

Preparedness includes pre-disaster actions and measures undertaken to avert or minimize loss of life and property, such as, but not limited to, community organizing, training, planning, equipping, stockpiling, hazard mapping and public information and education initiatives.

Rehabilitation, on the other hand, refers to activities where the affected communities or areas receive financial or immediate basic provisions, in terms of food, shelter, clothing, medicines, etc and temporary restoration of structures in place of those damaged and devastated. In the Philippines, this is spearheaded by the DSWD, DPWH and the DND Engineering Brigade, among others.

Disaster responses are inter-agency concerted efforts, whether public or private, to provide emergency assistance or relief to persons who are victims of disasters or calamities, and in the restoration of essential public activities and facilities. Consequence Management is the core activity under this phase.



Cycle of the Disaster Management

Application of Disaster Management: The 1991 Eruption of Mt. Pinatubo in Zambales

This eruption is considered to have been the biggest in the world during the past eighty years. Nine billion cubic meters of volcanic materials were expelled, of which three billion cubic meters dispersed as ash fall and six billion cubic meters were deposited on the mountainside to flow down as lahar from 1992 onward. To respond immediately to the eruption of Mt. Pinatubo, the Task Force Mt. Pinatubo, an inter-agency body, was constituted under Republic Act No. 7637. A long-term rehabilitation plan was also established. The national government appropriated the total amount of P10.0 billion, which was released over a period of three years from 1993 to 1995. After the commission was terminated on December 31, 2000, it reported the utilization of P10.0 billion for the following programs: Infrastructure, P5.0 billion; Resettlement, P2.912 billion; Livelihood, P1.170 billion; Social Services, P715.558 million; and P201.397 million for other programs.

Conclusion

In a disaster-prone country like the Philippines, it is imperative to promote efforts and responses from all sectors both at the national and local levels for an effective and efficient disaster management system.

There is little or nothing that can be done to prevent the incidence of extreme climate conditions and natural calamities. There is also no sure way of preventing the occurrence of man-made disasters. However, we can build and enhance our capability to address these unfortunate catastrophes and emergencies through effective disaster management systems.

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3.3.8 Singapore

Singapore

Disaster Management in a City State

Introduction

Singapore is a small city-state with a population of about 4.2 million people, 80% of whom live in high-rise buildings. Geographically, Singapore is located just outside the 'Pacific Rim of Fire' and is thus spared from the ravages and destruction caused by natural phenomena such as earthquakes and volcanic eruptions. However, being highly urbanized, Singapore's main challenges are man-made and technology-based disasters. Examples of major incidents are the collapse of the six-storey Hotel New World in 1986 and the SARS crisis in 2003. The two best practices that will be shared in this paper are Singapore's disaster response system and the experience of managing the SARS crisis.

Section 1: Disaster Response System

In Singapore, the lead agency for disaster response is the Singapore Civil Defense Force (SCDF). It has a workforce of about 5,100 staff and operates on a three-tier command structure, consisting of HQ SCDF commanding four territorial Civil Defense Divisions (CDD). The CDDs command 14 fire stations, which provide the resources for incident management on the ground. Satellite Fire Posts (SFPs) have also been established for fire fighting and emergency response, to bridge any operational gaps, thus enabling faster response to incident sites whenever incidents occur. The SFPs, unlike Fire Stations, were built into existing buildings and infrastructure. The advantage of these SFPs is that they can be relocated quickly and at a low cost when the need arises. To date, the SCDF has established 22 SFPs within the community heartlands and residential districts. In addition, the SCDF also operates two training institutions, namely the Basic Rescue Training Centre (BRTC) and the Civil Defense Academy (CDA). The latter is a purpose-built training academy, equipped with a wide range of training facilities. The CDA is dedicated to equipping not only SCDF officers, but also the international community with the knowledge and skills to protect and save lives and property.



Regular exercises conducted to test the joint multi-agency response and validate the Ops CE plan.

The SCDF has a sound and well developed disaster response framework. In the event of any major disaster, the SCDF will activate the national response plan code-named the Operations Civil Emergency (Ops CE) Plan, which outlines the work of the SCDF and all the Related Agencies (RAs) in the management of an incident. Under this plan, the SCDF as the Incident Manager (IM) is in overall charge of multi-agency response. The IM directs and coordinates all the agencies' ground response forces through the Joint Planning Staff (JPS, consisting of representatives from all agencies) who support the IM with specialist advice for planning and mitigation of the incident. The Ops CE Plan is exercised according to various scenarios, such as oil refinery fires, air crashes, fires in high-rise buildings and building collapses.

Such exercises are conducted regularly on an annual basis to ensure that all agencies involved are familiar with their roles and function and to validate the capabilities for incident management.

Singapore also has a response plan for international disasters. Under this plan, the SCDF has a rotating Overseas Rescue Contingent on standby at all times, ready at two hours' notice to render assistance. This Contingent was deployed in several regional incidents such as the Baguio City earthquake in Philippines (1990), Kuala Lumpur 12-storey condominium collapse (1993) and the Taiwan earthquake (1999).

Section 2: Managing the SARS Crisis

The SARS Crisis was an important episode in 2003, testing Singapore's ability to respond to the outbreak of a communicable disease. In managing the SARS Crisis, the Ministry of Health (MOH) in Singapore had a strong and clear response framework. It has implemented measures to strengthen Singapore's ability to detect new cases early and to respond effectively to contain new clusters in a SARS outbreak.

The SARS response framework provides a clear command structure for decision making. At the Operations level, the Ministry of Health Operations Group (MOH Ops Group), the operational arm of the MOH, is responsible for the planning, crisis management and co-ordination of health services and operations during peacetime. It commands and controls all medical resources during a crisis and serves as the main operational linkage between the MOH and all healthcare providers. Moreover, it is responsible for prevention and control of major communicable disease outbreaks including bio-terrorism events. It is the nerve centre for all decision-making and early-warning capabilities. With links to related agencies, the Group has both surveillance and response capabilities.

In addition, a three-pronged strategy of prevention, early detection and effective response was adopted in the management of the SARS crisis. This contained and eventually eradicated SARS during the last outbreak. By maintaining a high level of vigilance in the high-risk areas and a high level of preparedness to step up all the containment measures, Singapore is ready to meet any possible SARS resurgence. The sudden attack of SARS showed how Singapore managed to successfully isolate and eventually eliminate the virus. Furthermore, Singapore through its research and experience has shared invaluable lessons learnt and information with the worldwide community. Thanks to good management and use of information and response plans, Singapore remains our safe and secure home.

Conclusion

Singapore's primary responsibilities for disaster management have evolved over time in response to the changing needs of Singapore. These disaster management capabilities will be constantly reviewed in order to keep them relevant and effective in the face of changing threats, risks and the global environment.

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3.3.9 Thailand

Creation of Awareness among Villagers and Mobilization of their Participation in Thailand

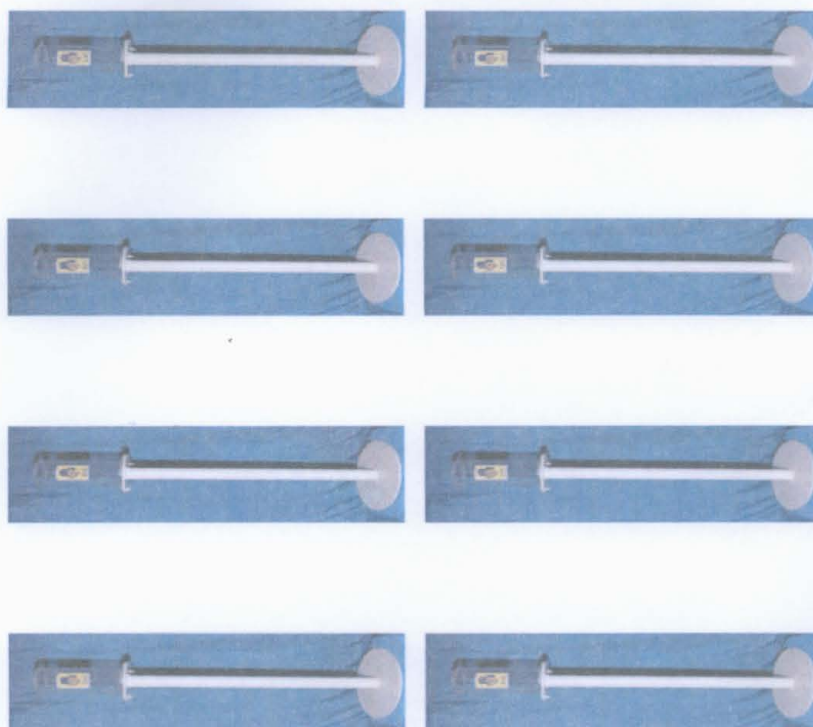
The village of Mae Kampong, is situated in Chiang Mai, the northernmost province of Thailand. The village is set among mountains and surrounded by virgin tropical forest, which is the main source of many rivers there. Most of the 421 villagers or 146 households build their houses on the steep side of the mountain and earn their income by cultivating native Thai tea and coffee. The geographic condition and situation of the settlement offer both advantages and disadvantages to villagers. The advantages lie in the fertile land favorable for crop cultivation, and the tranquility and beauty of its natural surroundings. Disadvantages, on the other hand, are the villagers' vulnerability to water-related disasters such as flash floods and landslides, and difficulty of access when natural disasters occur. The Disaster Prevention and Mitigation Chiang Mai Province Office has been well aware of these disadvantages, particularly villagers' vulnerability and difficulty of access. The Office has attempted to reduce the risk and losses of lives and property. At the same time, they have realized that it would be never achieved without the villagers' awareness and their commitment. The activities that have been implemented to prevent the hazard are as follows.

1. A training program entitled "Community Based Disaster Management" was carried out on February 16-17, 2004. After training, the villagers formed seven task force groups to help themselves and one another concerning disaster prevention and mitigation within their villages. These seven groups are:
 - Vigilance and Information Notification Group;
 - First Responder Group;
 - First Aid Group;
 - Evacuation Group;
 - Logistics Group;
 - Housing Rehabilitation Group;
 - Mental Rehabilitation Group.
2. Installation of simple rain gauges and manual warning sirens in Mae Kampong. This equipment is employed for observation and notification of local flood conditions, forecasts and warnings. The rain gauge is extremely cheap and very simple to use. The villagers will be trained to measure, record and read the daily amount of rainfall. Whenever the amount of rainfall exceeds the predefined normal level, the villager in charge of observations will broadcast the warning by using the manual siren device to notify the village headman to disseminate the warning through the village news broadcasting tower. The cost per installation of the device is THB 2,000.

Major achievements

The installation of simple rain gauges and manual warning sirens has been beneficial. After both pieces of equipment were set up at Mae Kampong village, villagers have become more aware of potential disaster, learned to protect themselves and safeguard the village through vigilance, and begun to help one another before and during a crisis. Damage was thereby extensively reduced. The following are examples of recent achievements in the village in 2004.

1. When a forest fire broke out in July near the village a guard used the manual warning siren to notify the villagers, who were able to extinguish the fire collectively.
2. On September 20, 2004 there was heavy rain in Mae Kampong. The villagers were able to use the simple rain gauges to forecast the potential flashflood. In consequence, the people had enough time to be well prepared in advance. Eventually, the latest flash flood to occur caused less damage to the lives and property of the villagers.



Simple rain gauges

- Background

The achievement of villagers' collaboration and participation

- Objective

Creation of awareness among villagers and mobilization of their participation

- Activities Undertaken

- Installation of simple rain gauges and manual warning sirens
- CBDM training

- Major Achievements

- Risk reduction
- Reduction of damage

- Total Budget

Approximately THB 22,000 THB (US\$500)

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***Total Disaster Risk Management
- Good Practices -***

January 2005

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