RESTRUCTURING AND REBUILDING

By: Ridwin G. Candiah

When a catastrophe happens or a disaster occurs, for example, a building collapses, various professionals seem to go to the site of the disaster to provide assistance. Do engineers offer such services? Like any other professional body, the engineers can contribute much in the restructuring and rebuilding process.

According to Dr Wong Koon Yuin, Technical Director of RPM Engineers Sdn Bhd, when a disaster arises in Malaysia, the first groups of people to be mobilised are the Police and Field forces (sometimes volunteer forces or the Army) for security purposes, crowd control and to restore social order.

"Other non-governmental organisations like Red Crescent may also come in. Engineers seldom play an immediate physical role but may provide advisory roles during a crisis but its usually during the recovery stage that the input of engineers become significant," he said.

Wong added that engineers in the Highland Tower collapse case, for example, advised against the use of cutters which could ignite gases which may be released from cooking cylinders resulting from the collapse.

"What was advised, to cut the slabs of concrete, was to use a high pressure water jet cutter to prevent ignition of any gases. Other instances, where the engineer has input is in collapsed slopes. Rescue and general clearing of failed slopes requires an understanding of the forces of nature governing slope stability and the engineer's input is critical in minimising danger to workers. Engineers will of course, play a crucial role in the rehabilitation stage," he said.

"The authorities involved in attending to a disaster do not seem to have engineers in mind, it is not that engineers do not want to go. An engineer can always contribute to anything engineering in nature," said a senior engineer who declined to be named.

According to him, with reference to the recent Bukit Lanjan rockfall, many engineers were not invited to give their input. He said the NKVE concessionaires were first on site when the incident occurred and they had engage whomever they believed could assist prior to the police and government coming in.

A settlement camp in Chamday where RedR was involved in the design and planning of the camp for refugees to the requirements of the Sphere Project

"Engineers may have appeared later as a result that in the initial stages, the matter could not be resolved," he said.

He said that authorities would not call IEM to assist possibly because they were not aware of the Institution's ability to provide assistance nor were they familiar with the structure of non-profit organisations and their emergency response capabilities.

He said with regard to the emergency response of the Cheras Permai condominium collapse in 1992/93, it was the press who had contacted the IEM for assistance at that time.

"Our assistance was more for prevention later on, learning from the lesson and to find out the causes of the collapse, and to give whatever remedial advice at that time that was required such as rescue operations that were possible," he said.

He said that in situations such as the collapse of a building, the engineer could provide assistance provided the owner still had the drawings and plans of the

Taken in Myanmar where RedR was involved in the assessment and construction (with as much local community involvement as possible) of a water storage pond where water supply is a problem

building adding that it was vital for developers to keep plans of their buildings available immediately at all times.

"It is good for buildings to prepare for such contingencies," he said stating that drawings were most important for accessibility to certain places when a disaster occurs.

Ir. Cheng Chee Song, Country Manager for Copper Development Centre (SEA) Sdn Bhd said Post Disaster Management was an important field that even universities overseas provides courses on it.

"In many parts of the world, it has become part of engineering rather than an ad hoc first aid," he added. He said it was vital that the management of disaster be looked at "before" and "during" and not just "after".

He said prevention of a disaster was of utmost importance. "We must increase the standards of materials and construction. We thus reduce accidents and catastrophes," he adds. "We have to upgrade the Building Codes, for example, yearly despite it costing a lot of money. This will prevent many accidents especially design failures," he said.

Cheng added that prevention is vital, for in a post disaster situation, there are ownership and liability issues and that an engineer just could not come and interfere unless he is invited to do so as there are legal implications involved.

REDR IN MALAYSIA

There has been much discussion to setting up a Malaysian chapter of RedR in Malaysia. RedR is an international charity, working to relieve suffering in disasters by selecting, training and providing competent and effective relief personnel to humanitarian aid agenciers worldwide.

RedR stands for Registered Engineer for Disaster Relief. The word is pronounced Red-R. RedR is an international humanitarian organisation started in 1979. Interestingly the engineer, Peter Guthrie, who started RedR in the first place, took the inspiration from the need to have engineering input in the planning of refugee camps in Pulau Bidong during the Vietnamese refugee crisis in the late 70s.

According to Wong, planning a refugee camp per the standards required under the United Nations High Commissioner for Refugees (UNHCR) follows essential requirements that was developed under what is termed The Sphere Project. Engineers play critical roles in selecting sites for displaced people. For example, water resources must be available at the desired sites, space requirements must be sufficient for the number of expected displaced people, fuel requirements and logistics for food and fuel supply must be in place, all which engineers play a crucial part in the planning and construction. Refugees can very quickly strip the land of trees for fuel and vegetation for food if the issue of supply logistics is not addressed satisfactorily.

Wong said that almost every refugee camp under UNHCR has input from engineers. "But an engineer's input is not only limited to war torn areas. Care International and OxFam, for example, and other humanitarian organisations often tap into the RedR

An ingenuous collection system for rainwater, used where pond storage is not feasible. Water collects from the roof into a below ground tank and is hand pumped out when needed

Register for engineers when they have projects requiring engineering input from logistics planning to design of water supply schemes, water resources development, electrical and electronic engineering, mechanical engineering and other forms of work requiring engineering input," he said.

"RedR has in the last few years provided assistance to refugees and displaced peoples in Kosovo, Afghanistan, Northern Pakistan, Ingushetia, Occupied Palestinian Territories as well as other countries."

On the question whether the impact of a disaster can be mitigated by preparing for predictable recurrence and how Malaysia can look into this matter, Wong said the role of engineers working under 'Humanitarian Relief' did not carry out this task.

"This is left to private consulting, contracting and governmental agencies adding that if RedR Malaysia was established, it would not play a role in any way as a competitor to current engineering practices," he said.

Engineers on a RedR register have to be 'prepared' through training courses carried out by RedR. The "Essentials of Humanitarian Practice" and "Personal Security and Communication" are two compulsory courses that engineers aspiring to be on the RedR Register must go through. These two courses set the minimum requirements that humanitarian relief workers (not limited to engineers, for example, CARE, Red Cross and other NGOs also enrol their members for these courses) need to be aware of under situations for relief work.

He said that if the establishment of RedR Malaysia takes root, then integration of this organisation with other NGOs (currently being brought together as an integrated body by the Government) providing relief work through training can be seamless.

The formation of RedR Malaysia will be greatly assisted by the support of The Institution of Engineers, Malaysia, The Association of Consulting Engineers Malaysia and The Board of Engineers Malaysia.

DIFFERENCE BETWEEN REDR AND PEACE CORPS

Many Malaysians are aware of the Peace Corps that once provided assistance to the Asian region. There are no similarities between RedR and Peace Corps. Peace Corps was founded by the US Government. RedR is an independent, international organisation that provides specialists to assist humanitarian agencies providing humanitarian assistance based on need.

RedR is a humanitarian organisation that provides training for relief work and keeps a Register of Engineers trained in humanitarian relief work. To be on the Register, an engineer will be trained and an interview conducted to assess overall suitability (maturity and health for example are other aspects) for deployment. All humanitarian agencies can look to RedR Register for engineers who have been through the requirements of such work.

OPPORTUNITY FOR MALAYSIA TO PROVIDE ASSISTANCE GLOBALLY

Malaysian engineers and relief specialists can provide support to relief agency organisations in countries in ASEAN in the event of disasters in their countries.

Globally, Malaysians are well placed, especially to provide assistance to countries with similar cultural and religious backgrounds. As Malaysia is a Islamic country, Malaysian engineers who have significant cultural and religious understanding of the Islam will be able to apply their engineering knowledge in accordance to Islamic principles to assist Islamic countries in addition to non-Islamic countries. This is an important factor when planning camps for example.

With regard to RedR, Wong said engineers on the Register are paid allowances by the agencies who request their services.

"But if you are aspiring to be a millionaire from this work, you will be disappointed," he said.

In some RedR deployments, government aid agencies provide support, while in deployments to humanitarian NGOs, they provide at their rates of remuneration. Companies where the engineers work sometimes provide assistance for the deployment.

According to Cheng, an engineer volunteering themselves for disaster relief does face difficulties.

"Who has the time without income to survive, there must be some sort of allowance to survive," he said.

According to sources, when the American Peace Corps came to Malaysia, they were given a living allowance.

Cheng said that most senior engineers do not have the energy to provide volunteer services and only the young engineers could do so.

"However young engineers do not have the financial ability to provide volunteer services without any remuneration to sustain themselves," he added. ■