District Control Room (s) : 1077
