

**Earthquake Memorial Day  
21 – 24 August 2006, Dharan**



# **Earthquake Memorial Day 2006**

21 to 24 August 2006 Dharan Municipality

## **Introduction**

Dharan Municipality and National Society for Earthquake Technology Nepal (NSET) jointly organized three events from 22 to 24 August 2006 to mark the 18<sup>th</sup> anniversary of August 21 1988 Udaypur Earthquake. Dharan Municipality had planned one day program for this on 21 August 2006. NSET assisted the Municipality to boost up the initiatives by supplementing three more events to further widen the coverage of the initiatives in the municipalities of the eastern development region. One of the events was a follow up interaction program with the trained masons and the clients they served in building homes after their training. The other was a sensitization program on the role of civil society in disaster risk reduction. The third event was a Regional Workshop on Municipal Level Disaster Risk Reduction (with special emphasis to earthquakes)

All the three events were jointly conducted by the Municipality and NSET as planned by mobilizing the financial resources from Action Aid Nepal and NSET. This document reports the activities carried out and the outcome of the activities.

## **Activities Carried Out**

### **A Follow up Interaction Program for Trained Masons**

The follow up program was done in two phases. The first phase covered the visit to the buildings constructed by the trained masons on 21 August. The second phase was the Interaction Program with the Trained Masons and their Clients on the 22<sup>nd</sup> of August 2006. The programs were conducted with an objective to

- Monitor and evaluate the performance of the trained masons
- Get an idea on the perception of the owner builders in Dharan towards the trained masons and earthquake resistant construction technology.
- Initiate to generate information on possible intervention strategy to facilitate the transfer of earthquake resistant construction technology in the informal sector.

NSET and the municipality jointly had trained 62 local practicing masons on the Earthquake Resistant Construction Technology in the past. This follow up program mainly probed into

- a) Performance evaluation of the trained masons.
- b) Challenges, these trained masons are facing in transferring the technology.
- c) Perception of their clients towards Earthquake Resistant Construction Technology.

### **Performance of the Trained Masons**

Twelve out of the 62 trained masons were contacted even in a short notice. These masons took the evaluation team to their clients. Some of the buildings were already completed and occupied where as some nearing completion and some others were under construction. Out of the ten buildings visited two were constructed without incorporation of any earthquake

resistant components. The trained mason was bold enough to say that “Actually I should have used the technology but due to many problems I have not been using it even I was trained” The other eight buildings had built with some of the earthquake resistant components and still require improvement.



Technology transfer at the grass roots level is obviously a multidisciplinary issue and can not be achieved by just a few training and follow up programs. The effort has shown an encouraging positive sign. The trained masons need further motivation and support from the stake holders.

**Perception of the Owner Builders** (the Clients of the trained Masons) towards the masons and the technology

The perception of the general public towards the trained masons and the earthquake resistant technology itself was tried to assess at the interaction program conducted on the 23<sup>rd</sup> of August 2006 at the Community Learning Center of Dharan Municipality. Further the interaction program also briefly discussed about the opportunities and challenges faced by the Trained masons and potential interventions to solve the problems.



The interaction program was participated by 33 persons including six owner builders. The participants were divided into four groups after an opening presentation on earthquake basics and the earthquake risk of Dharan. The presentation also included earthquake scenario of Dharan prepared earlier by Municipal Earthquake Risk Management Program. Three of the groups were from the masons while one group was made up of the clients they served. All the groups were requested to come up with the collective suggestions after an ample discussion on the issues as listed here under.

1. What should the Dharan Municipality do to help you in transferring the earthquake resistant construction technology? *(for all the groups).*
2. What should the house owners do so that you as a contractor could be able in transferring the technology? *(for the groups of Trained Masons).*
3. What should the contractors and or Trained Masons do so that all the houses in Dharan will be earthquake resistant? *(for the group of owner builders).*

4. What should NSET do to make communities of Dharan safe from Earthquake? (*for all the groups*).
5. What will you do in transferring the earthquake technology in Dharan? (*For the groups of Trained Masons*)

All the members of the program participated actively in the interaction. The major inputs received from the interaction are as follows.

1. Dharan Municipality should:
  - Train Masons in earthquake resistant technology
  - Initiate licensing of trained masons.
  - Provide incentives to those constructing earthquake resistant buildings / reduce the fee for building permit.
  
  - Enforce Nepal Building Code with strong implementation and monitoring mechanism
  - Create awareness among the general public regarding the necessity of the technology
2. The owner Builders should
  - Strictly follow the rules and regulation of the municipality
  - Cross check and verify whether the masons being employed are trained and or not
  - Be well informed about the earthquake resistant components in a residential building
  - Consult genuine professionals before constructing a building.
3. The Trained Masons and or contractors should
  - Work in sincere faith and honesty
  - Use the skills and techniques acquired from the training
  - Bring in other untrained masons and organize training programs
4. NSET Should
  - Not confine itself to the technical mass and the municipality authority but should extend its activities to reach to the grassroots community.
  - Open up a branch office at Dharan for constant input and motivation to the Municipality
5. We as trained Masons
  - Admit our weaknesses and promise to decrease them in the future
  - Will be honest and sincere in the work through our professional society that we are now going to register.

## B Sensitization program on role of civil society in DRR

Destructive Earthquakes have relatively longer return period as compared to other frequent disasters like flash floods, landslides, fire etc. The fact is that destructive earthquakes have much larger impact as compared to the general disasters affecting a confined area as compared with the of the earthquake. NSET has been focusing to earthquake risk reduction with the concept that if the community is prepared for the disaster of mass destruction with a large cover area this will

automatically enable the community to cope with other disasters. However we need to address the preparedness and risk reduction issues for the other disasters as well.



This interaction with the representatives of civil society institutions like Rotary, Lions, Leo, Reyukai, and other local CBOs and Clubs actively working in Dharan was planned on the 23<sup>rd</sup> August 2006. In this program one of the most frequently used immediate responder that is the fire brigade also shared the challenges and its expectations from the formal and informal sector. The objective of this interaction was to sensitize the organized sector of the civil society on their role of disaster risk reduction.

This interaction was participated by twenty individuals from different walks of life representing various civil society institutions and influencing individuals.

The following three presentations were made as a background to initiate the discussion

1. The current status of disaster management in Nepal
2. The fire brigade in Dharan Municipality
3. Role of Civil Society in Disaster Risk Reduction

The presentation on the status of fire brigade highlighted that Dharan Fire Brigade has three Fire Engines. The fire brigade has 15 persons so that each fire engine is operated by a team five persons. It has been providing the following three type of services to the communities in Dharan

1. Fire fighting
2. Supplying of water free of charge
3. Paid water supply



#### 4. Fire fighting training

In the past two years Dharan Fire Brigade has carried out the following activities

SN	Activity	2061/62	2062/63	Total
1	Fire fighting	32 events	59 events	91 events
2	Supplying of water free of charge	67	241	308 events
3	Paid water supply	60	102	162 events
	Income from paid water supply (in NRs.)	56650	72100	128,750 NRs.

The major problems faced by the Dharan Fire Brigade are:

- Enormous numbers of un designed and haphazardly placed speed breakers on the roads of Dharan
- Uncontrolled crowding on the fire fighting site,
- Scarcity of water at the fire site
- Water Source far from the fire fighting site
- Inadequate Fire Fighting equipment
- No Personal Protective Equipment for the fire fighters (only three fire proof jackets)

The presentation also highlighted the following constraints of the fire brigade

- It is not capable of fighting fires on the tall buildings more than two stories
- It is not capable of fighting fires of petroleum and other chemical fires

It was also known that Dharan Fire Brigade is providing services to communities outside Dharan in the following places

- Pasupati Nagar, Ilam
- Rangeli, Morang
- Biratnagar, Morang
- Itahari, Sunsari
- Inaruwa, Sunsari
- Lahan, Siraha

There was an active interaction after the presentation sessions. The major outcome of the discussion is presented here under.

1. The civil society community of Dharan should seriously think in optimizing the number of speed breakers.
2. Dharan Municipality should come up with a proper design of such speed breakers instead of trying to avoid them.
3. Dharan Municipality and the user groups should decide the location for the speed breakers
4. All the participating institutions now understand the role civil society in disaster risk reduction and feel the necessity of working together in disaster risk reduction at the municipality level.



5. All the participating institutions will be coming up with programs related to disaster risk reduction..
6. Dharan Municipality should take the role of coordinated leadership
7. This Interaction programs suggests that Dharan Municipality should establish a disaster risk reduction or Disaster Management Unit within the Municipality.

### C. Regional Workshop on Municipal Level Disaster Risk Reduction

A regional workshop for the 14 Municipalities of the eastern Development Region of Nepal was held on 24<sup>th</sup> of August 2006. The goal of this workshop was to sensitize and motivate 13 municipalities of eastern development region to initiate Earthquake Risk Reduction activities at the municipal level. The objective of this workshop was to share the experience of initiatives undertaken by Dharan Municipality and the impacts so far.



Out of the 13 Municipalities invited for the workshop only eight municipalities sent their representatives. The other municipalities could not attend as there were some internal problems within the municipalities. Those who were present actively participates in the event. The Deputy Executive Officer of Dharan Municipality welcomed the participants.

The presentations were made on the Disaster Management Scenario of Nepal, The Experience and achievement of Dharan Municipality in Earthquake Risk Management, The outcome of the Interaction programs with the trained masons, and the civil society institutions.

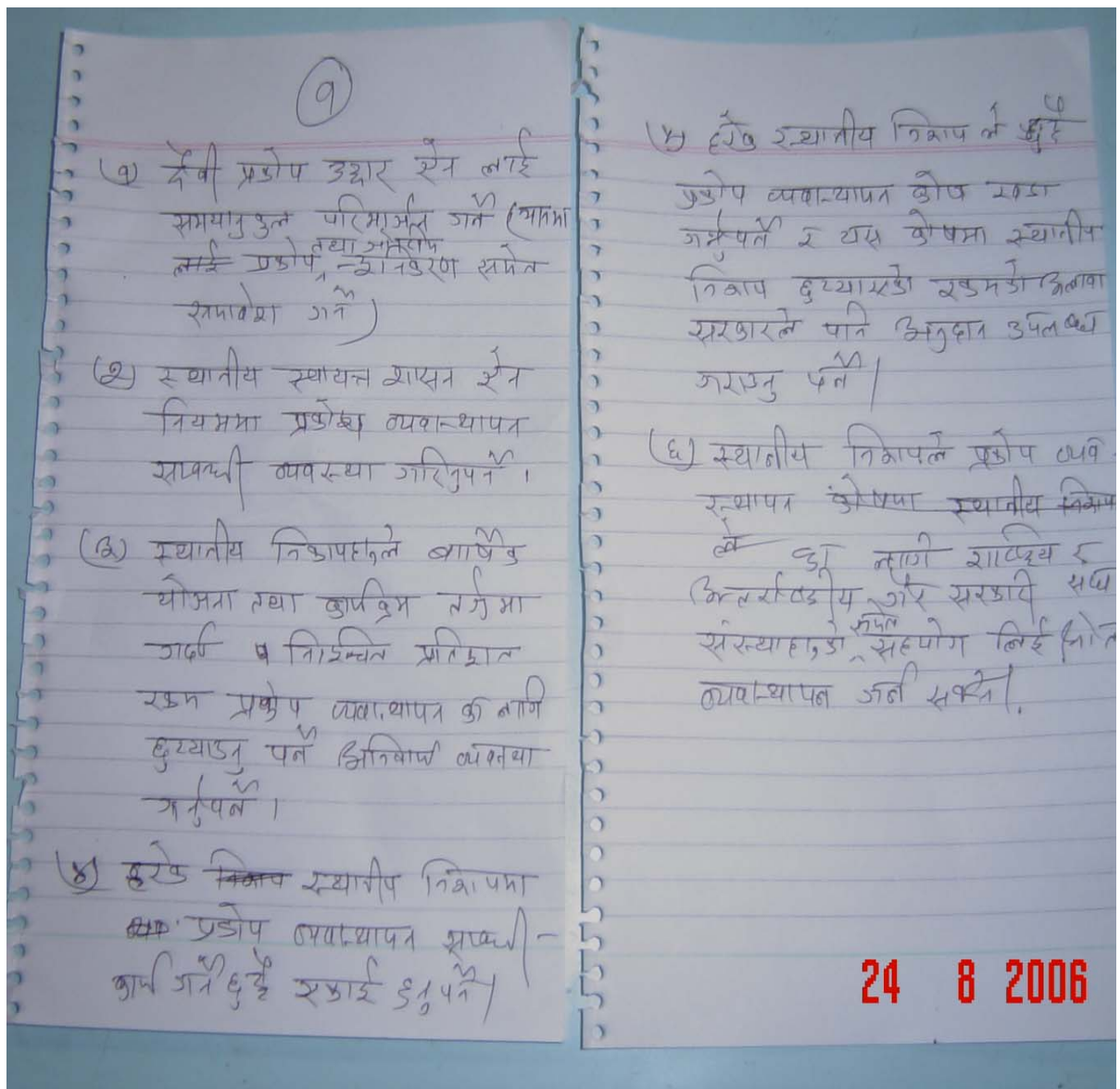
The participants were divided into four groups to look into the four basic issues related to municipal level disaster risk reduction. The issues were:

1. What are the policies required and the constituents for a sustainable Disaster Management at the municipal level.
2. The role, responsibility and authority of a sustainable Disaster Management at the municipal level
3. What should the municipal level Disaster Management Unit do for an effective and efficient rescue and relief?
4. What should the municipal level Disaster Management Unit do for an effective and efficient disaster preparedness and mitigation measures?



Each group actively discussed the issues they were given and came up with a draft suggestion as presented here under.

What are the policies required and the constituents for a sustainable Disaster Management at the municipal level?



The role, responsibility and authority of a sustainable Disaster Management at the municipal level

(2) नगरस्तरीय प्रक्षेप व्यवस्थापन  
समिति को भूमिदाता व ग्राम, वर्ग  
व अधिनियम दे दे हनपडे।  
- यलडा लागि दे दे हनपडे लाघन  
व्योत आवकसक पला।

(+) नगरपालिकाको नम प्रक्षेप  
रूप पहिचान गरी प्राथमिक  
निर्धारण गर्ने

(+) नगरपालिकाको वार्षिक  
संज्ञानमा प्रक्षेप व्यवस्थापन  
न्यूनतरण सम्बन्धी कार्यक्रम  
र कार्यको व्यवस्था गर्ने

(+) उपरोक्त तहका प्रक्षेप व्यवस्थापन  
सम्बन्धी निम्नलिखित प्राप्त  
नीति निर्देशन र स्थानीय  
आवश्यकतामा आधारित  
कार्यक्रम बनाई <sup>नगरपालिका</sup> सम्बन्धी  
सरकारी तथा गैरसरकारी  
संघ संस्थाको समन्वय  
र समझदारी गर्ने

(+) कार्यक्रम बन्ने जनसहभागिता-  
मूलक बनाउन प्रक्रिया तय  
गर्ने

(+) मातहतका **24** तिथि **8** (2006) ले

हकुलाई प्रकौप व्यवस्थापन सम्बन्धी  
नालिम तथा परामर्श दिई लक्ष्मीकरण  
गर्ने।

(+) सन्डालीम र दीर्घ डालीम कार्यक्रम  
तयार गरी लागू गर्न सकिने  
साधनको लागि न. पा. मा  
पेश गर्ने।

(+) प्रत्येक जिल्लासिद्धमा प्रकौप  
व्यवस्थापन सम्बन्धी सन्देशनामक  
कैलपल तयार अन्तरक्रिया एवम्  
समीक्षा कार्यक्रम सञ्चालन गर्ने।

(+) प्रकौप व्यवस्थापन सम्बन्धी  
# E-dm कार्यक्रम सन्देशना  
जनचेतना अभिवृद्धि गर्ने।

(+) मुवा सन्देशनासँगै हकुलाई  
जान एवम् स्वीपमूलक तालिमको  
व्यवस्थापन गर्ने।

(\*)

— समुह —

(2)

(1) महेन्द्रकुमार खाम्याहाड, धनपा

(2) मिडमादोजी सेर्वा, धनपा

(3) भीमप्रसाद पाँडे, दमक नपा.

E-dm - Electronic Disaster Management

What should the municipal level Disaster Management Unit do for an effective and efficient rescue and relief?

Q.No. - 5

- 1) प्रकोप उद्धार राहत व्यवस्थापनक। कारीग  
रुग ललरिध प्रकोप व्यवस्थापन सलरिलीक  
के कल्ला कल गुरिपड।  
- चलकल ललरिग के कलल कलल सलरल कलररररर  
हललल।
- 2) रुग भलरकल सलक सलरर सलकल हकललर  
परलचललल गुरे। अलल कल सलरर सलकल  
सुलल अलररर / सुलल अलरर। अलरर/सल  
3) अलररररररर उपललरर कलरर कलरररररर  
मलललरर सलरर अलरर अलरररररर सुलललर  
व्यवस्यल मलललरर।
- 4) प्रकोप हलरल अलरररररररर रलरररर ललल  
कलरर (रलरर सलरररर) उपललरर गुरे।
- 5) सुलरररर सलरररर कलरररररर व्यवस्यल  
मलललरर।
- 6) अलरररररर कलरररररर अलरररररर  
अलरररररर ललल अलरररररर व्यवस्यल  
मलललरर।
- 7) अलरर अलरररररररर सलररररर (सुललरर/)  
दलरररर / अलर-कलरर कल व्यवस्यल मलललरर

What should the municipal level Disaster Management Unit do for an effective and efficient disaster preparedness and mitigation measures?

- समूह - "४"
- जागरूकता अभिवृद्धि!
  - प्रकोप सम्बन्धी जासूत, संतुतडो पहिचान तथा लेखा जोखा!
  - कार्यसूची तयारी (सर्व तयारीका लागि) प्रकोप न्यूनीकरण कार्यका लागि!
  - प्राथमिकता क्रमका लेखाने!
  - बुद्धि योजना को तयारी गर्ने!
  - योजना सञ्चालन गर्ने!
  - स्वयंसेवकहरू तयारी गर्ने!
  - कार्यन्वयन, अनुदान, मुल्यांकन, प्रतिनायन गर्ने!
  - अनुदान गर्ने!
- आवश्यक साधन - साधन :-
- आयुक्त
  - अधिकृत
  - मोटर वाहन
  - तालिम प्राप्त कार्य तालिम प्राप्त सामग्री
- राहत सामग्री
  - सम्भावना अध्ययन र सुव्यवस्था!

A brief closing session was organized to end the workshop. The Deputy Executive Officer of the Municipality thanked all the participants and the workshop was closed