



**TRAINING WORKSHOP ON THE
Tsunami Warning Dissemination through Media**

Organized by

PAKISTAN METEOROLOGICAL DEPARTMENT

in collaboration with

UNESCO-INTERGOVERNMENTAL OCEANIC COMMISSION

(5-6 October 2009)

at

**NATIONAL SEISMIC MONITORING AND TSUNAMI EARLY
WARNING CENTRE
KARACHI**

Executive Summary

Indonesian Tsunami of 26 December 2004 and the Kashmir Earthquake of 8th October, 2006 stressed the need of acquiring knowledge about the occurrence of earthquake and the possibility of the generation of a Tsunami having threat to life and property. To cope with the situation, Pakistan Meteorological Department has established National seismic Monitoring & Tsunami Early Warning Centre (NSM & TEWC) in Karachi. Real-time monitoring of earthquake occurring any where in the world and various parameters of a potential Tsunami, in the Indian Ocean, are estimated by this Centre. This Centre is also linked with International Tsunami Warning Centres like Pacific Tsunami Warning Centre (PTWC), and Japan Meteorological Agency (JMA). The PMD National Earthquake Monitoring & Tsunami Warning Centre disseminates Tsunami information to various stake holders including National Disaster Management Authority (NDMA), Provincial Disaster Management Authorities (PDMAs) and, District Coordination Officers (DCO) along the coasts, besides Print & Electronic Media. In this scenario most important factor is how fast these Tsunami alerts can be communicated to masses to save lives and assets. In this regard the role of Electronic and Print Media is of vital importance. To elaborate this, the subject 2-days workshop was conducted by UNESCO-IOC in collaboration with Pakistan Meteorological Department. Media's role and responsibilities were discussed and international case studies and best practices were shared during the course of workshop. Thirty participants from print and electronic media and the government institutions participated in the workshop. National and international experts deliberated on different aspects related to Tsunami Warning Dissemination through Media

Workshop Overview

A Training Workshop on Tsunami Warning Dissemination through Media was held at Regent Plaza hotel on 5-6 October, 2009 in collaboration with UNESCO-IOC. Two Days workshop was attended by 30 participants and experts from national and international institutions. Participants from print media were from Daily Times, Daily Nawa-i-Waqt, Daily Dawn, Daily Ibrat, Daily Kawish, Associated Press of Pakistan whereas electronic media was represented by PTV, Geo TV, Indus TV, KTN TV, Aaj TV, ARY News, Metro One TV, News One TV, FM-101 (radio station) and Radio Pakistan. Workshop proceedings made it possible for media professionals to learn about National Tsunami Early Warning System, roles of various stakeholders and institutions in early warning dissemination and lesson learn from international experiences. The workshop also provided an opportunity for PMD managers to develop their liaison and coordination with media people.

October 5, 2009 (Day 1)

The Inaugural speech was made by Syed Amir Ahmed Kazmi, the Ex-Director General, Pakistan Meteorological Department (PMD) and Seismic Expert. He traced the developments made in Pakistan regarding the subject of Seismology and reviewed the consequences of earthquake and tsunami on coastal belt of Pakistan.



Inaugural speech-Syed Amir Kazmi, the Ex-DG PMD

Mr. Muhammad Riaz, Chief Meteorologist, (PMD) welcomed the participants and elaborated the importance of prompt dissemination of the Tsunami Warning through media. The comments made by him, reflected the efforts of the team of National Seismic Monitoring and Tsunami Early Warning Centre (NSM & TEWC), Karachi in tsunami warning dissemination in minimum time in the light of Standard Operating Procedure developed by PMD. He thanked all the stakeholder including. National Disaster Management Authority (NDMA), Provincial Disaster Management Authority (PDMA) & District Disaster Management Authority (DDMA) and other organizations like UNESCO and Pakistani media.

Ms. Iffat Malik, Director, Provincial Disaster Management Authority (PDMA), focused on the importance and needs of disaster management in Pakistan. Her presentation also covered the background of the creation of Provincial Disaster Management Authority in Sindh PDMA. Later, the establishment of PDMA was discussed, besides functional aspects and the Role of PDMA in Risk Management and Tsunami Early Warning System.

Mr. Arslan Syed, from UNESCO, talked in detail, about the role of UNESCO in tsunami early warning system in Pakistan. He informed that the Intergovernmental Oceanographic Commission (IOC) of UNESCO was established in 1960 and has successfully coordinated the Pacific Tsunami Warning System (PTWS). After the Sumatra Tsunami of December 26, 2004 the IOC received the mandate of helping the UNESCO Member States of the Indian Ocean region to establish their own Tsunami Early Warning Systems.

Mr Ardito, Programme Officer, briefed about the basic of Tsunami generation and impacts of Sumatra's tsunami. In this regard, a small documentary was shown on Sumatra Tsunami. The resulting devastations elaborated the dire need for developing an efficient system for the mitigation of these losses to the minimum possible level.

A short documentary "The Asian Tsunami: Disaster of the Century" was shown to the participants. Through the contribution of unique archive footage from 8 Asian member broadcasters, the Asia-Pacific Broadcasting Union (ABU) has produced a 25-minute documentary that is a valuable and historic account of the tragedy.

The first session of day 1 of the team work covered the Pakistan Tsunami Early Warning System (Components, stakeholders and information flow). First session came to an end with the Questions & Answers session.

The second session was dedicated to Operational Strategies of the NSM & TEWC, Karachi and to build interest and curiosity in media personnel. To achieve this goal a visit of NSM & TEWC was arranged for the participants to enable them to see for themselves the working capacity and limitations of the said centre. The tsunami warning/earthquake bulletin dissemination was displayed to them and working was explained in detail. The first day session came to an end at 1700 PST.



Chief Meteorologist PMD, Karachi briefing the Participants on National Tsunami Early Warning System

October 6, 2009 (Day 02)

The proceedings of the second day started with the review of the activities of the first day. Mr Arslan, Facilitator, UNESCO Office, Islamabad, presented the review.

Mr Ardito, Programme Officer for Jakarta Tsunami Information Centre (JTIC), made three different presentations. First presentation dealt with the phenomena of Earthquake & Tsunami. He explained relation between earth tectonic plates, bathymetry and generation & propagation of Tsunami.



Ardito Kodijat-Sharing International best practices

During the second presentation entitled: “End to End Tsunami Early Warning System” many useful abbreviations, used in the Tsunami Early Warning messages, were explained and the threats, posed by a Tsunami, were elaborated. Significance of “very Rapid Earthquake Evaluation”, “Very Rapid Sea level Evaluation” and “Very Reliable Communications” in the best community response was also highlighted. Besides this, Tsunami Early Warning System, being practiced in Indonesia was also depicted.

In the 3rd presentation, Mr. Ardito highlighted the “Media’s Role in Disaster Risk Reduction”. In this presentation, efforts made by the Media people, in different countries, in saving human lives and protecting property, were elaborated. Besides this, the participants from Media were apprised of their responsibilities and the strategy to be adopted by them in case a Tsunami Warning is issued.

The second session was a Mock Exercise conducted by Mr. Ardito. A Link between media & NTWC was practically shown. The participants were divided into three different groups which comprised of representatives from Newspapers, Radio and T.V. To simulate a real life scenario during the exercise, SMS was directly disseminated from NSM & TEWC, Karachi on the basis of a fictitious Tsunami message. Besides this, newly installed tsunami simulation software called GUITAR was used. Enthusiastic spirit was seen in this exercise.



Hands on exercise and involvement of participants

Certificate Distribution Ceremony took place at end of the workshop. Mr. Muhammad Riaz (Chief Meteorologist), of Pakistan Meteorological Department, was the guest of honour for this activity. The workshop came to an end with a word of thanks to the participants.

Event got good coverage on electronic media. Newspapers coverage/clips of the event are enclosed as Appendices–XIV & XV.

SCHEDULE FOR THE INAUGURAL CEREMONY

<u>Date and Time (PST)</u>	<u>Place and Programme</u>
Monday, October 5, 2009	Hotel Regent Plaza, Karachi
0830 – 0850 PST	Registration of Participants/Observers
0900 – 0905 PST	Guests and Participants take their Seats
0910 PST	Arrival of Chief Guest
0910 PST	Recitation from the Holy Quran
0915-0930 PST	Opening Remarks by the Chief Meteorologist
0930-1000 PST	Tsunami-A bit about Phenomenon by Mr. Ardito / Chief Met., PMD
1000-1030 PST	Tsunami – A brief History a small Documentary on 2004 Tsunami and the Destruction phenomena
1030-1100 PST	Refreshments

PROGRAMME FOR THE TRAINING WORKSHOP

Date and Time Programme

1. Monday, October 5, 2009

Training Session (Pakistan Tsunami Early Warning System (Components, stakeholders and information flow)

1100 – 1130 PST	Presentation by Chief Meteorologist, PMD
1130 – 1200 PST	Role of UNESCO in Disaster Management by Arslan Syed, Project Officer, UNESCO Islamabad Office
1200 – 1230 PST	Presentation by PDMA Sindh
1230 – 1300 PST	Q & A session
1300 – 1345 PST	Lunch & Prayers Break
1345 – 1615 PST	A visit to National Seismic Monitoring & Tsunami Early Warning Centre, Karachi
1615 – 1700 PST	Tea/Coffee break

2. Tuesday, October 6, 2009

0900 – 0930 PST	Review of Previous day
0930 – 1030 PST	Media in Early Warning Chain)
1030 – 1100 PST	Tea/Coffee break
1100 – 1145 PST	Understanding Tsunami Early Warning Messages
1145 – 1300 PST	Challenges in Warning Dissemination Process
1300 – 1345 PST	Lunch & Prayers break
1345 – 1530 PST	Mock exercise (Link between Media & NTWC
1530 – 1600 PST	Tea/Coffee break
1600 – 1630 PST	Certificate distribution, Closing Session

Appendix – III-A

7	<p>Mr. Dodo Chandio Reporter KTN TV Press Club Karachi Phone: 021-35312564-65 Cell # 0300-2556288 – 0333-2639758 Facsimile: 021-35800526 dodochandio@yahoo.com</p>
8	<p>Ms. Faiza Ilyas Sub-Editor-Cum-Reporter Dawn Newspaper Haroon House, Zia-uddin Ahmed Road Cell: 0333-3647441 Facsimile: 021-35682187 Faiza.ilyas@dawn.com</p>
9	<p>Mr. Fida Hussain Soomro Producer Current Affairs PTV Pakistan Television Corporation Ltd PTV Centre Karachi, Stadium Road, Karachi Phone: 021-99230144 Cell: 0333-2303095</p>
10	<p>Mr. Habib-ur-Rehman Baloch Reporter, Geo News, Main Jang Building I.I. Chundrigar Road, Karachi Phone: 021-32628730 Cell: 0334-3658789 Habib1273@yahoo.com</p>
11	<p>Ms. Iffat Malik Director PDMA C-52, Block-2 Clifton, Karachi Cell: 0300-3651399 Facsimile: 021-35830087 director@pdma.gov.pk</p>
12	<p>Javed Iqbal Sub: Editor Radio Pakistan, News MA Jinnah Road, Old Broadcasting House, Karachi Phone: 021-99215602 Cell: 0321-2195004 Facsimile: 021-99215614</p>
13	<p>Karam Khan Meteorologist Pakistan Meteorological Department Meteorological Complex, National Seismic Monitoring Centre, University Road, Karachi Phone: 021- 99261432 Facsimile: 021- 99261429 Karamkhan31@hotmail.com</p>

Appendix – III-A

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15	<p>Muhammad Anwer Khan Senior Reporter, ARY News, 6th Floor Madina Mall Saddar Karachi Phone: 021-35621646, Cell: 0334-3215529 Facsimile: 021-35657605 anukhan2002@yahoo.com</p>
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18	<p>Muneer Ahmed Narai Reporter Daily Ibrat 901-A Saima Trade Tower, Karachi Phone: 021-2272031 Cell: 0346-2455558 munirnarai@yahoo.com</p>
19	<p>Mureed Ali Reporter FM-101PBC Karachi 15th Floor New B.H Gulshan-e-Iqbal Karachi Phone: 021-99231963 Cell: 0302-2888678</p>
20	<p>Mushtaq Sohail Bureau Chief, Daily Kawish, Saima Trade Town I.I. Chundrigar Road Suit No 1102 11th Floor Karachi Phone: 021-32633492-93 Cell: 0300-2395896 Facsimile: 021-32633695 Mushtaq_kawish@yahoo.com</p>

Appendix – III-A

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23	<p>S.A.A. Kazmi, CHIEF GUEST Director General (R), Pakistan Meteorological Department, Consultant, Sir Syed University of Engineering & Technology Karachi, House# B-691, Block-13, Federal B Area, Karachi Phone: 021-36802411 Facsimile: 021-34988000 Ext 265</p>
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Chief Meteorologist, Karachi briefing the Participants in the NSM & TEWC Hall.



Participants after workshop interacting with the PMD Authorities during their visit of NSM & TEWN, Hall, Karachi.



The operation of the NSM & TEWC being brief to the Media participants



Chief Meteorologist providing the operational information to the visitors



<http://DAWN.com> Vol. LXIII No. 276 Karachi, Shawwal 17, 1430 Wednesday, October 7, 2009 20 PAGES Rs 13.00

(Source: The Daily DAWN, Karachi, October 6, 2009)

'City, other coastal areas vulnerable to tsunami'

KARACHI, Oct 5: Along with other multiple hazards, Pakistan's coastal areas also face a major tsunami threat from the Makran Subduction Zone (MSZ) that had been the source of a devastating tsunamigenic earthquake in 1945 and is capable of causing a major sea flooding.

Considering the fact that a modern early tsunami warning system has already been set up in the country, there is a dire need to create awareness of the subject. The government should also take solid measures for the establishment of an efficient disaster management system.

These were some of the important points highlighted by speakers at a two-day training workshop on "Tsunami warning dissemination through media" held in a local hotel on Monday.

The event was organised by the Pakistan Meteorological Department (PMD) and UNESCO.

Tracing the history of Makran tsunami, chief meteorologist Mohammad Riaz said that the MSZ, located about 50kms from the coast, had been the source of tsunamigenic earthquakes in the past, but few details were available. The best known of these tsunamis, he said, was the Makran tsunami which killed over 4,000 people in 1945 and caused destruction on a large scale. As witnessed, the region was vulnerable to a tsunami that could be of 8.3 magnitude.

"Scientific record shows that the same situation may reemerge in 70 to 100 years after the first occurrence. If that happens, the worst-hit would obviously be Pasni and Gawadar, besides the other areas falling along the Balochistan coast. The towering tides can also reach Karachi within a few moments," he warned.

Referring to the climate change effects, he said the global warming phenomenon could increase the height of tsunami-generated ties depending upon the sea surface condition.

During the last seven months, eight earthquakes of low profile had already been recorded from near the MSZ in the Arabian Sea and a tsunami of the same magnitude might occur anytime.

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“As far as a tsunami threat to Pakistan is concerned, this region is of great significance. There is no subduction zone in the Run of Kutch.” Subduction zones involve an oceanic plate sliding beneath either a continental plate or another oceanic plate. These zones are often noted for their high rates of volcanism, earthquakes and mountain building.

About the National Seismic Monitoring and Tsunami Early Warning Centre set up by the PMD in Karachi with the support of UNESCO, Mr Riaz said the system was linked to the regional and international tsunami warning systems. It could disseminate information to the relevant government agencies and the media within no time.

“We are collecting data of the seismic activities taking place in the region and the other parts of the world. A back-up tsunami early warning system has also been developed in Islamabad,” he told the gathering.

UNESCO’s role Giving a brief about the devastating 2004 tsunami in which more than 200,000 people had perished, Mr Ardito, a UNESCO official who worked in the communities hit by the tragedy, said that although people didn’t feel the earthquake in the case of distance tsunami, there were visible indications in the case of a local tsunami for instance terrible earth trembling and receding of seawater from the coastline.

About the role of UNESCO in disaster management in Pakistan, Arsalan Syed, facilitator, UNESCO-Islamabad office, said the UNESCO project had a number of components including the installation of tide gauges along the coastline, working with the community and capacity building of relevant government agencies.

A committee would be set up for the sustainability of the project once Unesco would be out of the picture. He also pointed out that there were some lacunae in the disaster management ordinance itself which needed to be removed.

Representing the government, Iffat Malik, the director finance and administration in the Provincial Disaster Management Authority (PDMA), said that the authority was in its infancy and the government realised the significance of the issue.

“The authority was notified only last June and we are in the process of assessing the situation and making decisions. All districts have been asked to allocate a portion of their budgets specifically for disaster management and set up bodies for this purpose.” The chief guest, Syed Amir Ahmed Kazmi, former PMD director-general, stressed the need for introducing geophysics as a basic science in educational institutions.

Daily Times

Your right to know A new voice for a new Pakistan

(Source: The Daily Times, Karachi, October 6, 2009)

Could a tsunami strike on Makran coast affect Karachi?

By Amar Guriro

KARACHI: Jakarta Tsunami Information Centre Programme Officer and the Liaison Officer for the Disaster Risk Reduction Team, Ardito M Kodijat, warned on Monday that a major tsunami on the Makran coast could also affect Karachi.

He said the Makran coast was struck by a major tsunami in the past and it is vulnerable to another one in the future, and in such a case, the calamity can also strike Karachi in no time.

“The coast of Makran is vulnerable to a possible tsunami as it is located on the joint of the Eurasian Plate and the Arabian Plate and a tsunami hit the coastal belt of Makran in 1945 that brought mass destruction to these areas. I can’t explain exactly where and when would the next tsunami strike and what would be its intensity, but if a major tsunami hits the Makran coast, it would also reach Karachi,” said Kodijat.

Addressing a two-day Unesco-PMD training workshop of media persons on tsunami warning dissemination through the media, arranged by the Pakistan Meteorological Department in collaboration with Unesco, and later talking to this scribe, Kodijat said there is no need to panic over such a threat, but we need to make communities aware as to how to cope with a possible tsunami.

However, renowned expert of geophysics, former director general of the Pakistan Meteorological Department and Sir Syed University of Karachi Department of Geophysics Chairman Syed Amir Ahmed Kazmi rejected any possibility of a tsunami hitting Karachi.

“Karachi has never remained in the tsunami zone in the past, but sometimes some areas of the city such as Defence and Clifton are shaken with jolts, but this is not due to earthquakes, but the illegal land filling to extend land over the sea following which the soft debris that used results in the jolts,” he said.

He said there are remote chances of a tsunami occurring in the North Arabian Sea. “But any minor tsunami could occur in the Arabian Sea and to detect that I had suggested that a tsunami early warning centre should be established,” Kazmi said.

In 1819, a tsunami hit Keti Bunder and Shah Bandar ports of Sindh and in 1945 a major tsunami smashed Pasni and Ormara towns of the Makran coast, which killed almost the entire population.

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A tsunami usually brings tides around nine metres high that hit the coast with a speed of about 600 miles to 750 miles per hour, depending on the magnitude of the earthquake that caused it.

Talking about the history of tsunami, Kazmi said that before the atomic explosion in the Japanese city of Hiroshima, the world always assumed that high tides in the sea caused a tsunami, but following the Hiroshima nuclear explosion, an earthquake occurred resulting in a tsunami. This resolved the mystery of what causes a tsunami.

“After the World War II, the world came to know the importance of geophysics and experts of this field rushed to different countries...two of them arrived in Pakistan to establish the subject of geophysics at the university level,” he said.

Kazmi further said that during the years of a martial law in Pakistan, science has always been ignored and those professors and experts who went abroad were always called back. “The same happened to me when I was abroad for studies...I was called back at that time and I returned even though several professors preferred staying there,” he said.

Chief Meteorologist Muhammad Riaz said the Makran coast has witnessed six minor earthquakes in the last eight months, out of which one measured above 5.0 on the Richter scale. “In any case of a tsunami emergency, the operators at the tsunami early warning centre can inform the officials of the Pakistan Disaster Management Authority, the media and the departments concerned within 15 minutes through a short message service, fax and a telephone call,” he said.