A Record on the Public Health Experiences Of the Tsunami Disaster
A Record on the Public Health Experiences Of the Tsunami Disaster

Reported by

Supachai Kunaratnapruk, MD
Boonchai Somboonsook, MD
Piyachat Chuentrakool, S.W.
Department of Health Service Support
Ministry of Public Health

Supported by World Health Organization
A Record on the Public Health Experiences of the Tsunami Disaster

Prepared by
Subcommittee on Post Mortem Forensic Investigation and Identification.
Ministry of Public Health
1st Edition
Quantity: 1,000
May, 2006
ISBN: 974-7155-17-6

Publishing Coordinator
Piyachat Cheuntrakool
Suphahkorn Nonthawong
Konsan Thongsukdee: Design
Thunwa Printing Co., Ltd.: Printing
Tel. 0-2289-1400 Fax. 0-2289-1420
Dedicated To

Those who lost their lives in the Tsunami with respect

Those who encountered the Tsunami with empathy and care

Those who took responsibilities in maintaining public health mission in
the historical event of the country

Both in front and behind the scene with admiration
Introduction

From a long history, Thailand is one of the luckiest countries in the world that has never experienced the catastrophe that leads us to such an enormous loss of both lives and invaluable possessions. Until the morning of Sunday 26 December 2004, there was an incident that had never happened to Thailand before. "The Monster Waves of Tsunami" severely swashed the six provinces by the Andaman sea in the south of Thailand: Phang-Nga, Krabi, Phuket, Ranong, Trang and Satun. This was considered the worst disaster that ever happened that vanished everything in sight, in minutes.

Though the Tsunami was an incident that happened in just a short while, but it had remained such a great deal of grief and suffering to those who encountered, causing several consequences; severely injured, separated from their love ones, sudden death and sudden possessions lost. This led to huge effect towards mental health, emotions, feelings and livelihood which directly affected the economy, society, tourism and the environment, like a chain reaction. Even though these things cannot be measured financially, its effect had reflected tremendous damages in all aspects.

The mission of Public health towards the Tsunami occurrence started immediately as soon as the waves smashed against the shore. While various public health officials lost their lives in this circumstance and many health service stations confronted this incident, still the remaining group of the public health officers dedicated their efforts energetically by taking instant action in providing the services to the public without discouragement. Moreover, supports came from various sources including the organizations under Ministry of Public Health; private universities as well as organizations for public assistance that gave their helping hands to work constantly together to get through this.

From the beginning until the circumstances had gradually improved, it was well aware, that it was not only the first but the worst catastrophe in Thai history, that the event had caused huge problems and confusion in execution of the tasks. However, all organizations, concerning health service support in the country, were able to handle the situation at a fine level. The tasks were executed with genuine care and supports were constantly shared among all staff members from various public health organizations. This good deed was as well recognized at the
international level that Thai public health work was a great example in handling and care taking of victims both for those who were injured, and the arrangements for burial and cremation for those who lost their lives.

When the situation started to improve after the Tsunami, if we were to look back on how it had been handled, there were so many things that should be recorded as a memory. It was the history and a great lesson to learn to prepare us for the future.

As part of the groups who worked together in this serious catastrophe, it was a chance to summarize the public health engagement in handling the Tsunami event. As the circumstance was considered a valuable lesson for the public health duty, therefore a book called “A Record on the Public Health Experiences in Tsunami Disaster” was published in which contained collaborated experiences of those who engaged in the recovery circumstances from both who were at management and execution levels. This will benefit the next generation to have an awareness of how to deal with the catastrophe that might happen in the future.

As Tha citizens, we have the deepest sympathy for all victims and those who lost their lives in the Tsunami will rest in peace. Hopefully, the horrible dream of the Tsunami will never brutally hurt mankind ever again.

As the authors of this book, we would like to congratulate you in having the opportunity to be involved in such a circumstance. No matter as executors in the field or supporters behind the scene, the “Tsunami” would be the occurrence that all of those who witnessed would never forget.

Thanks to all who cooperated in providing the information that will create a record of the history. We would also like to thank the World Health Organization in granting a great support for this experience-gathering effort.

We hope that this book will be beneficial to the community at large.

Supachai Kunaratnapruck, M.D.
Boonchai Somboonsook, M.D.
Piyachat Chuentrakool, Social Worker
Department of Health Service Support
Ministry of Public Health
# Table of Content

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introduction</td>
<td>6</td>
</tr>
<tr>
<td>Chapter 1</td>
<td>The Loss from the &quot;Tsunami&quot; Disaster</td>
<td>10</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Force Gathering for Public Health Mission</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Central Public Health Force Gathering</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Mission Possible while Communication Breakdown</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Public Health &amp; Nursing Force Gathering for the Victims</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Special Care during Emergency Phase</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Sign of injury that must be Recorded for a Future Reference</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Public Health Force Gathering in Illness Prevention</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Public Health Force Gathering in Executing Environmental Sanitation</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Public Health Force Gathering in Mental Health and Social Support</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Public Health Force Gathering in Rehabilitation</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Next Step of MOPH...Rehabilitation</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Public Health Rehabilitation through Traditional Thai Therapist Job</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Public Health Force Gathering by Private Hospitals for Victims Recovery</td>
<td>43</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Continuous Mental Recovery</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Mental Health Problem was a Major Concern</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Voluntary Rescuing Teams had chance of Becoming Tensed</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Family, School and Community Recovery</td>
<td>53</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Ministry of Public Health Revealed Corpse Investigation Result</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Learning from working on the Corpses</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Corpse Management Mission at Takuapa</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Learning Summary in Corpse Management</td>
<td>62</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>A Reflection from the Management</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Permanent Secretary of Ministry of Public Health</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Deputy Permanent Secretary of Ministry of Public Health</td>
<td>67</td>
</tr>
</tbody>
</table>
Provincial chief Medical officer Phuket
Provincial chief Medical officer Phang-Nga
Director of Wachira Phuket hospital
Director of Taimuang Hospital
Director of Takuapa Hospital
Ex-Director of Taimuang Hospital
Director of Marine-based Hospital , Phang Nga
Director of Bangkok Hospital Phuket
Dean of the Faculty of Medicine, Siriraj Hospital
Professors of the Faculty of Forensic Laboratory Department, Chiangmai University

Chapter 6 A Reflection from Mass Media
Assistant News Editor of ITV television station
A President of Thai Journalists Association

Chapter 7 A Reflection from the Foundations
A Manager of “Pohtecktung” Foundation
Rescue Crew of “Pohtecktung”
A Manager of “Ruamkatanyu” Foundation

Closing Summary
What could be Improved
Final Summary
Chapter 1
The Loss from the "Tsunami" Disaster...
The Catastrophe that Thai People will never forget...

The most devastating catastrophe in the history of South Asia was on the 26th of December 2004. Only five days away from the year end. This caused the whole world to encounter the new year with an enormous loss from the earthquake and Tsunami waves. The gigantic waves hit more than ten countries; Indonesia, Sri Lanka, India, Bangladesh, Myanmar, Maldives, Somalia, Malaysia, Thailand including the coast in the African continent; South Africa, Yemen, and Kenya. Such a disaster did not only destroy the highest number of human lives and possessions in the history ever but it was the first Tsunami in world history that ever happened in the Indian Ocean region.

When the situation returned back to normal, the whole world had confirmed a total number of dead victims in which had reached almost 200,000 people, while the actual statistic was more than 230,000. The total number of overall victims around the world was as high as almost two millions.

In Thailand, back to the morning of Sunday the 26th of December it seemed like any other normal Sunday. Lives by the Andaman seashore started with such a bright and shiny day on a blue ocean. Villagers were living their normal lives and duties. Tourists who were fascinated by the morning sea, came down to swim while many others were still sleeping in their beds.

Then around 10:00 a.m., “Tsunami”, the name that Thai people had never been familiar with before, had moved to the Andaman sea started from Phuket, Phang Nga, Ranong, Krabi, Trang and Satun. Before the disaster, many villagers and tourists were astonished by the occurrence that had never happened before as the water tide in a sudden subsided over one kilometer down. Nobody realized what this odd incident would lead them to, therefore many walked down to observe suspiciously.

After 20 minutes while various crowds were still in suspicion, the first gigantic dark wave instantly swept everything along the coastline away with no exception of those who were observing the circumstance. Then followed by the second and the third ones that were even more immense that completely demolished all buildings, shops and luxurious hotels along the shore. Those victims; women, men, children and
elderly people, whom were swashed and floated along the current, were screaming while being crashed against wreckage, walls and wooden scraps. This tragedy had resulted many slightly and seriously injured as well as dead victims.

After the calmness of the waves, huge crowds of wounded people, wrecked buildings and shops including bits and pieces of substances that were scattered all over the place. The remains were floating in the sea with a boundless distance of many tens of kilometers away. All fishing boats and ships as well as cars and trucks had collided and were piled up everywhere. It was unbelievable that the ocean waves could be so powerful and cause such severe damages.

The depressiveness came from the sight of the injured and the dead of Thai and foreign male, female, children and elderly tourists who had wanted to spend their vacation during Christmas and New Year. Some of those tourists and villagers
who confronted the same misfortune were dead, some were severely injured and even worse, some had disappeared. Some of those survivors were trying to give hands to others who had shared the same experience.

As soon as the Tsunami waves had stopped, a great number of wounded victims and dead were discovered astoundingly. Overall atmosphere was chaotic. People were trying to help each other as much as they could. News reporting about the gigantic tidal waves was sent to places around the world. Both government and private sectors mutually and immediately sent their support to rescue this unanticipated incident.

The tragedy had tremendously ravaged six provinces of South Andaman which had always been the very popular tourist spots of Thailand resulting the biggest loss of the country. At least 66,500 casualties including villagers and tourists were affected physically, financially, environmentally and mentally. The damaged areas extended as far as 41 districts, 277 sub-districts, 329 villages. There were not only 5,395 confirmed dead, 2,817 missing and 14,000 wounded but also 1,000 children who became the unfortunate orphans in a sudden. The worst affected province was Phang Nga with 4,225 dead, 5,595 wounded and 1,665 missing.

From this incident, apart from the loss of Thai people, there were dead foreign victims from 43 different countries. Following was a record of total number of foreign victims whose names could be identified and bodies were transferred back to their home countries.
<table>
<thead>
<tr>
<th>Country</th>
<th>No. of Victims (person)</th>
<th>Country</th>
<th>No. of Victims (person)</th>
<th>Country</th>
<th>No. of Victims (person)</th>
<th>Country</th>
<th>No. of Victims (person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>504</td>
<td>Germany</td>
<td>472</td>
<td>Finland</td>
<td>165</td>
<td>Myanmar</td>
<td>126</td>
</tr>
<tr>
<td>Switzerland</td>
<td>84</td>
<td>Norway</td>
<td>79</td>
<td>England</td>
<td>82</td>
<td>Austria</td>
<td>70</td>
</tr>
<tr>
<td>France</td>
<td>67</td>
<td>Denmark</td>
<td>37</td>
<td>Netherlands</td>
<td>26</td>
<td>Italy</td>
<td>22</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>17</td>
<td>Canada</td>
<td>15</td>
<td>Japan</td>
<td>14</td>
<td>Australia</td>
<td>12</td>
</tr>
<tr>
<td>China</td>
<td>12</td>
<td>Singapore</td>
<td>11</td>
<td>Czech Republic</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland, Portugal, Philippines</td>
<td>5 each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium and Russia</td>
<td>4 each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia, Ireland, South Africa, New Zealand, Israel</td>
<td>3 each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxemburg, Spain, Ukraine</td>
<td>2 each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece, Hungary, Yugoslavia and Zimbabwe</td>
<td>1 each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As soon as the Phuket Airport was open for an operation or around eight hours after the incident, Khunying Sudarat Keyuraphan, Minister of Public Health with a high executive team flew over to the affected areas to assess the damage and to provide any possible recovery support. One hundred teams of medics, nurses, para-medics, surgeons, rescue crews and emergency ambulances were urgently called upon from Phuket, Phang Nga and Krabi including the nearby provinces; Suratthani, Chumphon, Ranong, Nakhon Si Thammarat, Trang and Phattalung for the rescue mission. Commanding Centers were set up in Bangkok, Phuket and in other critical areas for coordinating and support providing purposes.

The Ministry of Public Health in coordination with Ministry of Defense and Police Departments managed to organize helicopters in transporting the medics and nursing teams in order to provide first aid treatment for those victims who still got stuck on various islands. There were three medical centers that had been arranged for the recovery support: Wachira Phuket Hospital, Krabi Hospital and Phang Nga Hospital. Moreover, Hat Yai Hospital, Nakhon Si Thammarat Hospital and Suratthani Hospital were fully prepared with the medics and nurses, blood reservation and operation rooms to support for 24-hour emergencies.

At the same time, the Royal Thai Army had not only sent two black hawk
helicopters from Special War Commanding Departments to land at the Phuket airport but also had the military engineers sent to rescue the wounded victims who stuck in the wrecked buildings. While the Royal Thai Air Force managed to send its two C-130 airplanes in coordination with the medic team from King Bhumibol Hospital and 100 officers to give an urgent support in the Phuket area, the Royal Thai Navy had sent H.T.M.S. Chakri Narubet and H.T.M.S. Naresuan with four helicopters to set up the base in Songkhla province to support all the victims within the areas. With all the efforts that were put together in achieving the rescue mission, it had shown the great potential of all the institutes in providing the highest safety to all Thai citizens and the visitors.

The Ministry of Public Health appointed Deputy Permanent Secretary, Dr. Pipat Yingseere as a commander of the supporting center at Naretnorn Center with preparation of 20 medic and nursing teams who were ready for immediate execution as soon as the requests came in. The Situation Assessment and Summary of the support given to the victim were reported on a daily basis.

At 9 p.m. on the night of the incident, MOPH reported that the total number of the injured and dead was 289 persons, those wounded victims who were admitted in the hospital were 3,675. And it was anticipated that there would be many more awaiting for help. The difficulty was an inconvenience to transfer the patients in the darkness during the night time. In the following morning (27th of December 2004), there were medic teams from the central part of Bangkok, Pathumthani and Nonthaburi and also from various provinces in the south were sent into the areas as back up teams.
On that day, the Permanent Secretary of MOPH, Dr. Vichai Thienthavorn, had announced the execution of a natural disaster management plan to shorten the rescue process.

In the beginning of the execution processes of the public health support in Phuket, Patong district was severely damaged in which included Patong Hospital. The critical issue was the transportation problem that the roads had been badly damaged which caused serious congested traffic and created difficulties in transferring the patients to Wachira Hospital Phuket. Therefore, the Ministry of Public Health decided to coordinate with the Ministry of Defense and the Royal Thai Police to request the helicopters which had been very well cooperative.

At the initial stage, two helicopters were used to transfer the disaster victims from Patong Hospital to Wachira Phuket Hospital, with a capacity of 500 beds, together with the community and private hospitals with a capacity of 300 beds. The reserved budget was five million baht.

The support had still been given continuously. The next day at 5.30 a.m., Head of Tungsong Police Air Force Base in Nakhon Si Thammarat, who had led his pilot crews and five helicopters with additional two more from the Army 4th, to transport the mobile physicians and nursing teams of 60 people to Phi Phi island to provide primary healthcare for the wounded victims. On the other hand, the pilot crews had transferred those who were severely injured to the mainland hospitals in Krabi, Nakhon Si Thammarat and Trang. As for the marine support, the rescue team of 200 people with equipment such as electrical saws and construction tools were transferred by the marine police to clear up the areas and retrieve the dead bodies. There were such a massive number of dead bodies that had been retrieved. The bodies were placed on the bare space in various places; such as temples, government offices, various buildings and
hospitals which were only the temporary facilities. From witnessing the family members’
cry during the dead body search of their loved ones, cry of being disheartened, cries
of pain from the injury, and of those who were still in shock, all pictures had built the
strength to the rescue teams to keep on helping without thinking of themselves.

The treatment for the injured in many hospitals continuously went on. Takuapa
Hospital in Phang Nga province, had accepted both Thai and international victims.
There were patients laying down on almost every inch of the floors, waiting for their
recovery. Takuapa Hospital had not only offered the same assistance as other hospitals in
Krabi, Ranong and Satun, on the other hand, it had already turned into a temporary shelter
for the homeless people.

The situation started to improve on the third day after the event. The Tsunami victims
had been transferred to admit in the better-equipped government and private hospitals.
The provincial hospitals were capable to take care of the injured better. Friendship and sup-
port among the hospitals had remained un-

stantly. The corpse had later become the hot issue of the Tsunami phenomenon.

On the forth day of the Tsunami and the body search mission (29th December
2004), situation about the corpse had still been critical. The total number of the dead
was surprisingly huge as similar as of those who were not yet found. The team from
Central Institute of Forensic Science Thailand, Ministry of Justice, was led by Khunying
Pomtip Rojanasunan, Deputy Director, who was appointed by Thai government, had
been in charge of pathological processes for the dead victims in Phang Nga since the
first day of the incident. While her team was carrying on the duty at Yan Yao Temple,
Takuapa district, Phang Nga province, another pathologist teams from Royal Thai
Police and from various universities i.e. Manidol, Siriraj, Ramathibodi, Chulalongkorn,
Chiangmai, Khonkaen and Prince of Songkla were working in the different areas in
Phang Nga and other affected provinces.
Many international rescue teams had offered their support to Thailand i.e. Australian Government had sent its investigating team whose possessed prior experience in handling the terrorist bombing in Bali, Indonesia while the Government of France had sent a plane to transfer its citizen back to their home country. The spokesperson of U.S.A. Commanding Center of Pacific region stated that it had been approved by Thai Government to utilize Utapao Air Force Base as a commanding center to provide the emergency and necessary supports for the Tsunami victims. While the Navy Self-Defense Fighting Force of Japan had granted three ships: Kirishima, Takanami and Hamana, to support in the victim search mission by anchoring at Patong bay, Katoo district, Phuket until the mission end. Israeli Government had also sent its physician team as an additional support.

Reuter Press Agency explained that the international corpse investigation and retrieval specialist team was sent to the field to work on Disaster Victims Identification (DVI) process as quickly as possible before it was too late since the condition of the corpses became swollen and badly rotten. The German team had started their duties soon after their arrival at the field. Moreover, there were rescue teams from France, Italy, Denmark, Sweden, Norway and Australia that had contributed their supports in this major challenge.

Carl Kent, a Leader of Forensic Science from Australia, who had the similar experience in the Bali bombing incident had stated that the mission this time would be many times harder. The size of the work was incomparably much more massive. From the report, the total number of dead victims from the disaster waves in six provinces along the Andaman coastlines has been constantly increasing. Department of Public Hazard Prevention and Mitigation reported on the 31st December 2004 at 1 p.m. that the total of the dead was 4,541 persons (2,128 Thai and 2,230
foreigners), 10,469 persons were injured (5,042 Thais and 1,510 foreigners) and 6,479 were missing.

The Tsunami incident was a good proof of kind spirit from both Thai and foreign communities in which it had turned the disaster into a powerful unity from Thai people. It had altered the huge loss into an opportunity for everyone to help other fellowmen without expecting anything in return, no matter what occupation i.e. physicians, nurses, soldiers, police, administration officials and volunteers. The activities conducted in the field were: searching the dead victims, demolish the wreckages, transporting the victims, loading the dead in the coffins, carrying the corpses, autopsy, victim identification, cremation or bury the corpses, providing medical care treatment, transporting the clothing, delivering foods and drinks, encouraging the victims, coordinating and providing accommodations and consumption goods, organizing families rehabilitation activities, taking care of children especially babies of the dead victims. Furthermore, there was tremendous support provided from the private sectors, especially foundations, associations, volunteers as well as the survivor victims. Efforts, from all parties that had been put together to recover the situation without thinking of themselves, was an admirable deeds.

As the AFP press agency was very impressed with kindness and support given widely among one another of Thai people, admiration and impression of the foreign victims towards Thai people was broadcasted globally resulting tremendous supports from around the world were contributing their support to Thailand.
Chapter 2
Force Gathering for Public Health Mission
Central Public Health Force Gathering

After the Tsunami and the patients had been admitted at the provincial hospitals in the emergency phase, Ministry of Public Health (MOPH) took an aggressive approach immediately by calling an urgent meeting amongst the executive and official teams to inform an execution plan for the morning of 27th December 2004.

Permanent Secretary of MOPH and the executive team had discussed and identified the list of the leaders to provide direction and field-based support. Followings were the name list and the assigned scope of responsibilities:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position Responsible</th>
<th>Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.Supachai Kuncratanaapruk</td>
<td>Deputy Permanent Secretary of MOPH</td>
<td>Phang Nga</td>
</tr>
<tr>
<td>Dr.Narongsakdi Aungkasuvapala</td>
<td>Deputy Permanent Secretary of MOPH</td>
<td>Phuket</td>
</tr>
<tr>
<td>Dr.Prat Boonyavongvirot</td>
<td>Deputy Permanent Secretary of MOPH</td>
<td>Ranong</td>
</tr>
<tr>
<td>Dr. M.L Somchai Chakraphant</td>
<td>Director General-Department of Mental Health</td>
<td>Satun</td>
</tr>
<tr>
<td>Dr. Nara Nakwattananuku</td>
<td>Chief Inspectors of MOPH</td>
<td>Krabi</td>
</tr>
</tbody>
</table>

The commanding center or warroom was set up at the MOPH. Dr. Pipat Yingseree, Deputy Permanent Secretary of MOPH, was appointed as a commander. Dr. Somyos Charoensak, Director-General-Department of Health, Dr. Thawatch Soontharajarn, Director-General-Department of Disease Control and Dr. Paichit Warachit, Director-General-Department of Medical Science, were selected to take care of environment, food, water, lavatories, mother and children’s sanitation including advanced epidemic prevention and
control. And Dr. M.L. Somchai Chakraphant was designated to take care and to make observation of the victims’ mental health.

In addition, Dr. Rewat Wisarut, Director-General - Department of Health Service Support at that time, was responsible for the community support, coordinating with the volunteers to take care the affected areas and also gathering further supports from other organizations. Dr. Pakdi Bodhisiri, Secretary of Food and Drug Administration, was designated to provide support for medical and equipment supplies. The leading force, as well, included Dr. Wichai Chokewiwat, Director-General - Department of Thai Medicine Development, who sent his team to back up for the mission.

The mission was considered a mobilization of the Public Health Service Forces with an objective of lightening the situation both physically and mentally, with the assignment of retrieving and investigating the dead victims. Each appointed station was fully empowered both in and outside the field. The emergency budget was allowed to independently manage for a timely and effective execution.

Force Gathering for Public Health Execution...
Mission Possible while Communication Breakdown...

As the communication system completely broke down, the affected areas from the Tsunami waves were mostly on the islands which made it very difficult to communicate among one another. Especially, those casualties who needed urgent healthcare were not able to reach help at all even via cell phone. At that circumstance, all were then realized that the communication system had already broken down.

Since the incident on 26th December 2004 onwards, MOPH by the Department of Health Service Support commanded Medical Engineering Division, Medical Engineering Center 9 (Suratthani province) to examine readiness of the communication support thru walky-talky provided by MOPH in Suratthani. Once found that the short wave transmission was possible to contact Takuapa Hospital and repeater could
make it possible to contact Panom Hospital for a request of ambulances, the Walky Talky technicians and medical equipments were sent to Takuapa Hospital immediately.

On 28th December 2004, Medical Engineering Division continued to send a group of technicians to check on the communication system in Krabi and Phuket while the other team was sent to Suksumran Hospital in Ranong to examine both communication system and medical equipments with one back up transmission radio. In Kuek Kuck clinic, Takuapa district, solar cells for one set of radio transmission was installed. Then the next day on 29th December 2004, an emergency radio transmission station was set up at the shelter center in Yan Yao temple in Takuapa.

The communication system installed by MOPH was the main system used during the emergency while the communication system broke down.

Public Health Force Gathering...

Treatment Victims..

In proceeding the public health execution, providing efficient and effective service was very vital to tackle the loss of the victims' lives including many public health problems.

The key element of the public health duties in the emergency circumstance was to save the lives of the survivors and to provide their safety in all aspects. Dr. Vichai Thienthavorn, Permanent Secretary - MOPH, expressed his sympathy towards the situation that the grievance and the damage was so invaluable, yet even more devastating for those who disappeared in the waves.

"The hospital has been overcrowded, some are lying on the floor, the corpses have been
contained in every empty room, body cleaning activity has been operated in front of OPD rooms. Every move has been very depressing and critical as though it was during war where people were departing and were waiting with hope. Around 10 p.m., it was even worse critical knowing that in Phang Nga was badly injured but could not be in contact with, due to the communication channel breakdown. Therefore, trucks were used to transport the wounded casualties to Takuapa Hospital, which was only a district hospital, to Phuket. It was very chaotic at that time, yet (health team) including the officials and volunteers were very strong in resolving the emergency,”, sadly said the Permanent Secretary of MOPH, Dr. Vichai Thienthavorn.

From the incident, it was lucky enough that the public health infrastructure within the affected areas was slightly damaged, except primary healthcare clinic in Phi Phi island, which had allowed somewhat smooth operation. The prompt action taking from all concerned organizations was significant to ensure that the victim casualties would receive appropriate treatment in time. The first action taken was to evaluate the circumstance in total picture, and then provided immediate support in which was the key to save people’s lives.

The six impacted provinces consisted of ten hospitals with capacity of 2,000 beds, 34 community hospitals and primary healthcare clinics. They operated under the emergency execution plan, without thinking of themselves, to assist the massive number of disaster victims before the arrival of the backup teams. Then those severely injured were transferred to the nearby hospitals.

The first 100 public health officials had arrived Phuket 18 hours after the Tsunami. Then a few days later, followed by another 100 teams, which consisted of the teams from Department of Medical Science from various universities, hospitals under jurisdiction of MOPH and private hospitals. From these efforts, appropriate care and treatment were able to accommodate the need of such abundant crowds of patients as well as to secure any following complications.

Phang Nga, the severely damaged province, especially the southern coastline of Phang Nga, consisted of Khao Lak, Baan Namkern, Natai, Tablamung, Bangsak, Kokao island and Prathong island. As soon as receiving a report from a driver of
Takuapa Hospital and from a police officer of Takuapa district, Dr. Pornlert Chitpratum, Director of Takuapa Hospital at that time, immediately announced an emergency execution plan. Though there was an order given to the mobile emergency medic team to move forward onto the field, yet, due to so many roadblocks on the route to Kao Lak as well as a huge number of victims patients admitted in the hospitals, all the crews needed to return back to the hospitals.

The duty of care taking for the patients and family members, was far beyond the anticipated emergency execution plan. All officials, officials’ family members, relatives and friends, were contributing their efforts as much as they could restlessly.

Dr. Supachai Kunaratanaapruk, Deputy Permanent Secretary of MOPH at that time, who was appointed to take care of Phang Nga area, set off to the field on 27th December 2004 by the fixed-wing aircrafts (Hercules C-130) of Royal Thai Air Force, with Dr. Somchai Chuapetchcharasophon, Deputy Director General - Department of Health Service Support at that time. Both had arrived Phang Nga in the afternoon and had gone straight to Takuapa Hospital, the hospital which had borne the responsibility in taking care of the biggest number of the victims.

While traveling to Takuapa Hospital, Dr. Supachai had described about the scene along the route, “Houses and resorts had been severely wrecked, corpses
covered with cloths were layed down orderly from place to place. When arriving the hospital, there were tents set up at the lawn area, people lied down wearily in the tents with their belongings aside here and there, the victims' expression shown that they were still in shock.”

Once stepping into Takuapa Hospital, the number of the patients was so overwhelming. Every inch on the space regardless on the pathway, balcony, offices, meeting rooms were crammed with Thai and foreign adults, children and elderly people. Many were crying with tremendous pain, many could not speak English but sent their eye-contact to express their depression to ask for help. Many officials were frustrated regarding the difficulty in communicating with the foreign victims, therefore, later on, there were volunteers united for translation support. The number of the patients was excessive than existing capacity of the Takuapa Hospital. However, later on there were back up teams of medics, nurses and officials sent over from Siriraj Hospital and Thai Red Cross in cooperation with officials from others hospitals under jurisdiction of MOPH.

As from the huge number of casualties that was constantly transferred from other hospitals, Takuapa Hospital was permeated with patients who were wounded in severe conditions everywhere. After evaluation of the circumstance, Dr.Supachai Kunaratnanapruk, Deputy Permanent Secretary of MOPH and Dr. Piyasakil Saklisattayathorn, Dean of Faculty of Medicine Siriraj Hospital decided to take charge in relocating the patients over to the hospitals in Bangkok as many as possible. Part of this decision came from the shortage of surgery rooms, wards and also the fact that the back up surgeon teams and nurses from Bangkok had now been working over 72 hours straight so far. This decision helped the overall circumstance greatly.
Every district and provincial hospital had returned back to normal, meaning the patient number had balanced up with the capacity of each hospital in which allowed the public health execution to be able proceed at more aggressive level.

**Followings were the patients relocating procedures:**

1. Coordinated with Ministry of Defence for an airplane to evacuate the patients;
2. Mobilized ambulances from nearby areas to transfer the victims from the hospitals to Phuket airport;
3. Coordinated with Phuket airport to facilitate in transporting patients to Bangkok hospitals for their treatment;
4. Prepared the medical and nursing team from Wachira Hospital at the Phuket airport to take care of the patients during waiting period;
5. Medical Registration Division, Department of Health Service Support, coordinated with both government and private hospitals in Bangkok for ambulances to pick up the victim patients for further treatment.

The above plan was well responded from the military, airport, healthcare units especially the private hospitals in Bangkok in successfully transporting as many as foreign casualties as possible.

The Public Health office in Phang Nga had set up a victim support center to provide assistance, to coordinate and to manage resources including manpower, transportation, drug and medical supplies as well as to allocate the budget appropriately. The hospitals that took part in restoring this event were Phang Nga Hospital, Takuapa Hospital, Community Hospital, Public Health District Office as well as all primary care clinics within the affected areas. The number of the registered patients was 150,509 whereby providing 4,008 persons with field-based aid, 85,373 at evacuation center and 51,128 with mobile medical unit. The total number of patients from all public health units was 9,147 persons; the highest was 2,285 at Takuapa Hospital; then Phang Nga Hospital at 648; Community Hospital at 1,757 and Primary Healthcare Units at 4,778 respectively.

While the number of foreign patients was 1,262 persons. Thais’ was 3,345. The result of the injury was: Trauma - 1,908 persons, fractures - 458, internal bleeding - 397, near drowning - 141 with 842 were waiting for surgery. The surgery support was contrib-
uted by the medic and nursing team from MOPH and also the hospitals under jurisdiction of University Department.

In Phuket, there was a commanding center set up to execute the rescue mission at government area by having Mr. Bhokin Bhalakula, Interior Minister and Director of Civil Protection Office, appointed as a leader together with Dr. Narongsakdi Aungkasuvapala, Deputy Permanent Secretary of MOPH, as a commander. The daily agenda was discussed in the meeting among representatives from various ministries to summarize the situation and to put together a plan for further support.

The first week of the incident, the problem found and need urgent resolution was:

1. Safety when providing medical care service and transferring process to other hospitals:

   2. Corpse Management:
   3. Dead Victim Identification:
   4. Donation Management:
   5. Rumor Management

Special Care during Emergency Phase...

Providing healthcare especially during the first 72 hours after the incident was very critical. Since the first medic team from MOPH was not sufficient compared to the increasing number of the casualties, the second team of 200 persons, was mobilized from Siriraj Hospital and Department of Medical Services, MOPH, led by Dr. Chatree Banchuen, Director-General-Department of Medical Services. The second team was divided into three teams and separated into different areas as followings:

First Team: The medic team from Department of Medical Services - based at Wachira Phuket Hospital
Second Team: The medic team from Siriraj Hospital - based at Takuapa Hospital
Third Team: The rest of the team - based at Krabi Hospital

As for the Public Health office in Phuket, Wachira Hospital, Patong Hospital, Talang Hospital and another twenty one Primary Clinics including four private hospitals which were Bangkok-Phuket Hospital, Siriraj Hospital, Mission-Phuket Hospital and Ruamphaet-Phuket Hospital, had proceeded the healthcare service since the very first day of the incident until the last phase of the mission according to following plan:

1. Emergency Medical Service system (EMS) was executed by all hospitals to gather the force in preparation and readiness for rapid evacuation and support. Eighteen ambulances, from the contacted government and private hospitals including various foundations, with the foundation officials were ready to provide primary aid and evacuation.

2. Mobile Medic Teams were set up in passive and active approach

2.1 Passive Approach: Phuket Public Health Office with the medic and nursing team from Prince of Songkla University, had set up two medical centers for to save the Tsunami victims (26th December - 6th January 2004) and 1,090 persons had registered for the service. As well, the Phuket Public Health Office together with Wachira Phuket Hospital, had arranged a first aid unit and a transit center for the foreign patients at the Phuket international airport. Two hundred and twenty international patients were evacuated via aircraft from the Royal Thai Air Force and 250 persons were transported back to their home countries by international airlines.

2.2 Active Approach: The medic and nursing team with the officials from Department of Fisheries - posted on Mahidol Ship, cruised over to provide evacuation support in Phi Phi island (26th - 27th December 2004). The total number of the evacuated victims was 356 persons. The Phuket Public Health Office, all government hospitals
with the central and regional medic and nursing teams, had not only organized a mobile medical center to provide the primary healthcare in the field but the first aid clinic had provided services for victim foreign labors at Phuket Community Hall. The total of the patients registered was 300 persons.

The public health execution for the victims has been carried on until the situation resolved gradually. The severely injured were sent to the nearby hospitals while the international patients were transferred to Bangkok for further treatment on the third day after the Tsunami. On the 30th December 2004 or the fifth day from the catastrophe, the situation at provincial and district hospitals were back to normal. The ratio of the dead to total patients was only 0.3%.

The Injuries...
For the Record of Future Reference...

The other thing that must be recorded for this incident was a group of patients that seemed to have slight injury but had a septic shock within 24 - 48 hours. The cause came from pathogen in the sea water, mud or sand that interposed through the skin into the subcutaneous tissue and muscle, then diffused all over body. Therefore one highly recommendation for the victims was that if any patient cuts or wounds on their skin, the wound must not be covered but opened wide and scrap out all the mud and sand before covering. The patients were to rest in the hospital and had the wounds clean up daily together with antibiotic.

Many survivors got lung infections and wounded all their over bodies, some were in a coma therefore the bodies had resisted towards traditional antibiotics but needed stronger medicine in which must be imported and the cost factor was extremely expensive. Many patients became at risk from severe Chronic Renal Failure to death.

What was quite a concern at that moment was that there might be some survivors who had just discovered the infection that the medics could have overlooked and closed the wound immediately, causing the infection and the death. To close the wound for the survivors must be operated within six hours after the cut otherwise there might be good chances of blood infection. Before closing the wound,
it must be completely cleaned and dry without any pus or blood. The hospitalization from the provincial hospital was insufficient which had caused the infection when providing wound closing service.

There was high chance that the wounds might get infected as the wounds were in bad shape, covered with mud and dirt, like they were from the war. Though the medics had carefully cleaned and taken care of the wounds closely, it was not thorough enough due to huge number of crowd.

As the wounds were infected, the infected area must be cut off before closing. The infection also led to toxic blood syndrome resulting sudden shock and death.

Public Health Force Gathering...
for Surveillance and Epidemic Prevention...

After the life saving phase, here came the prevention from the spreading of infective diseases. As MOPH had experienced from setting up the SARS and avian flu surveillance before as well as a strong focus from MOPH, the epidemic prevention went smoothly. The big concern came from the panic of epidemic among the people, especially from the corpse. And as the disaster caused so many dead in the sea, people were scared to consume seafood as they thought that the sea animals must have eaten human flesh from the sea. Not to mention the epidemic from the inhabitant in various temporary shelters which was quite a concern for MOPH. And if there was an occurrence of epidemic, it would have reflected on the negative image of Thai MOPH directly that the public health system in Thailand was incapable of securing effective epidemic control.

To gain confidence from the people, MOPH had made a statement to the international press in Phuket by revealing the statistics of the victim patients in all categories as well as clarifying the epidemic prevention and control procedures of
Thailand which was based on WHO standards. That gave the right understanding to the presses and led to panic relief.

Department of disease Control by Institute of Epidemiology, Bureau of General Communicable Diseases 1, 3, 5, 7, 8, 9, 10, Public Health Offices in provinces had set up an Active Disease Surveillance and Regular Disease Surveillance system during recovery phase. This included the surveillance within the affected areas which needed be closely watched over to prevent any disease and major public health problems that might have caused further consequences. From the surveillance, it also helped detect the epidemic of the deceases very quickly before the spread out to wider area. The disease surveillance areas were at 77 primary clinics, 22 government hospitals, five private hospitals and two Disaster Victim Identification Centers. There were 22 diseases were in the surveillance list whereby the Department of Disease Control had appointed Director of Bureau of General Communicable Diseases 1 - 10 to take charge in five provinces by rotating every 1 - 5 days. Moreover, the temporary shelter at Thammasart University - Rangsit Campus was taken care by Bureau of General Communicable Disease 1 (Bangkok).

The Active Disease Surveillance was instantly set up within three days after the disaster by the Department of Disease Control. The physicians and public health crews, under jurisdiction of the Institute of Epidemiology and the Bureau of General Communicable Diseases from various regions were informed the central execution plan (27th - 28th December 2004). The objectives, roles and responsibilities of the active disease surveillance mission were clearly explained to the first fire surveillance and rapid response teams before the field execution in the next morning. The data collection and surveillance execution procedures were clarified and rehearsed to enhance the execution effectiveness in of the team.

The preliminary summary of the active diseases surveillance were proceeded within the affected areas of six southern provinces with the total of 22 diseases, five categories: Diarrhea, Respiratory system, Flu, Meningitis, and Others. Patients Data Collection Form, Disease Daily Report Form and Investigation Form, caused by the controlled categories of the diseases, were used during execution. The Department of Medical Science were sending a support of Medical science
teams and sampler collecting tools to send to the laboratory, to examine bacterial
with and without oxygen, as well as virology check on the cause of the infected
diseases.

In moving onwards with the daily surveillance, the team from each station must
collect the data, analyze and summarize to check on the result or to group the
diseases of the highest number of patients or any diseases that had correlation with
Epidemiology. Then, followed by investigation processes to find the causation and
coordinating with diseases control team for further execution on the following day. The
data from surveillance station was collected at the district level before reporting to
the provincial center, then the data collection center of MOPH in which the data
collected would be used mainly for diseases control operation.

From this incident, the epidemic was not found despite an increasing rate of
diarrhea. It was because of good work of data expolring from the surveillance team,
therefore the rate of the diarrhea seemed increasing. The infection rate of the wounds
was as well increasing in which two thied caused by microorganism.

Public Health Force Gathering...

In Environmental Sanitation Execution

From the emergency crisis, the Department of Health or the key of sanitation and
environment functions, had proceeded its execution plan in six areas as followings:

Water Supplies Management:

- Coordinated with Department of Ground Water Resources to cleanse the
  affected tanks;
- Supported chlorine for cleansing and examined the level of remaining
  chlorine.

Food Sanitation:

- Provided advice on food sanitation and examination for the villagers;
- Improved kitchen sanitation;
- Inspected restaurants and food stalls with recommendations.

Sewage Management:

- Replaced the destroyed lavatories.
Coordinated to solve public cleansing poll problems and support providing for pipe installation for lavatories:
- Provided lavatory appliance support.

**Waste Garbage Management:**
- Coordinated with Municipality or responsible team in garbage clearance for all evacuating shelters:
- Provided recommendations for contagious garbage elimination.

**Wastewater Treatment Elimination:**
- Provided onsite water treatment plant and septic anaerobic filter (20 ml.) for the wastewater used from autopsy.

In the following phase, Food & Drug Administration in cooperation with Institute of Nutrition - Mahidol University and Jensen Select (Thailand) Co. Ltd., had installed water supply system, called Softerner, for the victims. Officials, volunteers of 2,000 persons/day/station for four stations: Kuek Kuk district, Nam Kern village, Bangmuang primary clinic and Lumkaen primary clinic. System Training was provided for the responsible team within the areas.

While the MOPH was carrying on controlling, surveillance and prevention moves in the affected areas, there was a concern about the corpse as it was a key issue that it could be the source of epidemic. Khunying Sudarat Keyuraphan, Ministry of Public Health, was as well following up the disease control system in the field at Ban Bang Nieng School in Khao Lak, Takuapa district, Phang Nga with Dr. Suchai Charoenrattanakul, Deputy Public Health Minister and Mr. Udomdech Rattanasathien, Secretary - Minister of Public Health. Khunying Sudarat stated that in preventing the diseases, every restored corpse must be sprayed with Lysolecithin and the chemical that prevented insects. She had not only advised the public health teams to provide advice to the villagers regarding water supplies and asked the surveillance team to inspect the behavior of the villagers daily but advised the corpses collector team to wear boots during the operation.

Dr. Narong Sahamethapattana, Deputy Director-General of Department of Disease Control, mentioned that the surveillance teams all over countries were called upon to execute field operation in preventing diseases that might have caused by
the incident, for instance, gastrointestinal system, respiratory system, malaria. The Direction and Coordination Center was arranged at the Public Health Office in Phang Nga. Dr. Mongkol Angkasithongkul, Director - Bureau of General Communicable Diseases 2, Saraburi was appointed as a Director of the Center.

As for the diseases control system in Phang Nga, there were two separate teams: Diseases Prevention Team who was to destroy disease in the corpse, flies and mosquito in the affected areas, and Disease Surveillance team who was to search the infected patients and to take control of the situation if the epidemic ever occurred. These teams consisted of over 200 officials from the Institute of Epidemiology - Bureau of General Communicable Diseases in Ratchaburi, Nakorn Sawan, Nakhon Si Thammarat and Songkla provinces to ensure all affected areas had been fully covered. The daily debrief and planning was organized at the Chalempakiat Bang Muang primary clinic, Takuapa district.

Then Khunying Sudarat took charge to mobilize the forces from all public health departments as many as possible or around 2,200 persons in total as back up support to Phang Nga as it was the worst severely damaged area. The mission was to provide full support of treatment service, diseases surveillance, environment restoration, mental health recovery for the community in Phuket, Phang Nga, Krabi, Satun and Ranong. The key focus was the diseases surveillance, garbage disposal and mental health recovery for those who had lost their loved ones.

At that time, there was a report that the Morgan villagers were completely affected by the Tsunami waves and had moved to Kuraburi district. Phang Nga province and three of them got Diarrhea. Once Dr. Vichai Thienthavorn, Permanent Secretary of MOPH, was aware of that, the diseases
controlling team was sent to cover all those areas as well as to transfer those three patients for admission in Kuraburi Hospital and promptly examined the source of the disease. As the lavatory with septic tanks were not normally used by Thai-Morgan villagers, the Pit Privies were installed for them by the Department of Health and regional officials. However, drinking water was not an issue for this group.

At the same time, the international tourists and Thai people, who had evacuated to the top of the mountain, had tendency to be infected by Malaria, the Bureau of General Communicable Diseases had urgently distributed mosquito coils and mosquito nets for them to prevent the diseases.

For diseases prevention and control, Department of Disease Control and Department of Health continued taking care of the sanitary system, water system and food supplies at the Kuraburi district and Kao Kwai island, Kapur district, Ranong province which was the area that around 700 Loe immigrants were living as well as many of Myanmar labors. As it was quite risky to get Malaria, Dr. Kumnuan Ungchusak, Director of Institute of Epidemiology, was appointed to oversee the diseases control matter in Patong bay, Phuket.

Dr. Wirat Kiatmetha, Chief Medical officer of Trang province mentioned that the Epidemiology and Environment Sanitation District teams of 20 persons were sent to Libong island and Mook island for diseases control mission. On the other hand, Ms. Nittaya Chumruangmahapol, a Spokesperson - MOPH, revealed that the Bureau of General Communicable Diseases made an announcement of a warning of the diseases prevention of the Tsunami affected areas in six southern provinces along Andaman coastlines. It was the warning for the villagers to be prepared in preventing themselves from epidemic concerning gastrointestinal system infection, diarrhea, cholecystitis, dysentery, typhoid and respiratory system infection including the diseases from the water i.e. Dengue hemorrhagic fever, encephalitis-JE and elephantiasis.
Though the force mobilizing in disaster victims search had continued for over one full week, despite the fluctuated weather and the rain from time to time in which causing harder work and illness for the volunteers, they carried on their duties.

Dr. Jessada Chaikunnarat, Chief Medical officer of Phang Nga, revealed that key roadblock for the rescue mission at that time was the weather. As the rain was constantly pouring, it became harder for the officials to work smoothly especially those whose duty was to collect and search for the dead bodies. While the body got weary from the constant work, some got the flu and some got diarrhea. Therefore, the physician team and public health crews also provided their support for the volunteers as much as for the victim tourists and villagers, by distributing acetaminophen and injecting the vaccine to prevent epidemic especially tetanus. For those who got the diarrhea, the rehydration solution was given with suggestion of lots of rest, before returning to continue their duties.

Dr. Narongsak Aungkasuvapala, Deputy Permanent Secretary of MOPH, announced a warning for those patients with cuts and wounds to pay special attention to cleaning process of the wounds and constantly noticed its condition. If the patients found any infection from the wounds and had the flu, they must report and see the physicians immediately. At Patong Hospital, there was 24-hour free medical service for wound cleaning for the patients' convenience in which it had accommodated around 100 Thais and foreigners daily. The record had shown that the 70% of the wounds caused by the Tsunami waves was infected.

"Our main concerned target was those who had minor cuts but didn't come for the treatment as they were too worried about the possessions and thought that the wound would heal by itself. The wound that was soaked in the dirty water whereby the mud and sand permeated inside, had more chance of getting infected easier than other types of wound. To take an active approach in diseases prevention and control, we had searched for the potential victims as well as had announced an invitation for every victim to receive Tetanus vaccine and antibiotic for free at the clinic. For the major wounds or severely infected case, patients will be transferred to the hospital immediately."

At the same time, Dr. Robert Edelman, Public Health Specialist - University of
Maryland, U.S.A., revealed that the epidemic like cholera, malaria, dengue fever, hepatitis and flu, would be the cause of the 2nd catastrophe of the affected countries in the Indian Ocean region after the disaster waves. The epidemic prevention methods were considered under standard including the clothing issue. Due to the physical injuries of the victims from the incident, the victims barely took care of this issue at all.

However, the reassurance had been gained from MOPH through Dr. Suchai Charoenrattanakul, Deputy Minister of Public Health, who explained and reassured that the epidemic issue, that was a main concern from many divisions after the disaster waves, could be in control by MOPH. The epidemic control procedures had been executed, for example food and water cleanliness, sanitation as well as reminding the rescue teams whose assignment was to salvage the dead victims to wear gloves and boots to prevent infection. The only concern was the healthcare treatment for the infected victims whereby antibiotic would be distributed for them. Hence, the epidemic must not have a chance of occurrence within the controlled areas.

Public Health Force Gathering...

In Mental Health and Social Support...

The picture of the loss from the Tsunami incident, the sudden loss of loved ones, those who had hope that it was only temporary separation, the cry from those who kept waiting and get depressed when discovering that their loves ones had returned without soul, it was a very depressing. The picture of their homes that used to make a living were completely destroyed, all the possessions were vanished away in the disaster waves, the families and relatives were not found, all these were the pain that was embedded in the victims’ hearts.

Mental illness was the condition that needed long period of time to cure which might take longer than physical illness. MOPH by Department of Mental Health that was responsible for mental health and psychiatry for the people, had sent its team to incorporate with the team from MOPH in the field at the beginning. Even though the primary concern was the life or death of the victims, the mental
health was as much as critical.

The goal of the field work was to make an active move in preparation for support and arranging an urgent meeting of the bureaus in the central part. After the situation assessment, it was found that many victims had been in distress and needed urgent help from the headquarter. Followings were the execution plan by the Department of Mental Health:

1. Mental Health Support Center was set up for the Tsunami victims both in the central part, the Department of Mental Health and in the field. Suan Savarun Hospital - Suratthani and Songkla Nakarin Psychiatry Hospital - Songkla. In the field, the existing Health Crisis Center was utilized as a coordination and execution station whereby the field structure was as below:

- Coordinating Team
- MCC Execution Team
- General Information Team
- Medical Supplies Team
- Supporting Team

2. Mental Health Mobile Team was organized to coordinate with other mental health profession institutes e.g. The Psychiatric Association of Thailand, The Royal College of Psychiatrists of Thailand, The Clinical Psychiatrist Association of Thailand to cooperate with the team from Department of Mental Health for the mission in the field on the first month. The target groups were:
- Wounded victims
- Relatives of the dead victims
- Victims who lose their possessions
- Supporting officials in the field

Each mental health team consisted of one psychiatrist and two psychologists, one social worker, psychiatric nurses, one pharmacist, one patient assistant and one driver. Presently, the Mental Health Rehabilitation Center for Tsunami victims had remained at Takuapa district, Phang Nga whereby the execution structure had been arranged in the form of recovery clinic for those who had suffered from mental health problems. The service had been provided by the Mental Health Mobile Team on a daily basis.

As well, there was a further coordination with the district public health volunteers and regional organizations, to organize different activities to transfer technology and mental health knowledge to ensure that they can be independent at the regional level in the future.

Public Health Force Gathering...
In Rehabilitation...

The Tsunami had not only caused physical and mental injuries for the victims, but effected the living conditions greatly in which led to economic and social problems consequently. Many victims had faced the problems of becoming homeless, jobless, living without income and living essentials, of separating from relatives, families or loved ones, of disappearance of important documents. And many had to live in a temporary shelter instead of their own home which could be on the lawn in front of the government official places i.e. hospitals, district offices. Unfortunately they had to adjust themselves to the new and unusual environment which was different life style among strangers.

To provide general support for the victims, Bureau of Permanent Secretary - MOPH, had sent almost 70 social workers from various hospitals together with the public health team and social welfare network to provide necessary supports to the victims. The supports were in the form of assisting in preparing a request for social
welfare privilege for the victims, providing supplies, coordinating for the accommoda-
tions, job skills practice, job search, relatives search, mental consoling, confidence
building for future living of the victims and coordinating in dead victims searching. All
these supports would be more or less helpful in relieving their pain.

Next Step of MOPH...
Rehabilitation...

Apart from losing lives of many Thais and foreigners from the Tsunami waves, the
properties were as well damaged widely. Therefore, Department of Health Service
Support under jurisdiction of MOPH, by Division of Traditional Survey, had reported of
two cases of the affected service stations:

1. Directly affected by the disaster waves: the primary care clinics that were on
the island and by the coastline e.g. Pra Thong island clinic - completely demolished,
Pak Kroh Island clinic - somewhat damaged with flood.

2. Indirectly affected by the waves and earthquake: the primary care clinics by
Phang Nga bay whereby affected from the sudden change of the tide which caused
the crash against the lower part of the building. As the building was not designed to
support such force, therefore, resulting chasm of the floor tiles and counterpoise. It
needed the immediate repair to be able to provide service for the community as
normal. The effected areas were Mai Pai island primary clinic, Panyee Island clinic and
Yao Noi island clinic.

After the damage assessment for the six provinces, the exploring team had
prepared a maintenance list and sent to the concerning provincial public health
offices and hospitals for further action.

Public Health Rehabilitation...
Through Traditional Thai Therapist Job...

The rehabilitation of the victims was one of the missions of MOPH. As the
Tsunami had diminished popularity of Thai traditional spa and massage among the
tourists, a lot of people became jobless with no income. Department of Thai Traditional
Medicine and Alternative Medicine with the Department of Health Service Support
took charge in providing mental support to the victims as well as the volunteers.

During the crisis or the first two weeks, the support provided thru two teams of 30 physicians from Japan to secure field-based healthcare service for the victims. Moreover, the team from Department of Thai Traditional Medicine, who were the medics and academic team under MOPH, also coordinated with physician team from People’s Republic of China in which consisted of the medic team from Beijing, Shanghai, Guangzhou to provide support of DNA check and medical treatment in Phang Nga and Phuket. Then the Thai traditional masseuse teams were rotating to give massage to the rescue team and the victims at Thammasat University, Rangsit campus. The Executives of Department of Thai Traditional Medicine, Thai traditional physician team and masseuse team of 22 persons, went to the field to evaluate the damage of the Thai traditional medicines, Thai massage and spa business.

During the second week to six month after the incident, Department of Thai Traditional Medicines was the key coordinator and organizer of the activity called “Recovery of Thai Traditional Massage and Spa Business for Tourism in Phuket” incorporation with the Spa Business Club of Phuket in which comprised of various spa and Thai traditional massage entrepreneurs by inviting various press agencies from central and regional sources. This was to create the confidence, the safety and good image of Phuket and other affected provinces in the mind of tourists again. Apart from that, a project called “Spirit of Thai Massage to Andaman” to provide
body massage, foot reflexology and massage with hot press and medicinal herb to the disaster victims and volunteers at the Yan Yao temple, Takuapa district, Phan Nga. Moreover, there was a budget allocated for the Thai traditional massage career recovery within the six affected provinces. These efforts had restored, supported and increased the income for the victims and families.

Not only the massaging knowledge and skills training support had been provided to the Thai masseuses, by the Department of Health Service Support, but so the English language training. The objective was to develop their capabilities in communicating with the foreign tourists who were fascinated with the Thai massage.

All these attempts were only the partial supports that the departments under jurisdiction of MOPH had offered to the Tsunami victims which were considered satisfactory. It had led such a pride to the executive team and all official teams who had put together the full support that it would be in a life-time memory for all.

Public Health Force Gathering by Private Hospitals...
For Victims Recovery...

Private hospitals took an active role in providing medical support to the Tsunami
victims since the very beginning both in the field and in Bangkok. The physicians and nursing teams were sent as a back up support with the governmental teams in the field. Moreover, the teams were arranged to provide support not only in evacuating and transferring the patients for further treatment but in giving healthcare service to the international patients before they return to their home countries.

The Bangkok-Phuket Hospital was the private hospitals that had accepted the biggest number of victims. Once being hit by the Tsunami waves, accommodations of Thai and international tourists by the bay were completed destroyed. Huge crowd of people were disappeared, injured and dead. The Bangkok-Phuket Hospital was obligated to provide healthcare service to both Thai and foreign victims who were flowing into the hospital. The number of patients was excessive compared to available capacity of the hospital to provide an effective medical care.

Therefore, the Bangkok-Phuket Hospital had coordinated with central network to request the medic and nursing team, interpreters, accounting officers and administration officers teams as back up support at the Bangkok-Phuket Hospital.

As the time that the Bangkok-Phuket Hospital were facing the excessive number of patients especially foreigners, the initiative of transferring the patients to the Bangkok branch had came up. The advanced preparation allowed the plan to execute smoothly. In conclusion of the big picture of what the private hospital had prepared were: situation evaluation, manpower, capacity and medical facilities including x-ray department with portable machine and CT32 Slides, MRI and Investigation machine. It also included the preparation of the operation room and for those severely injured including transportation functions for both the patients who would be
transported on stretcher and on wheelchair. Strength of the private hospital groups was the fact that the physicians were appointed to provide the healthcare at the airport while waiting for transporting to the plan.

The private hospital group had concluded that the key success factor of this execution was the good communication within the group via teleconference. Regarding CME or Continuous Medical Education activities, effective communication system allowed the coordination with other organizations to operate smoothly. To succeed the execution plan, the hospital had to contact not only with Air Force Operating Center under Air Force Civilian Department, for transporting the patients to Bangkok, but also with Tourism Authority of Thailand, Embassies and relatives of both Thai and foreign victims, press agencies, newspapers, Radios and Televisions domestically and internationally.

Furthermore, the key approach was to effectively communicate with those who contacted directly with the hospital after the incident which were relatives, media and government agencies i.e. Tourism Authority of Thailand (TAT). The name list of the patients was posted on the emergency board. Press Release was prepared to announce the progress of the circumstance to the public as well as the statistics of data of patients was prepared to report to the hospital management team and the media.

The private hospital group had set up the coordinating center or so called walky-talky room. In order to provide support and relocate the patients to other hospitals within the group effectively, electronic-whiteboards had been used to record the name list, the coordinating centers and telephone numbers respectively. The list in the record was started from the Air Force Operating Center, which was the main station to contact in order to transport patients from Phuket to Bangkok, and then the phone number of all coordinating centers.

In addition, hot line initiative was started whereby the staff in the walky-talky room was the main coordinator with external organizations and teams, to provide the healthcare treatment and to relocate the Tsunami patients.

The data collection and statistics of the relocated patients to Bangkok Hospital
and those patients at the field were recorded and posted for the relatives and families of the victims. The same database was as well loaded in the website. Teleconference System was set up for effective communication among the hospitals to coordinate and discuss the issues in the meeting for daily problem resolution. Group chairman would call the meeting once or twice daily.

In the warroom of the private hospital group, mega-sized television was installed to follow up with the on-going circumstance reported by the outside sources especially the media and T.V. channels. The situation and report were closely followed up in all areas i.e. in Phuket, Phang Nga, Krabi, Ranong, Trang, Satun and Bangkok as well as the interviews from all concerned parties e.g. Prime Minister, concerned Cabinet and Governors. Thai people and also foreigners who witnessed the incident. That gave a good chance to the staff in the walky-talky room to update the news from all Thai T.V. channels and CNN. Moreover, this room had also been utilized for welcoming the visitors and medias for both local such as Modern Nine T.V. on channel 11 and channel 7 including international medias like AFP of France, regarding the victim patients and executive interview.

From the preparation of medical sources of the private hospital group, the Tsunami execution plan had been carried out at a satisfactory level. With a good teamwork and medical resources management by the experience executive and operation team, who had contributed their time and effort to the constantly works that came in. Thai private hospitals were highly recognized from the international patients, the embassies as well as the local and international medias. This was a great honor for the private hospital group, on the other hand, was a reflection of great image for Thailand as a whole.
Chapter 3
Continuous Mental Recovery
Though the catastrophe in the southern part had already passed, yet the pain had still remained in the victims' hearts both adults and children. All the materialistic donations could only fulfill the urgent essential need yet the mental need, as their grief from the loss either of possessions or loved ones had not been relieved. Mental health treatment for the victims, to enable them to live their normal lives with constant encouragement, was the task that must be continued.

Mental Health Problem...
was the Major Concern...

It was found that the mental health problem was gradually increasing with anticipated number of no less than ten thousand persons. Dr. M.L. Somchai Chakraphant, Director-General - Department of Mental Health stated that 3 teams of 60 persons from the central part were allocated to work in the field. There were 20 persons in each team in which consisted of psychiatrists, psychologists, socialists and medical students who were graduating in psychiatry. There were some psychiatrists who could communicate in English included in the team to counsel the international tourist victims. Every team was ready to provide immediate support as soon as the request came in. The team from Suan Saranrom Hospital was the team that had moved into the field since the very beginning of the incident. The severe case was of those who had lost family members, houses, equipments to make a living and possessions. Therefore another 8 rehabilitation teams were sent as an additional support.

Normal symptoms of those who had mental health problem would temporarily arise during the first 2 - 3 weeks and would be recovered within 1 - 3 months or 6 months at the latest. From an evaluation of the situation, it was expecting that the problem from the mental health effect would gradually improve by encouragement and various kinds of instant and tremendous support that the patients had received. As there were many people from many countries that had experienced the same problem, they did not feel that they were all alone.

Furthermore, those neighbors who hardly or were not affected at all, were requested to provide encouragement for those who had bigger loss so the victims could adjust their mental condition to become stronger. One piece of advice given for the
victims was that drinking alcohol was not the way to resolve the problem, but would also
deteriorate their health instead.

As the worst affected area was at Takuapa district, Phang Nga, the Department of
Mental Health had organized a temporary mental health rehabilitation center at Takuapa
district to carry on continuous support and treatment for a couple more years. And since
the damaged area was extended for a large distance of as much as ten kilometers away,
the central and psychiatrist and psychologist teams had been rotating in providing the
mental healthcare service in the field.

Dr. M.L. Somchial continued his statement that in consequence of the Tsunami
waves, it had caused school phobia among the students within the affected areas. To
resolve this problem at the emergency phase, Department of Mental Health had
provided training for 100 teachers and parents in the Phuket and Phang Nga on 6 - 7
January, 2005 to enable them to take care of the children with mental health problems at
the primary stage.

From exploring the condition of the patients, it was found that some cases had
terrible mental health conditions that they would be panic from the noise of the working
machines in the area. Some came down the hill to clean their wounds and then went
back up the hill again. During the conversation, this group of patients would be nervous all
the time and lack confidence as well.

Voluntary Rescuing Teams...
Had Chance of Becoming Tensed...

Ms. Nittaya Chanruangmahapol, a
Spokesperson of MOPH, reported that the
rescue units, people or volunteers in the field
could also be endangered. Therefore, if any
injury occurred, they should stop at once
and clean their wound with clean water,
and then see the physician or healthcare
officer immediately. In addition, they should
take a shower and change a new cloth after work and wash their hands every time before eating or drinking water. In case the field operators had tension or frustration from their work in which was dangerous to their health and could affect their work consequently, to prevent the tension, they should not look at the faces or names of the dead victims, then requested for consultation from the psychiatrists very soon.

MOPH had sent the psychiatrist team onto the field for the patients' mental health recovery. There were three teams from the center, in total of 60 persons. Each team consisted of psychiatrists, psychologists, socialists and medical students who were graduating in psychiatry whereby each team must be ready to respond according to the request. In addition, the psychiatrists who were familiar with the foreign language had been assigned in the team for effective communication with the foreign patients.

Dr. Veera Choosuporn, Director of the Mental Health Center 11 in Suratthani, had referred to the recent mental health operation activities for the victims in which six team members of the center were sent to the victim evacuation center to provide counseling. As the number of Thai psychiatrist were very limited to only 200 persons all over country compared to the number of the dead victims which were thousands of people and those who had been mentally affected were over ten thousand.

Dr. Wachira Pengchan, Deputy Director- General - Department of Mental Health, stated that the result from sending the six teams to provide mental health recovery support in the field: Trang, Satun, Ranong, Phang Nga, Phuket and Krabi, it found that Ranong province, in which the area had connected with Takuapa district, was mostly affected, especially Sook Samran sub-district. The villagers were suffering from panic, depression, and had become absent-minded. Some were depressed from the loss of their houses and felt uncertain of their future. The mental health team had tried to encourage and referred to the government support for their accommodation, however it might take some time. Some had survived but would blame themselves from the guilt that they had
left their family members behind to die in the incident. There was one mother who
witnessed her own child die in front of her from being crushed by a refrigerator. Though
she was trying to help without any success as the water current was flowing too rapidly,
she kept blaming herself all the time.

Ms. Sararat Wutthiarsa, a Principle of Mental Health and Psychiatric Science -
International Tourist Support Center for the Tsunami victims at Thammasat University,
Rangsit Campus, revealed that most of the tourists had been in a depressed state of
mind, therefore volunteered nurses had to take care of them constantly. There was a
case of a British tourist who came for a trip alone down in the southern area and
encountered the disastrous waves. He had lost everything and could not accept what
had happened, then he drank and tried to commit suicide by jumping off a building. The
center resolved this case by sending him to Thammasat University Hospital.

"I felt very tense when I visited him. He wouldn't stay still but kept walking around.
A psychiatrist gave him a prescription, he wouldn't take any medication. An officer who
took care of him had mentioned that he was about to commit suicide. Furthermore,
there were two French people that came over to me and requested for some tension
relief pills because the picture of the disaster waves was still embedded in their imagination
every time they had closed their eyes. And as they were almost getting on the plane to return to their home country, they were afraid that they would not be able to
control themselves on the plane.", sadly mentioned Ms.Sararat.

Dr. Prasert Palitpolkampim, a Psychiatrist and Columnist, stated that the victims
from catastrophe either natural disaster or accident including severe personal harm and
danger such as physical attack, rape, hostage and so forth. This would cause the victim
to have Post-Traumatic Stress Disorder (PTSD). The most common symptoms found would
be: indifference, becoming distant from relatives or friends, not enjoying their usual
favorite activities, getting irritated easily, having nightmares often. In some cases, they
would have flashbacks meaning a vision of the incident or hearing the same sounds
repeatedly. Most had remained with survival guilt. Since the limited resources of the
psychiatrists, the therapy had not been covered thoroughly and timely. Advice for those
who took care of the victims within the areas, were to help observe the symptoms of the
patients esp. children in order to provide proper treatment in time.
The activities that had opened chances for the children to explain about the incident freely when they were ready without forcing were encouraged. This opportunity allowed them to express their survival guilt as much as possible, yet not allowing repeated self-guilt for too long. The children were encouraged to spend their time doing regular activities as quickly as possible i.e. studies, special tutoring, music playing or sports playing as usual without blaming or dissuading some negative behavior, for instance, urinating over the mattress, asking to sleep with the parents or in case of teenagers: keeping the light or TV on for the whole night or holding fur toys while sleeping. These kinds of symptoms were the indicators that they need more time and attention. If parents could not handle their children’s behavior or knowing that they might hurt themselves or commit suicide, the children must be brought to visit a psychiatrist or psychologist immediately.

Some advice was given to adults that they should as well take good care of their own health. If an adult was not stable, so was the child. Therefore, the backbone of the family needed to be strong both physically and mentally. Daily exercise would also be helpful. The symptom of PTSD could also happen with the witnesses of the incident, for instance, those who had witnessed the incident, who had watched the news, volunteers who had worked in the field and seen a lot of corpses.

Family, School and Community Recovery

Mental Health Recovery of the Tsunami Orphans

"Tsunami", the name that had been embedded in many people’s minds especially those who had encountered not only the loss of possessions but the loss of family members, relatives and friends as well as children that later had become “orphans” who
had lost their parents or either one.

Many questions had come up in many people’s minds about these children, for instance: how long would these children be trapped with this nightmare, how would their mental health be restored and returned back to normal with smile and laugh again, and how their future would become.

Associate Prof. Dr. Sirivang Pairojkul, a Pediatrician - Department of Pediatric Medicine, Khon Kaen University, Srinakarind University, a leader of Phycho Logical First Aid project for the students of five schools in Ranon and Bangmuang School in Phang Nga. She mentioned about the experience of child support activities for the victimized children that were still in shock. The assumption was referred to the painting activity whereby every child would draw a picture of a house and people living on the mountains. Nobody had drawn a house nearby the sea at all. Characteristics of the house would be a three storey-house with high empty space on the ground floor. Some children never wanted to go to the beach at all after the incident. The children with the loss of parents would be in deep grief because the rest of the family or relatives could hardly be there for them emotionally. Due to the fact that they had been busy following up on lost documents or tending to the bodies and had left their child at home. Some family members had also been emotionally hurt and not able to be strong enough to give support for each other.

Dr. Prichawan Chansiri, a Pediatrician for child and youth, Chulalongkorn Hospital stated that the children’s condition that they had not only suffered from the incident, but also from the internal change within the family. After the incident, for the fact that the parents were not able to taken care of them as normal, and had no time to play with them, some were not able to go to school and be surrounded by people that still kept on talking about the incident regularly, all of these scenarios could repeatedly hurt the children emotionally. Child therapy was not only an independent treatment but also to restoring a new environment for them. It was very vital for the children to be in an environment as normal family. The key mission of the supporting team was to advise the parents, or the guardians including the schools to handle the situation correctly.

The victims that had been worried about the living conditions or accommodations more than their mental health. All conditions that were mentioned had not yet been a disease, only the reaction towards the severe circumstances. For the children, if the
situation had returned as normal, the children would automatically adjust themselves to normal as well. However if the parents or guardians found their children were facing mental health problems, they should take the child in for in-depth therapy," said Dr. Prichawan.

Mr. Sappasit Khumpraphant, Director of Thai Child Rights Foundation, had suggested three phases for child support:

1. Urgent Phase - support that was provided physically and mentally such as accommodations, food and nutrition as well as mental health recovery.

2. Middle Phase - family rehabilitation, relation among family members and the community. As well as the families, schools and communities that were able to adjust and return back to normal, natural environment mechanism would be the recovery therapy for the mental health of the children.

3. Long term Phase - a replacement of a new family for those children without parents, guardians or families. The new family must be sensitive and able to manage the child's emotion and mental health. Therefore, selection of the new family was a very important matter.

In rehabilitating for the victims to adjust their lives with the changing environment, Ms. Pyachat Chuentrakool from the Department of Health Service Support and a representative of the social Worker of the general hospitals under MOPH, stated her opinion, based on the experiences working with the victims, that "The important thing is to provide advice and solutions for the victims including the activities that not only promotes their confidence but also to get thru the terrible phase of the circumstances: assisting them in making a claim for their privilege, providing advice on the jobs, making income, access to education, providing medical care service, providing fair distribution of the donations including the social network that can support in resolving the problems during crisis and for a long run. All these activities have been conducted continuously without leaving any victims to face the situation alone even when the situation has been gradually improving. The victims should be divided into different particular groups to allow effectiveness in providing support especially for children and elderly people, as well as forming and assembling all the groups to give support to each other."
Chapter 4

Ministry of Public Health Revealed Corpse Investigation Result...

A Success from the Autopsy of Tsunami Victims...
Once the healthcare situation had returned to normal, corpse had become the hot issue of the world situation. The problem in corpse management had become a hot issued widely through several mass media. Mentioned a shortage in operational supports and supplies of all healthcare units in the affected areas. Especially, in Phang Nga that there were many dead victims and mostly were foreigners.

At that time, Dr. Khunying Pornthip Rojanasunan, Deputy Director of Central Institute of Forensic Science Thailand - Ministry of Justice, was appointed to take care of the corpse management in Phang Nga. While Khunying Pornthip was posted at Yan Yao Temple, the other professor teams from the Department of Forensic Science of different universities i.e. Faculty of Medicine - Siriraj Hospital, Faculty of Medicine Ramathibodi Hospital, Faculty of Medicine - Chiangmai University, Khon Kaen University and Prince of Songkla University to execute the operation other areas in Phang Nga i.e. Bang Muang Temple, Bang Nieng and Lok Kaen. The Department of Forensic Science under the Royal Thai Police, that had prior experience in massive number of corpse management before, was appointed to take care of the areas in Krabi, Phuket, Satun, Ranong and Trang in coordination with Faculty of Medicines of Chulalongkorn University.

The corpses were lied down all over the temple consisting of foreigners, Thais and children. The corpses had become swollen and stunk diffusely. The atmosphere at Yan Yao temple was depressing. The family members had come to search the bodies of the victims. Some had found but yet those who had not could, could not control themselves but cried and even lost their consciousness. For the corpses that could be identified, the bodies would be loaded in the coffins and given to the relatives to cremate or bury respectively. For the identified dead bodies that had not yet been claimed by the family, the corpse had been wrapped and put aside on the floor. The atmosphere had been dispirited for all witnesses. The foreigners had put more pressure to the circumstance while requesting to collect the corpses of their family members back to their home countries in haste. The international rescue teams and forensic science teams had been sent to the sites gradually. The execution had been handled...
separately at the initial stage, however, the operation had been executed under a management of Interpol, in the name of International Disaster Victim Identification Committee (DVI) in coordination with Thai Royal Police and Thai Ministry of Foreign Affairs. This was very frustrating situation for everyone.

As managing thousands of corpse at the same time was too overwhelming for one organization to handle alone, with the high pressure of the situation, Thai government had come to a solution of appointing Ministry of Public Health as a center in coordinating and providing autopsy support and victim identification before returning the body to the victims’ families. As well, Dr. Supachai, Deputy Permanent Secretary of MOPH who had been already overseeing the situation in Phang Nga, was appointed to execute this mission. In addition, he had been officially designated from Civilian Crisis Prevention of Thailand - Ministry of Defense, to hold responsibility as a Committee Secretary of Dead Victim Identification Administration Center including a President of Subcommittee in Autopsy and Dead Victim Identification as another additional position.

After the appointment, Dr. Supachai acted as a central coordinator with forensic science experts from every organizations concerning corpses management. The committee meeting among Ministry of Public Health, Royal Thai Police, Forensic Science Institute, Ministry of Justice, concerning universities, Dental Council, Ministry of Foreign Affairs, Representative from Diseases Control Center from U.S.A., Ministry of Foreign Affairs Representatives from other countries, Representatives from Embassies and Interpol to settle the agreed procedures for future execution.

At the same time, Dr. Boonchai Somboonsuk, Deputy Director-General of Department of Health Service Support, had been appointed as a committee to work with the academics from both locally and internationally.

From the inaugural meeting, the settled agreement was as followings:
1. Every corpse must be treated equally regardless of nationalities or races.
2. The execution of international experts must be under the central management of DVI and strictly follow the DVI standards.
3. Thailand will fully cooperate with DVI under the central operation of Thai Tsunami Victim Identification (TTVI)
4. Corpse that were investigated and identified by Thai experts must be checked
further as per international standards.

5. DNA check must be operated based on the international standards whereby the international victims’ DNA must be collected by the individual government for investigation in which the result must be sent to TVI. For Thai missing victims, DNA will be collected and checked at DNA unit at Faculty of Medicine Ramathibodi Hospital - Institute of Forensic Science. For cell tissue from the corpse, it will be examined at the DNA center in Thailand i.e. Faculty of Medicine Siriraj Hospital and Faculty of Medicine Ramathibodi Hospital - Institute of Forensic Science and some part of the cell tissue will be sent to the DVI Certified Lab again to confirm the result.

6. DNA result between Thai and international examination must be compared whereby in the DNA comparison system for the Thai party will be based on the methods developed by the Department of Forensic Science - Faculty of Medicine of Chiangmai University.

After the meeting, all parties had executed under the management of TVI. Though along the operation, there had been some obstacles coming up, but with good intention from all sides and closely support given from Thai government, the situation had been resolved smoothly.

Since the opening of TVI Center until a year later, the confirmed record of the total dead was 5,395 persons with the number of foreigners at 2,464 persons: in Phang Nga at 4,224 persons, 721 in Krabi, 279 in Phuket, 160 in Ranong, 6 in Satun and 5 in Trang.

On the other hand, the summary from TVI revealed that the number of the corpses that could be identified and returned was 1,618. The total number of the victims that had been waiting for identification process, based on the international autopsy standards under the management of TVI, was 3,777 cases from 43 countries. Based on the record in April 2005, the total number that had been identified was 3,199 with the remaining of 578 to accomplish. This was considered an impressive result from the mutual cooperation.

Learning from working on the Corpses...

In many countries, corpse management would be operated
by DVI under responsibility of the police department. Whenever there was an incident that needed support from the DVI, manpower from the police department and experts would be mobilized. Before the international DVI teams came over to the affected countries, they must be permitted and performed under the law of those countries. The international teams that would like to offer their DVI support must follow the protocol through Interpol and the appointed Crisis Management Support Group. There were experts from over 30 countries with more than 400 persons that contributed their support in this mission in Thailand. This was considered the only mission with the largest group of international teams in the Interpol history.

After the decision of the government regarding the mutual operation between Thai and I-DVI, the TTVI Committee had been designated whereby The Royal Thai Police had set up the Tsunami victim identification center to examine the dead body from the Tsunami disaster. Therefore this center was called Thai Tsunami Victim Identification (TTVI), which was lead by Police General Noppadol Somboonsub, Deputy Commander of Commanding Center as a TTVI Commander to take charge according to Thai law.

MOPH Coordination for....
Corpses Management Mission at Takuapa...

Dr. Porn Ponpanitanont, Medical Assistant of Phang Nga Provincial Health Office at that time at that time and Director of Takuapa Hospital, Phang Nga, who was appointed as a center of corpses management and coordination of Phang Nga province, shared a summary of the autopsy and body identification work that based on the situation of handling tremendous number of dead, inexperienced Thai officials and volunteers need to have knowledge, determination and courage to make decision during the operation. At Yan Yao temple, there were 2,600 corpses and operated by Khunying Pornthip Rojanasunan. After the forensic science team from Chiangmai university had completed the autopsy at Ban Bang Nieng, the team had moved to gather at Yan Yao temple. In Bang Muang temple, there were 1,454 corpses that had been examined by the team from the Forensic Science Siriraj Hospital, Ramathibodi Hospital and Prince of Songkla. Later on, the corpses from Lak Kaen temple had been relocated to Yan Yao temple.
Despite an overwhelming number of the corpses that were relocated to the temples, warm weather, shortage of space compared to the excessive number of the corpses, shortage of staff as the manpower was shared for the body searching, shortage of equipment, communication breakdown, visits and questions from the victims' relatives, the problem had been resolved by the mutual cooperation from all parties and to respond to the needs of the victims. When the officers from various foundations had relocated the dead bodies to the Yan Yao temple, each team had shared their helping hands energetically.

The field work on the first day, the victims' relatives had come to check the dead bodies at each temple and reported to the police and pathologist at the hospital in the area to mutually perform the autopsy. The relatives had to register dead certificates at the district before collecting the bodies back for cremation or bury later with some additional financial support from the government. As the following days, number of the dead victims' families or relatives had been increasing, the temple area had been organized into sections for better operation. The local team at the temple had taken photos of the corpses and posted on the board in front of the temple for a primary search of the families. If they found any photos that looked alike their relatives/families, they would report the code of the photos to the officers to examine further, for instance, the fingerprints, dental history, medical treatment history, particular characteristics and DNA data.

Based on this experience, the followings were the suggested key preparation for effective corpse management:

1. Corpse Searching Team: There should be the staff to execute the primary operation such as photos taking, codes distributing, cell tissue collecting and bodies relocating to the waiting room.

2. Temporary Morgue with necessary equipments: Large fridge container and temporary autopsy lab including the specialist team in which the government should have a lease for the place and equipments in advance.

3. Coordinating and Information Center for families and relatives of the victims.

4. Technology in obtaining AM and PM database such as fingerprint and dental data with X-ray picture, DNA checking from regularly used utensils and equipments and
the cell tissue from the badly rotten body.

5. Matching Procedures by characteristic from external appearance, teeth, fingerprint and DNA whereby the computer software and experts to interpret the result were required.

6. Packaging before delivery

7. Long term corpse preservation process

Learning Summary in Corpse Management

The mission in corpse management was the first time experience that Thailand had fully involved. It was an opportunity for Thai academic and expert teams to learn from the International DVI (I-DVI) in which was considered beneficial for Thai academic a great deal. The Thai forensic science team had continuously executed the autopsy duties restlessly by using modern medical methods together with the international teams until the mission had been achieved. Even though there might be some problems or obstacles along the way but everything was a great learning to and enable the teams to overcome successfully.

A key learning of the forensic science team from the execution of corpse management was to discover that, as per the Interpol Disaster Victim Identification Guide, in fastening the process in managing 5,000 corpses, it was a very delicate matter and had cost much higher expenses than the healthcare treatment.

During the beginning period after the incident the physical components of the bodies were still in fine shape, the DVI teams of Thailand together with the international teams from 30 countries under THAI Tsunami Victim Identification Operation, all the personal data had been recorded and personal belongs had been collected to identity the persons.

However when the time had passed by, it was much more difficult to identify as from the condition of the body that had become rotten. Though the thought of DNA check had come across and should be a key component in autopsy work, but in reality it was not as simple and was much more costly than expected. From the international experience in managing the massive number of the dead, necessary equipments and experienced experts including fridge container were required, yet there was a shortage of all these necessity in real situation. In achieving the mission, it was as well leaned that
strong level of cooperation and coordination with the experienced international DVI teams was very critical.

Until 2nd December 2005, another 1,073 bodies had still been waiting for verification. It had shown that autopsy work was not an easy job. In this catastrophe, there was a necessity in setting up a standardized autopsy center.

Though the disaster from the Tsunami waves was a terrible incident that happened in Thailand, though it had shown the power of the nature to mankind and though it had made the world doomed with the darkness and depress from the death, yet there would be always the light shone up to replace the darkness. The corpse management had become another key function that Thailand had mobilized the team from all departments to put the huge effort into this matter with expectation of relocating the international dead victims to return to their home countries. With such a determination in the operation, Thailand had received huge support from the experts around the world that had offered their help in many areas. From the situation, Thai people had a chance to learn so much as well as had gained the global recognition from all over the world. It seemed to happiness over the grief of this disaster.
From Management...
Dr. Vichai Thienthavorn
Permanent Secretary - Ministry of Public Health

From the situation on the 26th December 2004, I received an order from Khunying Sudarat Keyuraphant, Minisny of MOPH, to get ready for the site visit. We arrived at 6 p.m. and first went to Patong Hospital, Phuket province where was the spot that had accepted the largest number of patients at that time.

Once we had encountered the dead victims' relatives, the patients, and mass media, huge crowd of both Thais and foreigners, corpses that were lied down all over places, cries from the loss of the separation, the physicians and nursing team had immediately given full support in healthcare treatment. Even for those who had stopped breathing, yet the team was trying to restore their lives by using heart stimulating device to save them. The minister and I had visited several buildings and when we reached the back of the house of the hospital, there were more than 50 bodies scattered all over the room which I had never seen this picture before in my work life.

"Sir, this is too overwhelming. The physicians and nurses were not able to take a rest. We need back up teams.\" said the first sentence from the Director of Patong Hospital that had made me feel deeply sad.

On that day, there was an urgent meeting at 3 p.m. with an order of securing sufficient number of the medics and nurses to send to the field. In Bangkok, Dr. Pipat Yingsermee was appointed to coordinate with the physicians, nurses and morticians team from provinces all regions e.g. Nonthaburi, Singhaburi, Patumthani and so forth with 10 people of each province to give urgent support in the field.

Good news was that, from the coordination, 14 southern provinces would be sending their teams over and on that night, The Public Health Office in Songkla was able to gather the medics and nursing team of 50 people for the mission. While in Bangkok, the minister had coordinated to get a C-130 plane to transport the back up team to the field as many as possible.

In principle, the Public Health Office in Phuket was appointed to manage the physician and nursing team during the beginning period as each physician's role had not yet been clarified in which had caused some difficulties; however from 27th December onwards the operation went smoothly.
I flew back to the MOPH office and called an urgent meeting among Deputy Permanent Secretary, Director-General and Governors to delegate the execution plan. What we needed the most at that time were blood, medical supplies and medical equipments in which all sections must be responsible to secure those items. The information center would be mainly in Phuket and reported further to headquarter. Then there were a few matters that had been discussed and executed, for instance, coordination of the information, diseases prevention, mental health issue and environmental issue which was concerning the Department of Health.

We had to admit that with good management system that the earlier generation had set up as well as the readiness of or medics and nursing team, it had enable us to resolve the healthcare problems effectively. Every physician and nurse had volunteered for the mission with good spirit. Full service support and system had been provided during the emergency period. There was no epidemic issue going on. However, one thing that we anticipated to happen at a later stage was the mental health problem. For the issue of environmental problem, we had coordinated to get support at a regional level.

The key problem was the autopsy issue since the number of the corpse was so excessive. There could be misunderstanding among one another somewhat, yet at the end it had led to an effective way of cooperation in the future. Each team had performed their work based on the scientific methods as much as they could to ensure reliability to be widely accepted. We had received tremendous support from many countries such as the physician teams from Japan, Germany or Sweden whereby we had arranged an international coordinating center to support those international organizations for this mission. All foundations had highly contributed their support for relocating the corpses and victim patients, which was a very critical issue, because only the manpower from MOPH alone would never be enough.

I was very impressed with my supervisor who was very decisive and willing to provide any possible supports as needed. All physicians, nurses and officials had contributed their full strength in executing the work. That included the cooperation among different ministries or director-general from all departments, the Royal Thai Air Force, Royal Thai Army, Royal Thai Navy, Royal Thai Police, private hospitals and universities.

From good work of the Diseases Relieving Unit, we were able to effectively prevent
the victims from epidemic such as diarrhea, skin disease. The staff at all levels had sacrificed their effort admirably. This was considered a great cooperation from all sections.

The key role of the MOPH is to secure good health for all people, from the birth till the death, regardless of gender, age or occupation. With the quality result executed by MOPH, it has been recognized globally.

What I had been highly proud of was the fact that Thailand was well recognized by World Health Organization with its budget allocation to organize the Tsunami World Conference in Thailand. Thailand had got a good chance to welcome and to share public health operation for the victims to the Permanent Secretaries of Foreign Affair from many countries, local mass media from the regional and central including international levels. The news had been broadcasted worldwide and we had gained their confidence that the public health operation in Thailand had been carried on actively and was ready to provide healthcare support at any time.

From then on, we had to prepare ourselves all the time as there might be expected incident happened at any time. The readiness of the staff, especially spiritually, unity and management system at all levels: district, provincial, and country, must be prepared since we never knew when it would happen again. The roles and responsibilities of the individual and the effectiveness in coordinating as a network would be the keys to resolve the problem most effectively.

Dr. Narongsakdi Aungkasuvapala
Deputy Permanent Secretary - MOPH

As soon as there was a report regarding the Tsunami incident, the executive team which consisted of Prime Minister (HE Pol.Lt.Col. Thaksin Shinawatra), Minister of Public Health (Kruhying Sudarat Keyuraphant) and Permanent Secretary of MOPH (Dr. Vichai Thienthavom), followed by the committee, had flew over to the affected area while Minister of Defense (Mr.
Bhokin Barakura) was appointed to set up a supporting unit in Phuket as in the beginning. Phuket seemed to be mostly affected as per the news that had constantly been broadcasted. However, after the end of the incident, Phang Nga had been discovered to be the most severely damaged. The communication was also an issue that we needed to set up a supporting center. The situation at both private and government hospitals was overwhelming due to the excessive number of dead and family members were congested everywhere.

MOPH had provided all full supports to execute the mission and designated each deputy permanent secretary to oversee each affected areas. At the provincial level, there were management teams to delegate and give directions for execution. If there was a request of further support of the medics, nurses or medical supplies, MOPH would send the immediate support.

I was appointed to take care of the medical care and public health support for the earthquake and Tsunami victims in Phuket. As there were many Thai people from all regions to work there and a lot of foreign tourists, therefore smooth coordination were critical to allow the victims’ relatives to contact the center conveniently. Therefore, we had utilized the area of provincial administrative organization as a center. There were many journalists visited at the site and attended the meetings whereby three meetings were organized a day: in the morning, afternoon and evening. We had also worked with the police department in loading the photos of the dead victims with their personal belongings found into the website to make it easier for the relatives to check for the information.

The hospitals in the six affected provinces were very chaotic. As the system had been set properly, it helped the staff to work easier. For instance, the photos of the patients would be taken once entering the hospital, therefore the relatives could identify the persons they were looking for from the appearance or the clothes. This process had reduced the degree of the chaos tremendously.

In the beginning, there was a huge number of the injured victims admitted at the hospital that I managed to request for more physician backup team from Hat Yai, Nakhon Si Thammarat. We had to focus on providing the primary medical care first and to plan for relocating the patients soon after. If the patients were remained in the same area, it would be too congested and might cause a group infection consequently. Therefore we
had relocated the patients to other hospitals which this decision had been admired by various countries. Some countries had managed to pick up their citizen to return to their home countries.

In Europe, Thai MOPH had been very well recognized. We had received a great deal of support from many countries such as Germany, France, Japan and Republic of China that they had sent their professional physician teams for support us. Also both government and private hospitals had contributed their utmost support through the network. In case the patients requested to be treated in the private hospital, we would accommodate those requests. Though it was a chaos but it finally went smoothly. It was a biggest crisis that Thailand had never experienced before.

When I saw such a massive number of the injured and the dead, I was shocked as it was more than my expectation. On the first day from my observation, each province had resolved the problem very quickly. In Krabi, the dead that were buried deep down in the mud, the tractor was used to dig the body up. In Phang Nga, the most affected area, the victims were buried and the appearance of the corpses could not be clearly identified unless from the evidence.

From the incident, it had given the public health department a great experience. At this stage, we had to admit that the leadership of the executive team, who had involved themselves with the situation from the very beginning to the end as much as management with unity, was considered very important.

MOPH had managed the situation effectively that had received its recognition widely. When I had arrived at the field, I realized that our public health service in a normal circumstance or in crisis could be in control in these areas: diseases prevention, environmental public health and mental health as well as diseases surveillance and control. We had been lucky enough to have our ancestors who have thought through carefully while setting up the whole fundamental system of public health service. And very importantly, we have been able to network and acquired tremendous supports from the all public health centers, military, hospitals and both government and private universities.

It had shown to us that by the time of crisis, kind spirit of Thai people would always been shared for others as much as we could no matter if it was material or knowledge.
Though the situation was chaotic and short of supplies, but when realized the kindness from Thai people thru the donation, it was an encouragement to continue executing the tasks in the field smoothly. With smooth coordination that had been very closely followed through via the network of the MOPH together with the back up support from Thai people and clear goal, the injured had been properly healed, the corpses had been transported back home, there was no epidemic, the damage had been recovered very quickly and the end result had been accepted and recognized globally.

Autopsy was the big issue that all parties had focused on. In the identification process, we had never experienced such a massive number of corpses in our lives, yet we have made it through. Nevertheless, the key lesson from this incident was very useful. The Meetings had been organized to brainstorm, to ask all the related and experienced people to this incident in which there were many useful suggestion that we could apply in developing our public health system and encouraged the individual unit to develop its own database.

Kindness of Thai people had been a great fundamental in enabling the working structures, people and resources management to have clarity and unity in management without having any conflict but tried to provide the healthcare treatment and safety to the victim as much as possible. For those who had mental illness, they would be followed up regularly. As Phang Nga had been badly impacted, the executive team of MOPH by Department of Mental Health, had realized that the victims should be treated and followed up constantly, especially children who must be treated until reaching the recovery stage.

For this mission, I felt very impressed in the unity and kindness of the people who contributed their helping hands regardless of gender or religion. I would like to thank everyone who had involved in the mission which consisted of all the medics and nurses, volunteers, soldiers, policers, Thai people, both Thai and international foundations who had given their full support until the situation had improved to normal.

Dr. Wanchai Sattayawutthipongse
Provincial chief Medical officer - Phuket Provincial Health Office.

In the morning that the Tsunami occurred, I was resting at home and felt that the
house was shaking and got up to observe what was actually happening. After a while, a chief nurse officer called to report the emergency that the water waves and current had hit the coastline causing a lot of injured and dead. I called back to recheck the information to figure out clearly of what had happened. When it was confirmed that there was the Tsunami waves, I had urgently contacted to request a helicopter to oversee the overall situation.

I went to Wachira-Phuket Hospital in which there were many patients being sent inside the hospital all the time. After a while, Minister of Public Health called to check the situation, however the situation was not yet clear enough to summarize and very chaotic. I had called the physician team to post station at the commanding center at the city hall immediately. In the afternoon, there was a report stated that a record of the dead was now up to hundred people. It was very worrying situation. I got contacted from many islands around Phuket that there were huge number of injured and survivors awaiting for help via helicopters.

That situation was indescribable and chaotic. It was the biggest violence that I had ever experienced in my life. I had to admit that there were some problems along the way as it was way excessive that we thought and we had never prepared to tackle this situation before. We had safety drill but never had thought of such losses. At the beginning, no one knew that it was the Tsunami waves, hence the preparation had been somewhat lacking. Phuket had been mentioned the most from the news as it was close to the media center.

I considered this incident as the most important incident in my life and I thought it would never happen again in my lifetime. I had help evacuating the patients both Thais and foreigners within the first 72 hours. The provincial health office was the main unit that provided support for the injured and the dead. We had strong infrastructure to help resolve the problem quickly.

The success of the execution was the fundamental infrastructures and network that MOPH had developed among all the hospitals and headquarter. Even there was not sufficient support at the field but the back up teams from all over country could be mobilized within 24 hours. This was because the MOPH had constantly developed the system for no less than 20 years to build the network and to develop the ability of
medics and nurses. We had come to the right direction and should be able to handle the crisis and to transfer the patients to various hospitals within five days.

Thailand had been globally recognized based on the effectiveness of the management quality as well as Thai culture and kind spirit of Thai people. I was stationed at the city hall and witnessed the foreign tourists who came in to ask for help in a devastating condition. Thai people had provided support and were very friendly to them in which had created a good impression for the victims.

In providing treatment for the injured victims, Prime Minister commended to provide the treatment regardless of the cost within the first 24 hours. However, we had received so much support from the private sectors both locally and internationally. We were able to allocate the budget to renovate the buildings and buying ambulances. The medical equipments from the countries that we had given treatment for their citizens, such as Sweden, Germany and Finland, were donated to us. Moreover, the medical equipments donated by WHO, Unicef in which all kinds of supports were the kindness from the fellowmen. For the rehabilitation center at the Phuket Provincial Health Office went smoothly, yet there was some project that had not yet complete i.e. primary care clinic donated by the private sectors, was still in progress.

The key learning from this incident must be put together to for the preparation and future execution plan as well as set up as knowledge base management. In my perspective, we should develop in the area of people capability and advanced assessment of the situation if we had to handle many ten thousands of the injured and thousands of the dead. At the same time, we should develop the responsive network system that could help us to save the victims quickly and safely.

Dr. Jessada Chaikunrat

Provincial chief Medical officer - Phang Nga Provincial Health Office

I would never forget the Tsunami Disaster in my life. I was shocked and surprised with the incident as on the 26th December 2004, the weather was so fine with no rain nor storm but clear sky. But then I was reported that there were many people who were drown and injured to admit at Takuapa Hospital, Taimuan Hospital, Takuatung Hospital and were transferred to Phang Nga Hospital continuously.
I then commanded and coordinated thru EMS network to secure field-based treatment for the patients immediately. Since huge number of the patients and the dead had come to the hospital, I decided to tackle the situation at the hospital. There were 2,000 patients on the first day with over 300 people dead transferred from many hospitals, not to mention over thousand of relatives of the victims. The medic and nursing teams were requested from the nearby hospitals: Krabi, Suratthani, Nakhon Si Thammarat, Songkla to send their support to Takuapa Hospital, Taimuang Hospital and Phang Nga Hospital, to provide medical care treatment, as the existing capacities and resources were not able to cope up with such excessive number of patients.

Conditions of the injured victims mainly were from wounds, cuts, scratched, torn on the chest, back and body areas. The second top injury was broken arms, legs, ribs and head injury respectively. The dead victims were caused mainly by drowning and suffocating, then chest injury and internal bleeding from crushing with hard material at the incident. The condition of most injured victims was disastrous as most victims were naked and dirty with mud and leaves and wooden scraps while the dead were mostly naked and had deep cuts. Some dead victims had missing body parts.

Primarily, the hospital had categorized the victims into four categories: 1) minor injury - got wound cleaning treatment and medication and returned home 2) medium injury - provided medication and operation as necessary. The patients were to stay at the hospital for observation 3) major injury - got urgent operation and treatment in ICU and 4) dead - required autopsy and morgue.

For the relatives and followers, we coordinated with the provincial office and Red Cross to provide temporary shelter with food and water whereby using the lawn in front of the hospital and the villagers’ houses. As for the patient with medium injury which was a huge number, we provided extra beds and mats to sleep along the hall way. meeting rooms, offices of the hospital while some other group had moved to the provincial health office and nearby governmental offices. There were nurses provided from the primary care clinics to take care of them as well. In searching for the relatives, name list of the patients were posted in front of the hospital and searching from the internet. Free call service was offered for the victims and families.

Along with the operation, there were many problems and challenges found: Firstly,
the shortage of the medic and nursing team and capacities like operation room, ICU, medical supplies and ambulances compared to the number of the victims. Secondly, the communication breakdown had caused difficulty in coordination therefore the walky-talky had been used which was very helpful. Thirdly, the language barrier was a challenge to communicate with the international patients, however we managed to have translators in many languages from many institutes and schools within the province. This problem had been resolved smoothly.

I contacted the Bureau of Permanent Secretary - MOPH and Narebahn Center requesting for the back up team of physicians and nurses including drugs and medical supplies. At the same time, I had sent a request to the Regional Health Office 15 and 17 to mobilize the physician teams from nearby provinces and universities for autopsy support. Then I had posted a request to provincial Red Cross to provide food, drink and clothes for the families and victims.

I had to admit that the work during the crisis was very confusing and tensed. The physicians and nurses had to work 24 hours straight without resting. Later on after 48 hours, the work became more systematized and there were more back up team from the medic and nursing team all over country resulting higher effective work. Then we started to relocate the patients over to the nearby hospitals that had capacity to support and some to the hospitals in Bangkok and private hospitals. The situation had been improving gradually. The volunteers who came to help were working together with great teamwork with only one focus which was to secure the injured. With good helping hands from everyone, all the work had been executed very quickly.

The interesting symptom of the patients was the general cuts in which were dirty with mud therefore they would be healed slower than usual due to there were many types of pathogen permeated in the wounds. In case of pneumonia from suffocating the water and mud, it was very difficult to heal whereby not only many kinds of antibiotics were to be given but respirator was to be used for the treatment. Those patients with loss of many relatives would be thinking about committing suicide and tensed regarding the incident resulting Post Traumatic Stress Disorder (PTSD).

Nevertheless, I think that this catastrophe had taught us a big lesson. After this, we needed to pay more attention in preparation of the readiness to be able to tackle with
the incident and accident better in the future. Drill must be put into practice and execution plan in every phase: prior, during and after the incident, must be prepared. The readiness of the medic and nursing team at the hospital and at the provincial health office, medical equipments and supplies as well as the effective communication system, must be prepared.

I think the operation of the provincial health office is very important as it was the first access to life or death of the victims. If we have effective medical and public health system, there will be less number of death and disability. Therefore these systems must be developed to support the future major disaster effectively and quickly for minor loss as possible.

Honestly, there was a very impressive angle found from the crisis which is the kindness in Thai people. When it came to crisis, everyone was helping each other restlessly including the leader of the country, MOPH, divisional health office 15, 17 that had help resolving the issue very quickly and timely. Moreover, the physicians, nurses and Phang Nga health provincial officers had been working hard and efficiently. I was impressed with the back up medic and nursing teams as well as provincial officers that had come over to provide support greatly and constantly. I would never forget that all my life.

Lastly, I would like to have the people in the medical field to be prepared and be ready to handle the Tsunami that might happen in the future as followings:

1. Preparing of EMS system with commanding and coordinating net work and drill regularly;
2. Preparing of medical and public health team to be ready for any catastrophe
3. Preparing of drug and medical supplies for emergency including effective medical equipments
4. Supporting medical research and development more personnel for the medical emergency team
5. Setting up a system to support healthcare during and after crisis for the least minor loss.
Dr. Jessada Jongpaiboonpattana
Director - Wachira-Phuket Hospital

The atmosphere on the day of the disastrous waves on 26th December 2004, one of my friends who was a physician in Hat Yai, Songkla has called to ask what had just happened. He had raised a question jokingly that if there was an earthquake, we should be in or outside the building. Which I had answered that we should go outside as Thailand never secure any vibration prevention system in the building unlike the building in Europe or Japan whereby you could still stay in the building.

Until 8.30 a.m., another friend in Suratthani had called and asked if there was any earthquake and if I was alright. Now that started to worry me. That’s why I called a provincial officer and the answer was that there was an earthquake happening as well as I observed the news report on the TV that there was an earthquake in Indonesia in Sumatra with vibration level at 8.9 on a Richter scale. Now I could not keep my suspicion any longer and I thought that there must be something wrong with Phuket as the normal magnitude of the earthquake was recorded at 6 Richter. Phuket must be definitely affected greatly. And MOPH had called me and asked what had happened in which had surprised me as I was still not sure what was going on.

I had called a meeting among all the hospital staff to tackle with the incident. From the beginning until at 5 p.m., we were able to handle the situation fine. At 3 p.m. I had denied the back up support from the Department of Medicine from Prince of Songkla University, Phuket Campus, as we thought that the situation was in control. On a contrary, by 6 p.m. the injured and dead victims who were sent from Phi Phi Island had constantly been transferred to the hospital until the morning of 27th December. However, we were confident in our preparation system as we had been regularly drilled and prepared according to the hazard plan as well as we had secured the medical supplies to be sufficient up to two months.

When the situation had turned differently than anticipated whereby a huge number of patients had been transferred to the hospital, our medical team had become gradually exhausted plus I had already turned down the support offered from the team of Prince of Songkla U, I decided to change the plan. I had fully empowered the team to contribute ideas and make decision independently as appropriate to resolve the problem during the
operation with my total support. If any team members needed my advice or decision, I was there to help them. I thought that if the situation still remained as it had been, the team who had been continuously working for 24 hours would collapse.

At that time, all the medical supplies had nearly been used up and other resources had been short. The situation was as if we were in the war that we had to do whatever we could with whatever we could do. I felt a quite strained, but did not give up. Fortunately, on 27th December, there was a backup medical team from Bangkok had arrived to a support. Until 28th December, we had arranged a walky-talky room to call a daily morning meeting to tackle the situation. The agenda of the execution plan which started with the coordination to secure the lives of the patients, followed by the corpse that needed to go thru autopsy process by the police officer as it was not a natural death and lastly about the diseases control and follow-up the condition of the patients whereby on the day of the first meeting was actually moved to the last stage of the plan.

During the operation time, there would always be obstacles occurring along the way. For instance, in the morning of 28th December at Tha Kha district, there was a serious issue going on in which the physician team needed to transfer injured patients to Bangkok for further treatment that we had to adjust the plan and send out staff to take care of the patients at the airport. However, while waiting, a condition of some patients was in real bad shape that we had to transfer them back to the hospital. In the operation, the plan needed to be adjusted according to the changing circumstance all the time.

I have a principle that management team must be present at all time to provide support and to encourage the team members to carry on their work with good spirit. Though my duties are not fully involved in the operation but I still need to be present for them for a mental support. When the staff started to get tired, there were many people to take over and that included the students who had studied international languages to help coordinating with our staff without my request. The evacuation team who had come up with an idea of loading the name list of the victim patients in the webpage, as well had completed it in time and had accommodated over hundreds thousand visitors. As there was a massive number of people who had accessed into the website, the
system had collapsed yet not for long it had been fixed and could be used as normal.

Reaction from the foreign patients that had made the team feel gratified was the satisfaction of the patients and their smiles, as we thought that the duties of the government agencies were to provide our best and full service for them. All the service provided was free of charge as we realized that it was the national reputation. The team had been groomed with the thinking that though the tourist attraction had been destroyed, but with our genuine kindness that we had offered, it would be replaced the bad experienced they had encountered.

Today, there was no one of my staff asking about the compensation at all. What I felt proud of the most was that we were able to gather over 100 physicians even though it was on Sunday, which was the day for the family, but they all came. I was very proud of that as well as the team’s current potential and capability.

If any future incidents ever happen again, Wachira-Phuket Hospital would be able to tackle the circumstance smoothly. Though we had been able to get through this crisis situation well thru effective management and operation, we prayed not to encounter the similar catastrophe ever again.

Dr. Pinit Yongyuth
Director - Taimuang Hospital

I heard the news from a Head Administration of Taimuang Hospital at around 11 a.m. on 26th December 2004 (at that time I was at Tappud district, Phang Nga province). I was reported that there was a crisis in which there were a plenty number of foreign patients of over 200 people admitted in the hospital and requested an urgent support from me.

At that time, I was stunned, confused and very worried. As on the weekend we normally had only 10 staff standing by at the hospital compared to such an excessive number of patients pouring in the hospital at the same time, it would create such a big chaos. I then ordered to urgently contact all staff members who could be reached on that day to come to the hospital immediately and requested for a backup medical team from nearby hospitals as well as had brought the team from Tappud Hospital over as an additional support.
I could gather twelve people from Tappud Hospital and one medical vehicle and we arrived Taimuang Hospital around 12:15 a.m. The circumstance we witnessed was the patients of almost 200 persons were waiting, the emergency rooms were crowded with patients, some patients were lying down on the extra bed and on the floor. Those who were slightly injured were sitting and a bench and balcony. We had one standby physician from Taimuang Hospital and one more from Phang Nga Hospital. There were four dead victims.

At the primary stage, we gave treatment to the critical cases first for instance, putting the tube down into the windpipe to the lung with respirator, cleaning the wounds and mending the broken body parts. Those injure whose severe condition was within the limit of the capacity and availability of the Taimuang Hospital would be remaining, otherwise would be sent to Phang Nga Hospital and Wachira-Phuket Hospital.

The key issue at that time was the limitation of transportation. While the first-aid treatment had been provided and the patients were waiting for a transfer to other hospitals, we had only nine vehicles to use which was not enough compared to a huge number of patients waiting. It took us two full hours for the transporting process. The communication was also the problem as there was no signal on the mobile in the island, and most staff did not leave their home number at the hospital, it was hard to reach them. I was trying to contact a medic from the provincial health office but could not be in contact until 2 p.m. The staff at the hospital was able to contact Dr. Kitti Paramatpol, ex-Director of Taimuang Hospital (at that time, he was transferred to Department of Diseases Control - MOPH), therefore I had asked for his support in communicating a request to the executive team that the hospitals in Phang Nga for an urgent support regarding physicians, nurses, transporting vehicles and medical supplies. At the same time I was trying to contact the hospitals from other provinces that were not affected by the Tsunami such as Chumporn, Suratthani, Nakhon Si Thammarat, Songkhla and so forth.

Moreover, I had requested many tents from Taimuang municipality as well as teachers and students to help moving the medical supplies, foods and beverages. It was not an easy task to execute as there were patients almost everywhere in the out-patient building, first-aid kits were short and the traffic in front of the hospital were heavy.

The staff had carried on their duties constantly without resting until 5 p.m., still
number of the patients had not dropped but increased. The staff had been very exhausted. I had a discussion with the management team and concluded that we needed to request a support of medical team from private hospitals. Finally, we had support of two physicians who had opened their private clinics in Taimuang district as well as one physician from Ronphiboon Hospital, Nakhon Si Thammarat Hospital who happened to visit his hometown in Taimuang, and another two physicians who happened to be the tourist in the area. This support helped fasten the treatment process.

On 27th December 2004 at 4 a.m., there was a medical team support from Songkla Provincial Health Office with eight medical vehicles led by Dr. Suwat Viriyapongsukit had arrived to replace the existing them at 10:30 a.m. So that they could take some rest and come back in the next morning. We had received support from the volunteers who were students, teachers, staff from various companies, to assist as translators and also to assist the relatives in searching for the victims. I really admired these volunteers, some took a bus from Bangkok and paid for their own expense to help. Everyone was willing to help regardless of inconvenience of accommodation and foods.

The interesting symptom found was the fact that all the wounded victims got infected. We discovered that the wound was very dirty and after cleaning and even no bleeding, wound covering (without stitching) should be recommended with antibiotic thru blood vessel.

The Tsunami had given great experience to Thai medical field in which I could summarize as followings:

1. To cope with a massive group of patients, there should be a mobile medical team that is ready to move to the field very quickly and work as a network of provincial, divisional and national level;

2. There should be the victim searching teams, that are well equipped with the personnel and equipments, in the field;

3. Sufficient number of medical vehicles;

4. In executing autopsy mission, there must be sufficient number of morgues and effective corpse management.

In recovering the hospital and the patients, followings were the procedures executed:
1. Requested materials, medical supplies, and new building from Thai and international governments;

2. Followed up the mental health conditions of the patients through regular visits;

3. Contributed financial donation to poor victims;

4. Restored the environment in the hospital to normal conditions

Dr. Porn Pongsepanitanont
Director - Takuapa Hospital

When I first heard about the news, it was around late morning of 26th December 2004. At that time I was a Medic 9 in Preventive Medicine - Phang Nga Provincial Health Office. I had received a phone call from Dr. Choavit Likityingvara, Division Health Office 17, who had gathered information from various hospitals in Takuapa district, that there were many Thai and international patients who had constantly and increasingly coming to the hospital for the treatment as similar as the truck crushing incident at Tungmaproo, Tainmuang district, Phang Nga province in 1992 that caused 200 dead victims. But for the Tsunami case, we could not anticipate the number of the injured and dead, therefore, we had to be prepared to provide support in the hospitals in the affected area.

We reported the information to the Provincial chief Medical officer-Phang Nga Provincial Health Office and coordinated with the administration officer of the provincial health officer, prepared necessary equipments and transportation to assist in the field immediately. Condition of most of the patients was wounded, cuts, broken bones, suffocating of water and mud. Those patients who were conscious, had tried to ask for their family members. Some families, the father, mother and kids were sent to different hospitals. As there were so many wounded patients, they had been relocated to many different hospitals.

The dead victims were caused by short of breath and drowning, some had no
clothes or jewelry on. I had reported to the police officer to mutually performed the autopsy process together and recorded physical details of the victims. All evidences were collected and made a list before sending to the police officers. As many more dead victims had been sent to the hospital, we coordinated with Yan Yao temple, Takuapa district to proceed the autopsy and identification process as a next step.

The primary health support for such a great number of victims, we had categorized the patients into 1) major severe injured who needed immediate treatment 2) averagely injured and 3) minor injured. Communication system was not well functioned, we found that there was no signal for the phone then we turned to use walky-talky mainly for coordination. The personal information of the patients was recorded, names of the injured and dead victims, whose data was available, were posted for the relatives and families. Foods and beverages were prepared for the victims and relatives. Offices were open for as a temporary shelter for the patients. The injured victims were evacuated by ambulances and helicopters to Phuket international airport to transfer to the hospitals in Bangkok.

Our working challenges were the huge number of patients and some were foreigners that could not speak English. The staff had been working for two days straight before getting support from other areas arrived. As well, with the shortage of the facilities, patients had to sleep on the mats along the hallway. Temporary shelter was provided for both patients and the backup medical team.

Communication thru the landline phone was a problem during the first 2 - 3 days, hence the walky-talky had been used instead. Not only the injured and relatives had been strained, so was the public health officers as some of them had also been affected and their possessions were badly damaged.

After the MOPH had set up an Administration Center to provide support at Takuapa Hospital, we had received tremendous support from among various organizations at provincial level, different ministries and foundations as well as Thai Red Cross that had sent a lot of drugs and medical supplies for us.

At the hospital, we focused on providing the best medical treatment to the patient as much as we could do. We got great support from all sections. fifty Ambulances of other hospital from various provinces, some were from Ubon Ratchathani and Saraburi, were sent to evacuate the patients. Though we did not have sufficient number of medical
team, we had receive good support from other hospitals under jurisdiction of MOPH, Siriraj Hospital, international physician teams and private hospital nurses to execute this mission.

We had been working towards one same goal - we would take everyone home safely. We had arranged two daily meetings: before the shift and after the shift to summarize and resolve the problems. The team had divided the responsibilities for the operation. Some volunteers had limitations: some could not work for a long period of time, some could stay only for 1 - 2 days. But some had stayed and help for the whole month, even more some had temporary closed the companies in Bangkok to come and help and donated some money as well. Some days, we were short of truck to transport the corpses but when we asked for help from those who owned a truck, we were very well supported.

Some thought for the volunteers was that kind consideration provided for them such as adequate food and water, personal items supplies, visit from high rank officials for an encouragement and mental health support. If any unusual condition found, immediate support must be offered, for instance, to change the task of carrying the corpse to external safety matter instead.

If relatives who had lost many family members, and wished to claim the bodies by noticing only the external characteristics of the corpses e.g. wearing jeans, wearing string on a wrist, yet they had to wait until there was clear evidence from the identification procedures had completed i.e. fingerprint, dental history esp. dental x-ray, DNA analysis.

There was a case of one family member who did not accept that it was the sister, however when the officer had shown her the finger print from the ID card registration data comparing with the corpse, it was matched. Though the officer had shown her sister's photo, that was taken when it was firstly evacuated to the hospital and still in good shape, she still denied it and mentioned that her sister had never had that ring. Finally she accepted at the end as she mentioned that she could have bought it recently and she didn't know that as they had not been seeing each other for six months.

Another case was that the parents had come to the hospital and claimed their son's body. Everything including DNA and chromosome XY result had matched except
when checking the corpse itself, the physical characteristics identified that it was a woman. After the in-depth examination, we found that he had sex change operation without an awareness of the parents. An experience in dead victim identification was very useful in our operation, for instance, in checking DNA of the people, sample of cell membrane could be easily found from the mouth and let it dry by itself or thru toothbrush (that individually used), hair on the comb, blood that used to donate or kidney check at birth. In some case, a mother of a child victim who had kept the baby’s umbilical cord for 14 years had brought it over for the DNA check.

In working with many international teams, there were officers that had been sent for autopsy and identification since the beginning at Yan Yao temple led by Khunying Pornthip Rojanasunand. As the number of the victims was massive, the international team would be responsible for the foreign victims. We were coordinating with the Director of Phang Nga Provincial Health Office to request for more support in developing autopsy and identification room whereby air-conditioner as well as Septic Anaerobic Filter must be installed.

The international team had given some advice regarding diseases prevention and control as well as an environmental surveillance as lots of bits and pieces of broken tiles were found at Yan Yao temple. The Royal Thai Police had coordinated with Pollution Control Department to measure asbestos level in the air before continuing execution.

From the situation, I was impressed with the kindness of both Thais and foreigners that they had contributed their support in every way. Everyone of us had worked for one goal which was to get everyone to return home safely. In the beginning, some officers were afraid to touch the corpse, but when they had received the gratitude from the relatives/families of the victims, that experience had encouraged them to carry on the mission.

The public health role in the Tsunami incident was to coordinate with various organization both government and private sectors in providing information, diseases prevention, medical treatment and rehabilitation. As there were many injured who needed help from public health administration center and many volunteers starting from evacuating the victims to the hospital with patient transfer knowledge, providing vaccine for Tetanus prevention, securing food and water sanitation, installing garbage disposal and waste water system, operation team from Siriraj Hospital and community support.

The rehabilitation that was responsible by our nursing team had to be continued.
From the mental health problem of the victims and the officers who work in the operation, the hospital had organized a Tsunami Recall Ceremony on 26th December of every year, as a recognition of our four staff that had lost their lives in the incident during operation in a mobile emergency ambulance that was parked in Khao Lak area whereby we would build a monument of the ambulance remains with a list of the dead victims and all the supported organizations. This is a reminder our hospital team that even though we had been thru the severe incident but with the unity and support from everyone, we could overcome it smoothly.

Dr. Pornlert Jitprathom
Ex-Director - Takuapa Hospital

At that time in the morning of Sunday 26th December 2004, I was at Kuraburi which was around 40 km. away from Kakuapa. Around 10 a.m. I got reported from the hospital that there was giant waves disaster happening at Namkem and many were injured and asked me to return to the hospital urgently. I had no idea how many as I had experienced in a bus crashed which I thought it was very serious accident. two weeks before the Tsunami, we just had a hazard drill for the staff. When I had arrived Takuapa Hospital, I found the number of the patients was so numerous. Though our emergency room was large, we had to open for every room. The hospital was filled with thousands of people as it was not too far from Namkem; the injured victims, relatives and dead victims. I had counted the corpse, it was around 20 bodies and the number seemed to be increasing constantly.

According to the circumstance, it was too excessive than we could ever handle. So I decided to announce the hazard plan whereby public relation department would contact all concerning organizations and the walky-talky center had been set up at the emergency room. Though in a normal circumstance, we had our provincial hospital network to ask for support, however after contacting we found that the areas of Phuket, Krabi, Phang Nga and Ranong had all been affected. The severely injured patients had been sent to the operation room. We had one surgeon and two physicians and our capacity could not accommodate such a huge demand. On that day we had experienced a problem of communication breakdown and were not able to contact anyone
for more support at all. Finally, we had gathered only around 4-5 vehicles to transport the patients to Suratthani, with the traveling period of two hours to reach there. Then I had asked for more vehicles from the community center for further patients transferring support. At that time, I was not able to estimate the total number of the injured and the dead due to short of communication channel.

Most of the corpses and the injured were by the side of the road, but in the village, as we had not visited the site yet, we still had no idea of the number. Later on the foundation and the villagers had helped retrieving the bodies and evacuating the patients to the hospitals. By the end of that day, there were 600 patients admitted in the hospital causing short of bed and space. Every empty space in the hospital building was utilized for the patients. The canvas beds were utilized as the bed of the patients. All patients had been admitted and taken care of.

The condition of most patients filed with wounds that need urgent operation. For those who had their arms and legs broken, they body parts had been mended. But those who had minor scratches or cuts and the dead victims could be waiting at this stage. In the afternoon, there were only around 70 corpses, at 8 p.m. it was increasing to 105 bodies. Though the hospital had 4 - 5 morgues, the facility could not match the demand resulting the dead had been moved to Yan Yao temple. The number of the corpses was so high.

On the day of the incident, we had received some help from the community hospital in Suratthani, Nakhon Si Thammarat, to help out for the operation. For the whole night, we were able to save 30 - 40 people only. Fortunately in the afternoon of the following day, there was a medical team of over 10 people from Siriraj Hospital, Chulalongkom Hospital and Central Hospital to support in operation. We had four surgery rooms, each
room contained two patients. Even though we kept on working from 6 p.m. until 6 a.m., we still could not cope with the number of the injured that were waiting for the surgery.

On the next day, Ministry of Public Health had come to support and come to conclusion that the patients should be transferred out. It was as if I was in the war that I was in the field and had to transfer the patients to the rear immediately. In transferring the patients, there was a problem esp. with the foreigners that they had to lay down on the floor while waiting.

I was very impressed with the Ambassador of Sweden who visited the hospital and asked me to lead him to observe the patients. Mr. Ambassador had asked me about the medical care execution plan in which I reported that all patients would receive primary treatment here and would be transferred to other hospitals for the safety sake of the patients. He was satisfied with the plan.

Critical stage was the transferring process of the patients in which must be done very quickly and safely as similar as the war circumstance. In a patients were bleeding, they must wait until stop bleeding first before transferring. We had international patients who were from Scandinavia, Germany, France, Sweden, Finland, Australia and England in which the hospital had provided full medical care and service as much as we could. Some had arrived the hospital in swimsuits, we had also search for clothes for them. Further support also included food or even temporary shelter that had impressed everybody. The staff from provincial health office as well had given all the support that they could get for the victims.

For the corpse management, I had to depend on the team of Dr. Pornthip, Siriraj Hospital and Ramathibodi Hospital as I needed to send the team to take care of the villagers as I was concerned about the epidemic which needed to take a preventive action esp. diarrhea, water lavatories and skin disease. We need all the support from both Thai and foreigners under an organized management system and buddy system. Though this mission was hard but I was proud to be part of it.

After this, we had to prepare in tactical plan in handling with the natural disaster that might happen in the future. Firstly, we should look at the risk and building network system and develop the service support center for transferring the patients and com-
municication support as well as people support to develop the potential of our people to be ready for handle in kind of incident effectively. We never know in how many years it would happen again. We need to work and move fast. For the fact that this incident had gathered all the physicians and nurses all over countries to work together, it was very impressive. Thai people are kind and were capable in getting through the circumstance very well.

Captain Dr. Chartchai Piturongpitak  
Acting Director - Phang Nga Naval Base Hospital

The hospital was located next to the road and the sea with two medics and 40 nurses. I was transferred to this hospital in 2004 or around one month something before the Tsunami. Who would have thought that such a beautiful tourist attraction would be badly destroyed from the disastrous waves.

I still remembered the day of the incident, that time I was playing golf. While everyone saw such gigantic waves splashing against the coastline, we were saying that it was beautiful. Some had even taken the photos of the scene. After a while the waves was hitting the golf court and smashed two people away in front of us; two of us my friend and I had tried to escape and climbed up the trees and clung onto it around 20 minutes. When the level of the water had dropped, we climbed down nervously in wet and shabby condition.

I rushed back to the hospital and checked on my team if they were doing alright. While I walked back on the road, I saw some people who had escaped and stuck on the roof, some got broken leg that the bone had split out. Therefore I had to find any possible tool around that area to give the primary treatment to help them. For a while, there was a man riding a motorcycle told me that there were two corpses at the guard house at the hospital. When I had arrived, I discovered that they were my nursing staff. The condition of the face was pulpy and swollen. I was very depressing.

I had reassessed the situation as I had never thought that the situation would be this serious. Apart from the injured, there were many dead as well. When I arrived the hospital, I was also in bad shape and in dirty clothes. In the hospital, it was a lot of mess and damaged. At that time, there were immigrants from the village who had dropped by to
discuss about the future plan and how to help the injured victims as the condition of the hospital was as well got destroyed including the ambulance.

I decided to go to Lak Kaen temple and get the team to carry all the remaining drugs and medical supplies from the emergency room to the temple. We reached the temple at 11 a.m. and I had utilized the sermon hall as an examination room by spreading the green cloth on the floor and put the medical supplies on top as there is no table. The way we arranged the drugs and medical supplies looked as if we were selling stuff in the market. After a while, there were more and more patients coming for first-aid treatment. Before noon there were around 20 patients but in the afternoon, I got the report that there were many people die in Kao Lak. Wow! I have never thought it was this severe!

In the afternoon, there were many foreigners coming for the medical care treatment. I was in great pressure therefore I called the Naval Medical Department and asked for an urgent backup team. The communication was an issue as the phone signal system was collapsed. I had to try for a long time before successful contact.

The first night, I had around ten people in the team and all had experience the incident. There were so many injured from broken bones. The number of the patients was countless, we didn’t even get a chance to eat until the next morning. We were still wearing the same old dirty clothes as when we were swashed by the waves. Official quarters were also demolished. My team members were worried about his family as he could not yet found his wife. It was very chaotic. While I was treating the victims, we heard that there might be another waves coming again, the patients had run up to the hill.

Two days after the incident, I just cried as I was so much in high pressure that had never experienced in my life. Fortunately, the Naval Medical Department had sent us a supporting team. We had not slept since the beginning of the event. Both corpses and the injured patients had gradually transferred to the temple. When the number of patients had dropped, I started to manage the corpses that were in the swollen condition. At this stage, formaldehyde could not be injected any more, so we poured over the bodies instead.

After turning the sermon hall into temporary hospital for three days, I and my team
of ten people went back to the hospital to clean up the area. The building had been covered with mud everywhere. We had to pour the water over each area and scraped the mud out. We needed to reopen the hospital as soon as possible.

I had to cure the patients and to be a translator for the foreigners at the same time, my role at that time was larger than a physician. At the event, I had never left the unit in which had made my team feel encouraged to continue the job. It took me three days to restore the hospital before the reopening. Despite the damage, the medics and nurses must be ready at all time. We still could provide treatment, stitching the wounds, transferring the patients, and executing all the tasks. For food supplies of the villagers, I took charge to give them advice that the food must be well cooked as my concern was the diarrhea. At that time, there were so many flies that the villagers must take care of garbage disposal.

In the middle of the loss and weariness, I was impressed with the backup team that had come for full support. Apart from the Naval Medical Department, I also contacted Suan Saranrom Hospital in Suratthani for more support. Another concern was the mental health symptoms that the psychiatrist team would have to work hard to release the fear and worry of the patients.

The hospital had received first-aid kit donation from Germany as well as the Buddhist monks to gave us encouragement and mental support. All kinds of support had been sent including the encouragement. I had held a role of the medic as well as a translator that it made me proud to do the best that I could do. It was a memory that I would never forget of what we all had done. The reason why I had not left everything behind, despite the worry of my mother who wished me to return home, was because I felt that I needed to stick with my team. How could I leave my patients and my team behind?

When the situation had become better, I had to set up a plan to restore the hospital, equipments and people. As we had some budget from headquarter, I had to move forward as soon as possible. The first group to take care of was my team to ensure the mental health recovery of my team to get them ready before the operation. I did not want them to be in strained condition as they had been directly affected by the incident yet still had to work at the same time. It was very critical to provide support for them. Then followed by equipment, materials and environment recovery: planting the trees as a
team so that they would be proud as part of the team. Now everyone in the team had
got strong spirit to work as normal. The damage of the building need a budget allocation
of eight million baht and now it had been completed renovated. For three ambulances,
two had been repaired and one had been newly purchased.

Some patients were still scared of water and startled. Many parents decided to
send their children elsewhere temporary, as when they would cry if they saw the water,
until their mental health had improved.

In rehabilitating the patients, my approach was to organize activities in the
community such as sports playing, aerobic, rattan ball playing, English language class, to
distract their attention from the grief. We need to encourage the community to change
and move on with their lives instead of remaining with pain forever. However, the
activities arranged must meet the need of the community.

The villagers who had economic problem, I took part in trying to support them.
Some were the merchants who mostly had done business with the tourists and the
earning had been decreased. I had arranged a Batik training and candle making class for
the housewife group as well as setting up stores for the group to sell their products to
promote their earning and everyone felt as happy as it could be.

The Tsunami waves had taught us a big lesson. We need to integrate more in
coordination between the departments. Rehabilitation must be more systemized and the
structural framework must be aligned and integrated among all the organizations: medical
plan, military plan, police plan or foundation plan. And if there was a national disaster
occurring, there should be a central unit appointed as a headquarter. Thailand must have
a team that had a meeting that was integrated between government and private
sector so that the effort would last in a long term basis.

Dr. Kongklat Katepetch
Director - Bangkok-Phuket Hospital

I had an opportunity to operate the hospital during the incident period. Since the
beginning until the situation had been improved, I had never experienced, studied or
practiced anywhere before.

And after reviewing many articles about the hazard and crisis management, I
thought that there were many interesting points that we could learn together and it could lead to the preparation to tackle the Tsunami waves in the future.

In the emergency room of Bangkok-Phuket Hospital, we received a report from the hotels along Patong beach and Patong hospital requesting for an ambulance to pick up the victims from the sea. At that time no one had information of what had happened and the reason why the patients got suffered from the water. However, we had sent an ambulance to Patong but got a report from a staff at our ambulance that they would not be able to reach Patong any time soon as the traffic was very heavy. So I had contacted different hotels and Patong hospital to transfer the patients out and made appointment to take over the patients.

Later on, the first group of the patients of ten people were sent to the hospital. The featured of the wounds were mainly the cut wound, the scratch that had been dirty with sand and sea water or broken bones. Most patients were still wearing swimsuits. Then I had discussed with the physician and nursing team at the emergency room that anticipated that there must be more patients though we did not really know how many exactly. Therefore, a supervisor nurse and all the staff who did not stand by at the hospital were call in immediately and executed the following plan:

- Spared and arranged the receptionist area in front of emergency room for primary care treatment for the minor injured patients while the emergency room was prepared for the severely injured or those who needed life-rescue treatment;
- Prepared drugs and medical supplies as from the aspect of the injury, it was anticipated that in the first 24 hours most treatment must be wound cleaning and stitching and most wounds were dirty from the dirt in the water.
- Utilized the operation room to culture the germs. For the group that we suspected and searched from the internet, we discovered at the primary stage that the possible germs that could cause the problem was gram negative and the germs that come with the feces. Therefore this information had been distributed

After that a goal of the mission had been briefed for every department to follow was called “To save Life and Limb” which meant trying to save life and preventing the patients to lose arms and legs from the infection. Then the department heads of each area started to execute the plan.
During the day, number of the patients transferred into the hospital had been increasing very quickly and when included the regular patients, the number of the patients was huge. On the other hand, after the medical treatment, the out-patient still could not go out of the hospital as there was nowhere to go and no clothes. We had to find some clothes, food, water and sleeping space for the victims.

The number of the patients had continuously kept increasing. The severely injured patients were sent to surgery room constantly as the wounds in some cases needed special care. The first 24 hours had past by very fast whereby most of the staff had not taken any rest from the driver, laundry attendant to the medics and nurses.

We had continued a new day (27th December 2004) with a chaos. There were some help to transfer the patients who got stuck in various island into the hospital including ambulances from the hospitals in Taimuang district and Takuapa district in Phang Nga and Krabi as well as trucks and vans had constantly transferred the patients into the hospital. From the observation, features of the injuries were the cut-wound, from crashing against hard places or materials or broken bones as well as suffocating from the water or drowning in which they had received the primary treatment from elsewhere before such as stitching or bandage.

What was so interesting was that the wound of the patients had become infected very quickly. The patients who were admitted on the second day, their wounds started to smell bad and there were some sign of infection shown. The surgery team had observed the wound and suggested to open the wound and clean them again no matter what.

From evaluation of the circumstance considering the infection of the patients plus the increasing number of the patients, we had to manage our resources effectively. Though the hospital had received the medical team support as well as drug and medical supplies, but the problem found was that the excessive number of the patients which was three times higher than the available capacity, in-patients might had risk from incomplete service. To ensure proper wound treatment, the Infections Control Nurse team was appointed to arrange a "wound assessment list" to evaluate the condition of the wound of each patient and status of the treatment and sent the report to the physician team to decrease the chances of infection of the patients.
Apart from the medical services, the hospital had as well provided the service for the relatives and homeless patients, in which the number was increasing. The service provided was not only food supplies, clothes or shelter but free telephone and WiFi internet services, sponsored by TOT Corporation Public Co., Ltd., CAT Telecom Public Co., Ltd. and DTAC, to allow convenience for the patients or relatives to contact the families locally and internationally. Moreover, a Contact Center had been set up for a convenience in victim searching for the relatives of the patients by pulling the data from the database of the hospital whereby the information had been updated every half hour and in the information had been exchanged among various hospitals and central government administration office.

(25th December 2004) The situation had remained the same whereby the number of the patients had still been increasing with in-patients of 400 cases and the need of surgery room and ICU had not been decreased at all. We decided to evacuate the patients because if we still kept the patients, though there was a backup team or sufficient drugs and medical supplies but if the number of patients had continued getting higher constantly, it would be difficult for us to be able to save life and limbs of the patients as per our mission. Therefore, we began to coordinate with other hospitals in Bangkok to transfer our patients out with a great support from Bangkok Airways, Thai Airways including C-130 plane of Royal Thai Air Force. The key issue was that the patients did not want to move as they knew that they would be safe here with fine treatment plus they wanted to wait for their families and relatives. There were only five persons who were willing to relocate in the first group. Finally we had to resolve the problem by having volunteers and translators to explain the necessity in relocating until the patients gradually went out of the hospital to wait for the plane at Phuket International Airport. The first day we were able to relocate 80-90 patients in which the number had been somewhat decreased. However, it had been increasing again.

International Patient Service Department had contacted consuls and embassies of different countries to report the problem and take action to pick up their citizens back to their home countries in which the result was very effective. Sweden, Germany, France had sent their medical teams for additional supports as well as the planes to evacuate the patients from the hospital. The critical issue was the shortage of transportation.
compared to the number of patients, to transfer from the hospital to the airport since there were only six ambulances available. Therefore all the vans from the volunteers including the truck had been borrowed for this execution.

The situation after the first 72 hours had been improving. Though there were incoming patients but there also were outgoing patients transferring to the hospitals in Bangkok such as Bangkok Hospital, Samitivej Hospital and many others.

In the morning of 29th December 2004, the medical team was very exhausted from visiting the Tsunami patients around 80 people especially the new group that had just admitted from last night. The issues that had affected the overall physical condition was dehydrating, lacking of nutrition, feve, lung infection, wound infection and nasal infection. However, the most common and critical problem was the wound. Some patients had got more than ten wounds, some got the wound that had deep and wide cut, some had wound and broken bones. All these patients had hope that the hospital would be able to take care and solve all their problems quickly. Another issue found was the mental health problem from the pressure caused by the severe and sudden incident.

We had a meeting among all the physician team on Wednesday to exchange the information and opinion and had learned more about the particular feature of the Tsunami wound in which the wound was infected from gram negative that the result could be confirmed thru the lab. One patient in Phuket that the legs were cut off due to not be able to control the infection of the wound. There was a recommendation to have all medics use the same kind of antibiotic that were Clindamycin and Ciprofloxacin. Since these two kinds of medicine were very strong enough to control those two aforementioned types of germs effectively. Therefore, the focus of the goal after that day was that every infected wound, first time debridement must be done by the surgeon only in the surgery room. And after that the surgeon must follow up the wounds continuously until being confident that the wounds were clean enough. Nevertheless the wound must not be stitched until having full confidence level that they would be not more infection at all.

To respond to this policy, on that day the surgery
room had been utilized in giving the debriding wound care service for the badly injured wounds that general anesthesia had be used. This type of the wound debridement could not be performed in the patient ward as the patient would feel very painful.

After the debridement had been though successfully, The bigger task had to be followed through which meant the debridement for every patients two twice a day. During that time, all nurses in patient care department had been highly exhausted from handling the huge number of patients for many days and were not able to cope with such a big job. Therefore, a debridring wound care specialist team was set up in which the nurse and nurse assistant from out-patient department, delivery section, and officers from dental department together with the plastic surgeon team, had contributing their support for the mission admirably. The number of the patients each day was no less than 40 - 50 people and each patient had more than 3 - 4 wounds. The special team had executed the plan very smoothly.

Lesson Learned from the Situation:

1. This was the disaster that had caused a massive number of the injured and the dead which the hospitals within the affected areas had to cope with the biggest responsibilities they had never experienced before. Fortunately, it was only a single incident and did not cause larger additional number of patients that the hospitals were not be able to handle.

2. Lack of Knowledge in Management - From the incident we were not able to provide effective on-site medical service for the patient. As a result, an excessive number of victims had to come over to the hospital.

3. Excessive use of via cell phone caused signal breakdown, but it was discovered that SMS could still be effective. Internet and internet line were good and walky-talky was effective but got very limited number at that time.

4. As the wounds were dirty with all kinds of dirt from the sea, it had caused rapid infection. In planning for infection control, the wound debridement must be performed in the surgery room in which we were short of the facility and the personnel.

5. Evacuation was the key issue for both vehicles and planes due to lack of
experience and understanding in evacuating the patient out of the field in order to reduce number of patients and providing space for new patients. This problem happened with every hospital.

6. Providing services for other victims that had not been injured apart from those injured victims. Hospital should be prepared and allocated resources for this group as well.

7. Building network among the hospital groups would be helpful in sending backup team in time.

8. Providing full service even though we were a private hospital. Management of the hospital had ordered to give full support in providing medical service regardless of expenses. It had allowed the team to be able to fully work effective as every staff member wished to save the lives of the patients as much as they could.

9. We were lack of management as a big picture at provincial level between all government and private hospital. Though the hospital had given good services, but it would give much more impact to the overall service thru good management and coordination of the available resources at a provincial level.

10. Confusion and uncleanness in decision making of the departments both internal and external the hospital had caused the problem in execution.

Dr. Piyasakol Sakolsattayatorn
Dean - Faculty of Medicine Siriraj Hospital

The medical team from Siriraj Hospital, led by Dr. Piyasakol Sakolsattayatorn, Dean - Faculty of Medicine Siriraj Hospital, with a team of 41 people to rescue the victims at Takuapa district, Phang Nga province, the most severely affected with highest number of the dead victims. Dr. Piyasakil had revealed to over one hundred of physicians, nurses and officers from Siriraj Hospital in a public talk under the topic of “Siriraj and Southern Disaster” at Siammintara building, Siriraj Hospital, about that 4-day important mission in his life that:

“We realized that we certainly must be going to the south for as a backup support. We set off from Bangkok in a plane which looked very similar to the plane that
was used in the world war II. After arriving at Phuket airport, everyone had no idea where to go. Finally we were sent to Takuapa, Phang Nga district where was the worst damaged area. We were also accompanied by a group of the physicians from Ayudhya. When we had arrived the hospital, I thought that there was a festival going on, as it was so packed with people, vehicles and many tents. At that time, the most updated information we had was that all the hospital beds were fully utilized. Therefore, we started to delegate the tasks by sending the young physicians to the surgery room immediately”, told Dr. Piyasakol.

“At that circumstance, the hospital was crowded with both foreigners and Thais. There were so many patients who got infected. All the wounds were swollen, even with the minor cuts and the patients had high fever. Some had lost their family members. It was terrible. Some foreigners were complaining because there were cockroaches running on the floor around the sleeping area. It was dirty and unbearable. Every wound was infected and filled with pus. Some Thai patients had only small scratches but sand and mud got into their lung resulting losing their lives as a consequence regardless the quality of the surgeon.”

Dr. Piyasakol stated that the surgery team needed to perform surgery very quickly, otherwise many patients might not be survived.

“When we reached there, I ordered that everyone must work until dawn. Some surgeons had called me “Hell Factory Manager”, as I did not allow any of the surgeon team to take a rest otherwise the patients would die. The surgery must be done fast or else the legs must be cut off even with a very tiny wound. Some people had worn the ring and could not take out so the ring cutting was as well in the process.” The dean of Siriraj Hospital had explained about the circumstance that had happened with the victims which was very depressing.
"Think about it. If we had not get it done tonight, when we were going to do it. Some had very little wound but the sand had permeated inside with the speed of the water current at 500 km. per hour. Consequently the wound would be easily infected. The situation was happening unbelievably quickly. Therefore, the wound debridement had to be done immediately for everyone. 70 - 80 patients were foreigners, when I witnessed the situation, I had cried as I understood their feeling. Some could not communicate and understand us at all, some could not speak English for instance, those who were from Finland, Austria, Germany, Norway and Sweden. Some of them had lost their husband and child and was still in shock and crying all the time. We had to console them until they were getting calm."

Dr. Piyasakol had to find the way to help those patients to feel relaxed and more comfortable in which was very hard to do. At the initial stage I had promised them that they would certainly get a chance to go back to Bangkok, in which had made the patients feel more relieved. Then I had contacted with Minister of Public Health to find a plane to evacuate them back to Bangkok. As well I had informed the Permanent Secretary of MOPH that he did not have to worry about anything except ensuring that the international patients could get back to Bangkok and arranging airport transfer to any hospitals. It would be saving their lives a great deal.

Dr. Piyasakol had left a final note that even though we had never experienced this kind of natural disaster before, resulting some problems occurring e.g. corpse management, however when we thought about the power of unity and support from all Thai people, it was considered that we had done an excellent job. There was a full support from universities, hospitals from all over country that had contributed their support in this mission.

While Ms. Kobkul Sitthichai, a nurse from Siriraj Hospital who had accompanied along with the medical team told us that the primary treatment for the patients was very critical. Siriraj nurses had been divided into various teams for instance: a team to help with the medical handling equipment for the surgeon at the surgery room and at the patient ward. When we first arrived, there was only one standby nurse at the ward, therefore our team immediately took over and managed everything including cleanliness, taking care of the patients, wiping feces and urine, providing meals, cleaning the bodies, wound debridement, including giving encouragement and consolation to the patients in which at that time mental health condition of the patients was very low.
Associate Professor Dr. Pongraksa Sribunditmongkol
Department of Forensic Science - Faculty of Medicine, Chiangmai University

After receiving the news about the disastrous waves incident in south of Thailand on 26th December 2004, and later on the next morning that there were many hundreds and might be up to thousands of dead victims that had caused by this incident who were both Thai and international tourists including the local residents. According to the law, this kind of death required autopsy including identification work to ensure accuracy before returning the bodies to the relatives or families. The number of the corpses was increasing up to thousands which had made me realize that the number of the existing manpower in the field would not be able to proceed with all the necessary tasks and I needed to mobilize the forensic pathologists all over Thailand or around 70 people to support at the field.

As this kind of disaster had never happened before, there was no execution plan for such an operation. As soon as we heard the news, we a team of forensic pathologists were alert and ready to help. On that day we were only discussed among ourselves but had no idea how to coordinate and send our support as we could not contact our friends in the affected area at all. Until 26th December, Department of Forensic Science - Chiangmai University, had been contacted from administration center of MOPH requesting for a forensic pathologist team to assist in autopsy for the dead victims. I had immediately volunteered with a group of district physicians and district officers.

We had prepared ourselves and packed in an hour. Professors and officers at the faculty who did not come with us had also helped in packing the necessary medical equipments and supplies as much as we could. That event had shown the spirit of the faculty staff in trying to help as they could to send their team for a rescue mission in the south.

We were the first group which consisted of one professor who was myself as a team leader with five physicians and one undertaker, had took a trip, sponsored by Nok Air, from Chiangmai at three p.m. and arrived Phuket around 8 p.m. of 26th December 2004. After observing the situation at the Wachira-Phuket Hospital, we discovered that number of the dead in Phang Nga was over thousands people. Therefore, we decided to go to Phang Nga the next morning. This trip, as a leader of Chiangmai team, I admitted it had never
been this pressured in my working life as I had no idea of what to encounter and what to do.

In the morning of 29th December 2004, we set off in an early morning from Phuket to Phang Nga. After realizing that most corpses had been kept at Takuapa district, we then move forward to Takuapa and headed to Yan Yao temple. Once we got informed from the provincial center that a Tsunami victim support center at Ban Bangnieng area would be set up and needed a forensic pathologist team to perform an autopsy at that area, again we moved to Kao Lak area in Ban Bangnieng. Our first sight was that the damaged road and wrecked houses along the way. We saw so many foundation trucks that had filled with corpses. It made me feel very depressed. We had accidentally reached a resting area at Ban Bangnieng without knowing that we had already reached the operation station as the area was just a bare space near the wreckages. Then I had seen a sheriff who was preparing to set up the Tsunami victim support center where on the other side of the road there were around 30 corpses waiting for autopsy. Soon after that, the corpses had been carried over constantly and countless.

We were watching at the location and figuring out the investigation plan before starting our work whereby the volunteers from Portecktung Foundation had helped us move the corpse. There were a few navies and officials from Minitry of Agriculture and Cooperatives, who were to drive a fridge container to keep the body, had come to help us finally. We started to investigate the corpses around 10 a.m. The weather on that day was not too hot, there was no umbrella nor tent for the autopsy work at all. We had to work in the middle of the sun. There was only a small tent that was utilized for keeping the stuff and resting area. In the afternoon, we requested the provincial health office to provide more tents for us for more convenience with a hope that it would help us work faster. We had been investigating the corpse as well as acting as contact persons for the relatives. There was no police nor administration officer to assist at all in which was understandable as every section had been busy during the crisis.

We had worked until late at night. There was no light except an electric generator to generate the light which at least helped us to work through until 7 p.m. before returning back to Takuapa. We had discussed a planning with more effective approach for the next morning. As the number of the corpse were so excessive and countless, the
provincial physicians had helped print the photos from the digital camera and posted on cardboard for the relatives to check on instead of checking directly against the corpses which could be quite dispirited.

On 30th December 2004, we had Dr. Manoch and other physicians to backup our team. The work today had been more systemized. The role of the team members had been divided clearly: investigating team, coordinating with the relatives and families and coordinating with the other departments. We had started our work since early morning until afternoon. And we had two more additional tents that would help with us a lot. During the operation in the heat, somebody had shouted that "Tsunami", the searching teams both Thai and international had run up from the beach immediately whereby it was around one km. away from the center. We, including the navy team and official team, had run up to the nearby hill.

Before realizing that there was no Tsunami, we had already run away for many kilometers. Even though there was no disaster happening again in Kao Lak on that day, we had found an after shock with a vibration level of five Richter scale. I, myself, as a Chiangmai team leader, was responsible for another nine lives, had decided to close the autopsy center at Ban Bangnieng since I did not know if it would be another catastrophe at that area again and that point was too close to the sea. As per the safety guides (which I just had realized later), we should not perform the tasks at the risky point of the disaster. We had returned to Takuapa in that evening and brought along all the information and possessions of the corpses to submit to the center in Yan Yao temple. Some of the provincial physicians had stayed to help collecting samples for DNA check at Yan Yao temple. The rest of the team had returned to Phuket to take a plane back to Chiangmai to work in the next morning. I had always thought of what else I could be of help in the Tsunami corpse management. One thing that I had been proud of was to be part of Tsunami supporting team. If I, as a forensic pathologist, had not been there for help at all, I would not be able to die in peace.

When I had come back for work in Chiangmai, I had still received contact from various sections that I had dealt with the corpses investigation before, including a contact from Dr. Supachai Kunaratanaapruk, Deputy Permanent Secretary of MOPH, who had requested me for help at that time. As there was a problem about corpse management
between local and international team. I managed to go to Phang Nga again with Professor Dr. Jaturong on the 3rd January 2005. During the confusion in corpse management, the government had set up the Thai Tsunami Victim Identification (TTVI) that had agreed on the protocols between Thai and international team to equate the treatment of all corpses regardless of nationality.

As a Thai Forensic Pathologist, I thought that we should take a serious part in TTVI mission. And with a request from the Deputy Permanent Secretary, to involve in the mission with the foreigners to learn and to protect the right of Thai people, I had decided to take this responsibility from the Deputy Permanent Secretary to act as a coordinator of Thai party in organizing the professional team to execute in TTVI mission.

During almost one month since 25th January until 20th February, Prof. Manoch and I had rotated to be a coordinator in Phuket in order to find the Thai experts in various areas: forensic science, dentistry. Science specialized in DNA checked, to rotate working with the international DVI team as well as to attend meetings with TTVI team, in which consisted of representative from Thai police and representative from international countries. It was a good chance to open perspectives of many Thai academics to learn more in an international level. At the same time the foreigners could also learn more about Thai forensic scientific work. I had considered that it was a precious experience and had brought utmost pride for the us as the Thai Forensic Pathologist team.
Chapter 6
A Reflection... from Mass Media
Kitti Singhapat
Assistant News Editor of iTV Television Station

I admitted that during the Tsunami incident, all news channels had focused on trying to find any interesting angles to report to audiences in the country. TV media had played an important role to pursue the situation and to report every movement of the circumstance and as a result all Thai people all in the country had been updated the latest situation equally.

As I had mentioned earlier, the TV media had its distinction that other mass media did not have. In time of the disastrous crisis of the earthquake, it had allowed the TV media to stand out among other media in which I was playing as a supporting part only.

Before taking off around 8 a.m., the earthquake was already happening in Sumatra island. I, who was at Hat Yai airport at that time, did not feel any effect at all, on a contrary, those who lived in high-rised buildings in Hat Yai city were escaping chaotically including the Hot News team.

I had soon after realized that there was an earthquake when I arrived Don
Muang airport around 10 a.m. By the time I was sitting in a taxi to return home, the news from the radio station was reporting that there was a severe earthquake in Sumatra. At that moment, there was no “Tsunami” warning in the news report at all, meaning every news unit had not been anticipating for the incident. If I had arrived later than this, I must have heard about the Tsunami and had changed the destination from Bangkok to either Krabi or Phuket definitely.

The time when I had discovered about the Tsunami was around 11 a.m. when Khun Alongkorn Muandao had called to discuss if the Sky News representatives should be sent over to the south since the wave had already smashed the coastlines in many provinces so far and had caused so many dead victims.

Since it was on weekend and I had just returned from the upcountry as well as, I admitted that, I had never thought that it would be such gigantic waves that had caused such serious damage; I was still steady and calm. I had dropped by the station in that late afternoon. Earlier iTV had started to report the circumstance from the field sporadically. Soon after the evening news, I was in charge to report the news straight to midnight. Our principle was that in the night of the incident, we had to report to news in order to secure the safety of the people. Yet during the beginning the incident, there was a difficulty in sending the information from the field due to the telephone system breakdown. Fortunately, iTV had a live broadcast van that we was used to broadcast the news of southern situation in Pattani. We had then moved to Andaman coastline straight away.

A team of Montri Udomponse, therefore, was the first team that had broadcasted live from Krabi since the night of 26th December 2004. iTV could capture the most recent photos from the helicopter. The navies had evacuated the injured victims to Phi Phi island while the rest of the victims were still blubbering in the middle of the darkness on Phi Phi Island. Honestly, that was the first event that iTV had earned its popularity. Firstly taking charge, was always our strategy, to gain the engagement from the audience.

In the morning of 27th December, I had arrived Phuket. The atmosphere was lonely in which I could not be in contact with anybody as the mobile signal was down. I went to the town to evaluate the circumstance at the city hall that at that
time it had already become the international supporting center. Everything was in a chaos. The tourists, who were wearing the same old clothes as the other day, had continuously shown up. After taking into consideration, I did not think it would the place that I should standby for an observation. I had called the station via a public phone and received confirmation from the editor that Khao Lak was the most severely affected area and the number of the dead victims was the highest, I decided to head to Khao Lak right away.

I had witnessed the first damaged in old Khao Lak areas nearby Merlin Khao Lak hotel. According to my instinct, I rushed to report the new thinking that it was the worst ruining spot. We must not forget that according to the yesterday news, the damage in Khao Lak had slightly been reported. I admitted that the actual damage was much more severe that I had ever imagined.

In reporting the Tsunami disaster news, it was both easy and difficult in a sense that it was easy to find many angles to report to from an extensive areas that had been destroyed and the people who had been directly affected by the incident. The angles of the occurrence that had been captured in the news were the damage itself, the lives of the survivors, the fate of the investor who had encountered the unanticipated catastrophe and so forth.

On the other hand, of course there were some obstacles along the way. Apart from a limitation of resources like a reporting team including the circumstance in the field, overwhelming information in the contents could cause some chaos since we were expected to report everything. Bangkok station had requested us to report the progress as often as possible. Thorough understanding of the situation could help a great deal. And based on our principle, of course, we focused on reporting the information that could lead to all the forms of supports. My very first piece of the Tsunami news was the exploration of the damage along Khao Lak shore. The documents of the victims were shown as the evidence to lead to the dead victim search by the relatives and families. Picture of the difficulties in body retrieval activity of the dead victims had been captured. Even though it was on the second day, but the corpses had still been scattered everywhere.

On my second day in Takuapa or the third day after the disastrous waves,
some villagers had told me to visit Koh Khao island since it was as well badly destroyed. I decided to take a boat there. At that time, even the local villagers had doubted the steadiness of the sea. I asked a photographer to capture the scene along the way to show the real circumstance without editing the picture, showing all the wreckages and damage happening to the island. Unbelievably, apart from some photographers that had taken the high angle photos in a helicopter, there was no reporter accessed into that island at all. Lucky enough, I had met a villager who found a wallet of a suspect dead victim. While he was showing us the ID of the victim and I was reading the name live broadcasting, at that moment the victim’s relative was watching the news. Then he called to inform iTV that the dead victim was his relative who went to work in that island.

This was a small example from the site. From then, I was trying to constantly search different areas that had not yet been received any support. We found that the government officials were following up the news through our report and providing support according to the requests thru the media from time to time.

There was one time while setting our station at Ban Namkem pier, a villager saw a hand in a wrecked house. I had quickly followed him into that place. The hand was red as if the victim was still alive, unfortunately, she had already died. Anyway, it was not a total failure as we found a pig was stuck inside, so we saved it finally. It was a little happiness we experienced in the middle of the tragedy. The very impressive experience during the victim search was the operation at Bamboo Orchid Resort.

This was the live broadcast in which was a highlight of my team and me at Takuapa. The incident at that night had almost become a history of the Tsunami disaster. Started from the night of 29th December 2004 or the third night after Tsunami, I had broadcasted live and finished around 10:30 p.m. By the end of my report, we were informed that there might be victim survivors in a building of Bamboo Orchid Resort at Pakarang peninsula. At that time some of the official team had already moved to the site including a German rescue team and the administration team had asked us to move the broadcast station urgently to closely pursue the searching operation until reaching a discovery the result.

We had slowly moved to the Bamboo Orchid Resort at Pakarang peninsula
that was quite a distance from Takuapa, our latest station, as our journey was in the middle of the darkness. The road heading to the resort was destroyed from the waves. We reached there around 11 p.m. At the site the officers and volunteers were carefully working by using a macro truck to clear the road. The German team had used their modern searching equipments with the assistance of K-9 police dogs to help searching the victims. With a huge spot light, it had allowed the working process to become easier.

ITV live broadcast van was not able to get very close of the searching area. Though I had pulled the wire at the longest, I was still 100 meters away from the searching site. Anyway, soon enough, we were ready to broadcast live again. The newsroom in Bangkok had cut the picture to the site for the live broadcast. It was one of the most exciting moments in my life, and so for the searching team and the audience who were following the news. The commander for this mission was Mr. Suwit Kunkitti, Minister of Natural Resources and Environment.

As I was away from the searching point, we had appointed another team who was Kanit Boonyapanich and Panya Nankatoke, to stick with the situation on the site and to report back via a walky-talky. So the audience would also hear the conversation between the reporter at the searching area and myself.

The exciting moment happened every time when the dogs started to execute their mission and the German officials had translated the result from the search of the dogs and I had to describe the situation along the way.

During the search, there was a rotation between hope and despair periodically. Actually, the background from this searching mission started from a group of villagers who had tried to search their own relatives around the area. While reaching this resort, they had shouted along the way hoped to find their loved ones. Then they had heard the knocking sound as if that person was not able to respond back by talking. When the foundation volunteers had arrived, they had as well heard the same sound.

The search kept continued, and so were we, in pursuing the progress. In some period that the station had to report some other news, the small screen was arranged to report a continuous progress of the news for the audience.
The searching team announced the end of the operation at almost 2 a.m. when there was no more sign of the survivors any more. Therefore, I had to end the live broadcast in the middle of disappointment of the audience who had been attaching with the searching operation. There was one person from America who had called iTV to address her disagreement of the search end as it could be too late to wait for the next morning if there were still survivors stuck inside the building.

This was one of the most exciting assignments in my life. The next morning we had continued reporting the progress of the search again. Finally we found no survivor except a great number of dead victims around that area.

The live reporting at that night was a good exercise that had reflected the meaning and how the true live broadcasting should be performed. There were many pieces of live reporting on TV that were not considered completely done as from the fact that there were only the reporters at the sight that were reporting live but the content and pictures had been recorded in advance.

In real live reporting, the content and pictures should be fresh from the site whereby the audience could witness the situation at the same time as what was really happening. It would be always exciting as you have never known what was going to happen.

Therefore, we had always seen the international media that the reporters had sacrificed their time during life reporting to help in the cats or dogs search when they were in danger.

The Success of Reporting the Tsunami News

Though overall TV media were widely criticized at the beginning of the incident, due to its delay in updating the circumstance as much as the limited effort in continuous report of the progress as much as it should be, on a contrary, again that iTV was tremendously recognized based on the highest popularity rating in the history of iTV during the first few days of The Tsunami.

Of course, the success had not been earned over night. Actually we had not yet had a complete official natural disaster tactical plan as similar as in the
foreign countries, but the iTV news team had passed the test of reporting the smaller scale disaster many times. Therefore, we had always had a lot of teams who were familiar in field work. The earlier investment in Sky News had paid its price from this incident as we had become the favorite team in the audience’s perception that we would be able to report whatever and whenever emergency in time. This had always engaged the audients to stick with us.

Here was a key summary of the internal execution plan:

1. The Live Reporting must be a fast track operation with fresh information. The backup team must be sent very quickly with sufficient number of manpower and equipments. The key success was to be the first to start and last to stop.

2. The decision in changing the program to be the special continuous report of the Tsunami incident, even though with a slight delay, still was the first channel that provided the updated report and with continuity. During the unusual situation, the decision from the management of the station was critical. iTV was lucky to have the president of the company (Khun Niwatthamrong Boonsongpaisam) who had personally given the direction since the beginning.

3. Internal Support and Manpower Management - especially in taking
charge in announcing the station to be a donation center as well as acting as a center for any help wanted thru “Ruam Mue Ruam Jai” (hand in hand and heart with heart) TV program was one of the key success.

As the donation and support mobilization from all the media was not our main responsibility, there were many people had often asked us that why we had to do that.

Though our main responsibility was not to manage the donation, but nothing could reach the public as effective as the media. Lately in the modern world of TV media, whenever there was a catastrophe happened, the media especially TV media would be an organization that had an important role in mobilizing support in the time of crisis.

While the communication system had broken down, everyone who had to do the job in the field had limitation, one year after the Tsunami incident, I attended an international conference of Philanthropy in Disaster in Phuket. Media representatives from many Tsunami affected countries had confirmed that the media in different countries now had become a center of donation as well.

Furthermore, we as well had become a center of community support in which had opened chances for people to send mental support and encouragement for each other thru SMS. The income from SMS service had been collected as a donation to the Tsunami victims.

Though what had happened in the past was not the best we could do due to many limitations, but what we had achieved was considered satisfactory as everyone in the team had contributed their full efforts. However, from now on we have to develop our own emergency plan like other international news station that whenever there was a natural disaster, they would know exactly what and how to handle.

Lastly, what I would like to mentioned was the knowledge in which was the responsibility of TV stations to report the news periodically to update the progress of the situation as well as providing knowledge related to the Tsunami. That included providing all kinds of information about natural disaster to the audience
with regular report even in a normal circumstance otherwise it could be too late when the incident happened again.

From the angle of TV media and the role of MOPH, even though this was the first time that we all had no experience with, but we had done quite a good job. In those developing countries when there was a natural disaster, there were a few problems such as sanitation, epidemic diseases or diarrhea but we had never had those problems. We should give some credit to Thai Ministry of Public Health that had handled and got good execution plan. The cleanliness of the water and diseases prevention was in good control. It was an indicator of the effectiveness of the operation, in consequent, it had received widely recognition from many countries. Even a developing country like America, when it was a hurricane occurring, there were many dead victims scattered around or terrible smell of urine but we did not see that in Thailand.

In overall picture, there were a few problems occurred and dead victim identification process had been quite difficult as the number of the dead was over thousand people. I thought Thai public health organization was no inferior to other countries but in addition, special characteristic of Thai people which was the kindness and unity that in whatever crisis, we would sacrifice our full support that would bring an improving result at the end.

Pattara Khumphitak,
President of the Thai Journalists Association
Editor of ‘Post Today’ Newspaper

From the disastrous Tsunami waves that had happened in Thailand, I had to admit that mass media had played an important role in reporting the situation through the newspaper. The news and photos from the incident had captured attention of the public widely. The incident had been printed on the front page for over one month which meant that the media had constantly gathered the updated daily progress of the incident regarding support from the
government, private sectors, foundations, international organizations and the support contributed from various medical teams and overall damages and losses. All these aspects had been reported in various angles from both Thai and international news journalists among all kinds of difficulty and tears from the survivors that had lost everything.

As the Tsunami waves had never happened in Thailand before, I had to admit that the mass media in Thailand had not been prepared to handle that kind of catastrophe. With such severe incident and tremendous damages, the experience that mass media had encountered would be embedded in our memory forever. In the past, I had experienced in reporting the news about political war, political protest, and flood. But with the Tsunami incident, it was many times more severe. The violence of the waves was as if it was an explosion in the sea. As from inexperience of the media without realizing that it would be such tragic, therefore at the early stage, some media did not pay much attention as much as it should be.

At first, we could see that the newspaper media had tried to adapt the way in reporting the news. Some newspapers took a few days before sending their team to the site to attach with the situation and followed up the update on corpses searching, injured victims support as well as supports from both government and private sectors. All these issues had captured great attention of the public. This event had given a great lesson to Thai society. International media had paid a lot of attention to the Tsunami in Thailand as we had been a center of tourism and there was a massive number of foreigners who had been injured and dead. The disaster had deteriorated our social stability, economic, politics and government management infrastructure. The mass media were responsible in reflecting these problems to the society in order to reach the solutions at the end.

The journalists had paid an interest to the work of the Ministry of Public Health a great deal. There were many aspects of their works that had captured attention from the public. In providing support from the medical team, nurses and the public health officers, there were many interesting aspects to report about as there were so many victims who had been injured, dead and lost their possessions.
The Tsunami had left Thai and world society a refection to realize a social cost that we had to look into and take care of.

We could say that even the government sector had had no experience in handling such severe damages. Though there was a structure that the government had been established somewhat, but when it had come to the real situation there was a communication breakdown or an issue about the corpse management. Fortunately that Thai society had always been helping one another. Therefore, when there were problems happening, everything could be resolved smoothly thru kindness and sacrifice of Thai people. Whenever there was a request for support, there would always be somebody to help, for instance, whenever there was a shortage of wight clothes or caskets or clothes, huge donation of those items had been sent as a support. This was a special quality in Thai society that was why the problems had been resolved quickly.

There were many samples of the problem resolution in the field. For example, many hospitals had managed to the critical situation very well. Crisis management was only a concern but we need to build a knowledge based management among ourselves to be able to provide information when the problems occurred. We should develop our networking and educational system among central, provincial and district levels so that everyone would be able to tackle whenever this kind of incident ever happened. As there was not only the natural circumstances that could be unpredictable but all kinds of violence and severity from diseases such as bird flu, war, terrorist problem that we needed to be prepared. This was a warning to us all that anything could happen.

In my perspective, I would like to suggest MOPH to gather the knowledge and field experiences for further development. Even the hospitals that had already resolved the problems from the crisis, the knowledge should be shared to the public. The knowledge center for further studies should be set up as well as to educate and provide the information to the public e.g. the dental history must be kept as it could be used in an emergency proof. We needed to pay more attention to this and make it happen in our society as well as to establish a network to exchange knowledge with other countries. We could not just do
nothing and let our knowledge and experiences disappeared as time went by.

The work of MOPH team was considered quite satisfactory that the dead victims could be identified and managed though there might be some problems in the beginning but problem had been properly solved at a fine level. The mobilization of the medical team, Dental Association and Ministry of Public Health had taken immediate action to go into the field for the dead victim identification under great pressure. From this, I would like to develop our educational system and gather all the data to set up knowledge management center. Or in case of those victims with mental health problem from the loss. I would like to see a lot of studies and researches regarding how the problem had been resolved, recovery system and methods and so forth with periodical follow-up and then be publicized for the public. It would reflect the capability in solving the problem clearly. The mass media were ready to support in order to see it happen. Those who had the mental health problem should address the recommended cases to study further as the mental health problems are not the job on MOPH alone but every sector in the society to reach the best result.

When the problem had been occurred and resolved successfully, those experiences can be used as a benchmark to prepare and to prevent from any possible violent incident and might happen in the future. MOPH, provincial and district health offices with the media should establish the knowledge base management to work together. Anything that should educate our citizen, anything that should be summarized for solution or anything that needed to be invested for further execution, they must be executed soon. If we just let the time passed by, there would be no whatsoever benefit at all.
Chapter 7

A Reflection...from the Foundations
Wannida Choolleekorn  
Manager - "Poh Teck Tung" Foundation

I had never anticipated such a disastrous incident that had caused the death of so many lives. The rescue team had urgently reported that there were so many people had died and the corpses were scattered around everywhere. So I had directed to have the team get ready to go to the site for the rescue mission whereby four vans including boat as the incident happened at the Andaman coastline and most importantly was the caskets and additional pieces of woods, before setting in haste.

Apart from the rescue missing, our public relation department had also come over to provide any possible support. If there was any victim found dead, the foundation would immediately contribute 5,000 baht per corpse for the family. The foundation had paid the money to those verified relatives or family members for many millions baht. After the fundamental issue had been handled, a few days later when the corpses become swollen, we had helped loading the bodies into the caskets. As we had brought along our craftsman casket makers, we were able to build the extra-sized caskets on the site for the foreigners whose size was larger. To do that, we had to modify two caskets into one in order to fit the size.

The foundation had also had our alliance with Huachiew General Hospital and Huachiew Chaleemprakiet University in which a team of physicians, nurses and volunteers had accompanied us to Takuapa Hospital, Phang Nga district. It was out principles and policies to execute this kind of support to the public. While we were searching and evacuating the victims, we saw the relatives of the dead victims cried in big pain. Some volunteered students were in deep pressure and could not eat. However, I had allowed them leave if they wanted but they wanted to move forward in contributing their help. It was a scary and tragic incident for the witnesses that they would remember this circumstance for a long time.

The main responsibilities of the foundation were to retrieve the corpse and evacuating the injured victim to the hospital. Then the medical team from Huachiew Hospital would send their team to assist at Takuapa Hospital. Though some part of the team had returned back, some of our crews had still remained in the field. At the same time we had coordinating with the foundation teams in 14 provinces in the south to
provide support at all times.

As the foundation’s mission was clear in support contributing, there were enormous amount of money and supplies donated to the foundation in which we had transferred them all to the victims. For the supplies, there were so much that we finally were short of storage room. Finally our public relation department had to suggest that financial donation would be more recommended for more convenience factor whereby the money would be used in buying supplies from nearby provinces for the victims.

Mr. Kajornsak Kongin
Rescue Crew - “Pohtecktung” Foundation

On that day, there was an internal football match among the crews of the foundation and then I just got informed from the rescue team manager that there was an earthquake in the south and there were many people had died and many injured. I double checked the news and the Bangkok radio station, the foundation in the south, the mass media and news agencies that had reported the update of the situation. Until 2 p.m., we felt that it was an unusual situation that we needed to send our crew for a backup support. So we had prepared our crew, rescue equipments, tools, boats, diving equipments and other necessary supplies, ambulances as well as food supplies. We set off around 3 p.m. on the day of the incident (26th December 2004)

The first group was sent to Kao Lak, Phang Nga province with 20 crews while another group took off further to Phuket. My team went to Phi Phi island and we reached the pier around 4 a.m. without any knowledge of how to get there yet. At the same time the foundation crews stationed in the southern area were trying to find a boat. In the normal circumstance, there would be regular public ferries and buses, but on that day there were none as they were afraid of the after shock that was suspect to happen at any time thru the news. It took us a long time to get to the agreement that they would take us there.

The first sight we had once anchoring at the pier was that all over the island was filled with garbage and there were many wounded survivors of both
Thai and foreigners waiting all over the pier. The survivors had both slightly and severely injured. They all wanted to go back to the main land but there was no boat service. I felt very sorry for them. The beach was filled with corpses everywhere. At that time I couldn't describe how my feeling was with the tragedy. From the most beautiful island like paradise had turned to become a living hell. There were so many that I did not know how to describe it.

When I got on the island, as there were many injured, the crews and I had provided a first-aid treatment on the site. At that time, the number of the patients was no less than 200 people. At the beginning stage, I had to relocate the injured onto the helicopters but as we did not have the proper transferring equipments, we turned anything we could find into the patient beds such as the door and mattress. Some of the patients were badly injured so this process needed to be very careful because they could be crippled if we did not do the right job so we needed a hard piece of wood to support the body.

The helicopters kept transferring the patients back and forth all the time, like a public transportation. For the foreign patients, I had the tour guides to help in communication. The time went by very quickly and it took us almost a day just only provided the primary healthcare for the victims. At around 3 or 4 p.m. we had to get back because the current of the tide would be lower and it would be inconvenient for the boat riders. As in Phi Phi we did not have much time that's why we had do all the work very quickly.

Challenges found in a rescue and corpse retrieval was not the operation in the sea but in the wrecked building as we had to remove the wreckage to be able to move the bodies out, by using the heavy equipments from the military unit. The interesting case was in Phuket that at the basement of the building was a karaoke room, I had to dive to retrieve the body. Or the case of a Thai boxing stadium in Phi Phi island that the metal roof had collapsed, it took us days to retrieve the bodies.

With this kind of job together with the rescue team, I had been working with the twelve years and this incident was the hardest. Even those who had worked in this field longer than me, had confirmed that this was the top of the
top of the rescue mission.

Somsak Palawat
Manager - A Manager of “Ruamkatanyu” Foundation

The foundation had received an information about the earthquake around 11 a.m. (26th December 2004) as well as there was a news report from TV. Then Narethorn Center by MOPH had contacted the foundation that the confirmed affected areas were in six provinces along Andaman coastline. Then I was trying to check the number of the missing persons, and fortunately one of our crew members had a family living in Takuapa, therefore we got informed that there were some missing people at Namkern village, actually the whole village was smashed and wiped out. Khao Lak and Bangnieng were as well badly damaged.

I rushed to help immediately with the first team of 48 people with rescue equipment, supplies and ambulances and had left Bangkok around 2 p.m. We had arrived around midnight.

In my whole life I had never witnessed any situation that was as devastating as this time.

In my past experience, I used to be in a rescue team in airplane crash like the plane crash from Lauda Air or Vietnam Airline. I thought I had seen everything, but when I witnessed the affect of the Tsunami waves I was stunned. In the beginning we were not able to go to the site so around 4 a.m. we had to wait at Yan Yao temple. Until around 4 p.m. something, there was a report stated that there were foreigners stuck on the mountain in Ban Bangnieng, so we went to evacuate them. From a conversation with some villagers, around 40 - 50 foreigners had escaped to the mountain. The rescue team and I tried to climb up and we had seen many children and adults, some had only underpants on, some had no pants, shoes or even no clothes on. Some got broken arms and legs where we had carried them down. For those who could walk, we let them wear our shoes or walked over the clothes that we had brought along as the road down the hill was quite rocky. We had finally sent them off to the Kakuapa Hospital.
On the second day of work (27th December 2004) around 7 a.m., after we had evacuated the victims we continued our mission further. Unbelievably, there were many corpses scattered everywhere along and on the road. We managed to have pieces of white clothes to wrap the bodies and put them at the side of the road. During the operation, it was quite confusing because while we were collecting the dead bodies, we had to rescue the injured victims as well. At the same time, we had to be very careful as there was a rumor that there might be an after-shock incident any time soon. However, we did our best and on that day our team was able to collect 200 bodies. Then we had transferred the corpses to Yan Yao temple and the rest had been sent to Bangmuang temple due to limitation of the capacity. The next processes were left to the responsibility of the pathologist to investigate.

I really admired the work from many physician and nurses especially MOPH that had taken a big role to provide the medical support. The medical teams had played a major role in providing medical treatment and taken care of the patients. And after the incident, a team of psychiatrist had blended in with the
villagers in the community and talked with the relatives of the victims. Sometime I didn’t even realized that those were the psychiatrists and psychologists team as when there was anybody cried, they would approach and talked to them with encouragement genuinely. Initially I thought they were relatives but later on I just realized that they were the psychiatrist.

My team and I had searched the corpses that were stuck in the wrecked buildings for 15 days before the mission had completed. According our working process, no matter where the corpses were located, what kind of clothes or jewelry they were wearing, all the information and evidence items must be collected as well as photo. This was to help the pathologist team to work easier. Apart from the rescue and the evacuation mission, the foundation had as well provided the support in donation. On the first day, I had prepared medical supplies and dry foods such as preserved vegetable, instant noodles, canned fish and salt to donate to the victims. At this hour, all these items were very important. Later the central administration of the foundation had sent more donated supplies over to the site regularly as there were many people that had donated thru this foundation. It was obvious that Thai people had never lack of kindness in their hearts. No matter wherever the victims were, there would be help sending to that place.

If I could go back to the past, I wished the Tsunami would never have happened in Thailand. It was a tragic incident. I had witnessed some people was stuck on the roof, some were in the mud that I felt very sorry for them especially those who had lost their family members including the orphans. The number was not only hundreds but thousands. I prayed that this would be the first and the last time that ever happened to Thailand.
Chapter 7

Closing Summary Key Learning
One year after the Tsunami disaster, Thailand is now at a stage of rehabilitating, summarizing the key learning and developing a future action plan to rescue the natural disaster victims with more efficiency and effectiveness.

The Tsunami disaster had changed the national tactical plan to prepare for encountering the possible future catastrophe that might happen in the future. Thailand is a country that locates in the area that is free from the natural disaster. This valuable lesson is worth learning and remembering at all times. We had learned how to handle the problems and execution the plan efficiently and effectively in saving thousands of lives including the way to reduce the severe damage in time.

1. Leadership in all levels is very important in handling the disaster. In the middle of the Tsunami crisis, Thai Prime Minister and Ministry of Public Health had shown their strong leadership in providing serious support and at all times in which resulted smooth resolution of the problems. As well as the roles and responsibilities of the medical institutes, foundations and thousands of volunteers all over country to rescue the victims regardless of races or religions. The situation would not have been quickly improved without great leadership from the involved parties.

2. Readiness of the service center within the affected area had proved to be the most important thing for supporting the unexpected incident, especially at the beginning period of the rescue. However, in serving a huge number of patients, the organized operation system would help saving many lives of the victims. No matter if Thailand would be the safest place in the world, the systemized public health infrastructure would be very critical in encountering the natural disaster.

3. The need of support providing in time especially the beginning hours of the crisis. Availability of the medical equipments was not sufficient compare to an excessive number of the victims since the facilities of the healthcare units were not designed to accommodate the unusual circumstance. Anyway, special thanks to the network of public health all over country, both government and private sectors, for allocating sufficient support to the field until the crisis had been smoothly resolved.

4. Thailand had its own the epidemic diseases surveillance system since 1970 as well as the Feild Epidemiology Training Program or FETP, supported by WHO and US/CDC. From this training, it had build new epidemiologists every year. This team had
become the important strength of the country in controlling and tackling the diseases like SARS and Avian Flu. With a strong epidemic diseases surveillance system, it was no epidemic going on in Thailand. Therefore it was proven that the strong surveillance had played a major role in preventing and controlling the unexpected epidemic.

5. Local people, volunteers and experts from all over the country including from other countries that had contributed their support in providing food supplies, corpses retrieving, medical support, mental support and activities for improving mental health condition as well as other kinds of activities, had not only given hope and encouragement to the victims but shared the responsibilities from the government as well. All kinds of support had been part of the success of the mission. Cooperation from all levels had made the chaotic situation become surprisingly improving.

What could be Improved....

Nobody could ever forecast accurately that the natural disaster, that had left us with burden of huge costs, would ever happen again. However, we hoped that the lesson upon the loss of the victims' lives, would make us avoid the repeating mistakes in the future. In case of the corpse management, every corpse must be investigated according to the international standards equally and timely with the following guidelines:

1. Corpse Management and Identification - Death was not the end of the suffering especially the sudden death. It had caused even more pain for the families. If the corpse management process and result was not acceptable esp. transferring without a reliable investigation process, it would have caused big problem. From the experience involving the
Tsunami incident, it is necessary that Thailand must set up a DVI Center to develop the team for greater experience together with providing manual and encourage coordination at a national and international level to be prepared for the natural catastrophe that might happened again in the future.

2. Supporting the Cooperation Mechanism - In resolving crisis situation of the natural disaster, there should be various kinds of activities and cooperation from all sides i.e. volunteers, villagers, experts and government officers. Good cooperation mechanism will prevent confusion and conflicts that might happen. In promoting the synergy among all sections, it would strengthen the capability of each sectors with higher effective use of our limited resources. The success of aforementioned mechanism will depend on the innovative way of cooperation from all concerned sectors.

3. Improving Public Health Infrastructure and Public Communication System - In the beginning, it was difficult to detect the data and provide accurate information to the public due to the breakdown of the mobile and communication system including the confusion from that information that has been provided by the different government sources. it is important that the information provided must be updated and accurate especially the information that will be released to the public to prevent the panic and fear which is the first priority.

Unfortunately, there was no confusion from the rumor, despite the rumors that the public panic from the epidemic diseases from the corpses from the seafood as well as another after shock. Therefore, timely communication with accurate information provided to the mass media needed to be managed.

Final Summary

Since the Tsunami wave incident on 26th December 2004, we could say that it had caused such tremendous loss of lives, beauty under the sea and possessions. Nevertheless, the crisis that had happened was considered a wake up call for us all to be prepared for the challenge of the nature that might be happening apart from the Tsunami in the future.

From the perspective of the national public health operation towards the Tsunami crisis, it was considered that Thailand was successful in providing medical
support to secure lives and loss to the victims as well as to prevent and control the epidemic within the affected areas in a timely manner. The success factors were the network and coordination among public health office all over the country, therefore the resources had been allocated to the field in time. Moreover, kindness of Thai people as well as technical supports contributed from the experts from many international organizations.

Lastly, we believe that the readiness in handling the future challenges together with global support, we would be able to secure the safety and happiness with the beautiful lives for our future generation. If we were success and had learned from the invaluable lesson, at least the loss of lives of the victims and pain from the Tsunami had not been totally wasted as quoted by PETER DRUCKER that

"The best way to predict the future is to create it."