DISASTER WARNINGS

On July 10, 1976 an explosion rocked the Icmesa Chemical Plant just outside Seveso, Italy and spewed a bilious dust cloud into the air where it hung, spreading ominously above houses and farm land. Within 24 hours, vegetation downwind of the plant had begun to turn yellow. Leaves on plants and trees curled up and wilted and small animals,mysteriously, began to die. More alarmingly, young children started to develop sores on their arms and legs, red marks and rashes on their faces and high temperatures.

For those who escaped the poison cloud, there was the grief of losing their homes and all their possessions. Many are adamant that no amount of compensation will ever be able to replace what they once had. Housewife Caterina Rivolta, aged 58, said: "I would give anything to move back. All our lovely furniture is gone, as is the garden we so loved. My husband and I saved for 16 years to buy our home. Now all we can do is gaze through gaps in the fence, knowing that we cannot return. Nothing - not even any amount of money - will ever replace what we once proudly had."

As well as the heartbreak which remains, there is still anger among the people of Seveso; anger not only over the bungles and delays which followed the explosion at Icmesa but also over the fact that nobody, not even workers at the plant, was ever waned about the potential dangers of the chemicals being handled there.

Hurricane Fifi arrived at dead of night on Wednesday, September 18, 1974 in Honduras with winds of 140 miles an hour, and torrential rain. Two feet of rain fell in 36 hours. Although the hurricane winds caused the initial damage, they soon passed and the subsequent fatalities were mainly the result of the flooding. The heavy rainfall caused the main rivers of Honduras to overflow from their sources high in the mountains right down to the plains. Dykes and banks disappeared into a maelstrom of swirling brown water, and almost everything that stood in the path of the floods, as they roared down to the sea, was swept away.

The poorly-built homes of the farmers, peasants and workers - just disappeared. Even some of the sturdier houses were picked up and carried for several miles, and in some cases, when meeting an obstruction then even the roaring water could not move, could be piled one on top of another. You will thus see that workers whether in factories, farms or their own homes are the most vulnerable.

What exactly does hazard preparedness consist of? Its most critical feature is the commitment to anticipate the impacts of hazards rather than to simply accept them passively. This commitment gives rise to several distinct steps in what we can label as the hazard reduction process. The first step is hazard risk assessment. This involves the determination of the types of hazards likely to occur in a community, their characteristics, and the community's vulnerability to them. For instance, a hazard map is being drawn up to incorporate the expected frequency and intensity of one or more hazards in Tobago. The hazard map can then be used by local authorities for the next step in hazard reduction - that is, disaster preparedness.

Disaster preparedness is the detailed planning for prompt and efficient response once a hazard strikes. It involves public education and awareness campaigns, provisions for issuing warnings, development of evacuation plans, and preparations for providing food and shelter to those evacuated.

I was merely following the principle of warning to reduce the expected impact of Tropical Storm **FRAN** on August 14, 1990, on being told at 6:00 a.m. by the Meteorological Department that the storm was 300 km East of Trinidad and heading towards us at a speed of 65 kmh. I found my way to my office, the three (3) phones there kept on ringing, bring the reports of trees falling, electrical poles uprooting and roof sheetings flying off and I thought that by asking the citizens residing in North Trinidad to stay indoors I

had done my bit to save lives. But lo and behold, I was made to look ridiculous because of this warning by certain people who though that storm warning or not, workers should have been still allowed to travel to their places of work.

In fact, one particular gentleman wrote to the Guardian that NEMA had not authority to make this sort of general announcement. He went ahead and quoted words of Winston ,churchill, "We have nothing to offer, but blood, toil, sweat and tears." But he should have also known that Winston Churchill after giving this speech built a number of shelters in London to protect the population from air raids during the World War II. A very comprehensive warning system was set up to ensure that citizens were not exposed to the German bombardment. Again the goodly gentleman quoted Kennedy, "Ask not what your country can do for you but what you can do for your country." Now everybody admired Kennedy in the sixties and his contribution towards granting of equal civil rights to the blacks was considerable. Again by his courage he got Khrushev to dismantle missiles from Cuba and ship them back to Russia. But when he asked young Americans to sacrifice themselves in the jungles of Vietnam the result was a fiasco. And it was only in the 70's that Kissinger was able to bring back Americans home from a no-win war.

The point which I am trying to make is this. You ask your citizens to make sacrifices for some good cause, but making them risk their lives merely to ensure that your work is not interrupted borders on being uncivilized.

Disasters predate any written records on the human race. The stories, legends, and myths of many societies are filled with accounts of catastrophes caused by earthquakes, floods, volcanic eruptions, and other mostly natural events.

However, there is something new about present-day disasters. To the category of natural hazards (e.g. tornadoes and hurricanes)

has been added the relatively new category of technological accidents and mishaps. These are the disasters brought about by human error and the collective mistakes of groups. To the so-called acts of God have been added the acts of men and women.

Thus localities, which in the past had few risks from natural disaster agents, are now vulnerable to toxic chemical spills, explosions, and fires, roads, sea and air transportation disasters.

In addition to the newer threats imposed by chemical, nuclear, and electrical power system accidents or failures, technological advances bring additional complexities to old threats, new versions of past dangers, and intriguing future perils.

The point to be emphasized is that we will have more disaster in the future than in the past, and that their effects, at least so far as social disruptions and economic or property losses are concerned, are likely to be greater than before. This is assured by the new technological disasters we have created for ourselves, along with the complications or variations we have added to the new threats in urbanized and industrialized societies. Given this to be true, disaster preparedness planning should look more towards the future than the past. Unfortunately, there is a tendency in disaster preparedness planning to use past and limited experience as a basis for developing guidelines for the future.

Typically, community officials and organizational planners with either limited or no disaster experience, invariably characterized individual or human behaviour as that which results in personal chaos.social chaos, and pandemonium during disasters. Thus, there is the belief that there will be panic flight, hysteria, and other irrational actions. Likewise, it is believed that there will be social disorders, frenzied crowd behaviour, and other antisocial actions. Other assumptions are that: (1) victims will be dazed or stunned and therefore unable to help themselves; and, (2) local human services organizations or emergency management

agencies will be unable to function because their employees/members will be primarily involved in saving either themselves or their families.

Were we to examine the three common expectations addressed above and compare them with reality, we would find that in a typical disaster there is relatively controlled behaviour, order and personal initiative. Mythology notwithstanding, people generally do not exhibit antisocial behaviour during and after disasters. Rather, they frequently rise to the occasion and deal effectively with the personal challenges presented by the disaster.

There may be expectations of panic, but what almost always occurs is rational behaviour. For many reasons, including the influence of the mass media, many community and organizational officials believe that people will panic when faced with great threat or danger. Presumably, this panic manifests itself as hysterical breakdown, aimless running, or wild flight. Furthermore, it is presumed that people cannot be depended upon to react intelligently and unselfishly in situations of great personal danger. This is simply not the case!

Generally, people do not panic in community disasters. However, under unusual circumstances (e.g. limited access to escape as may occur in a plant explosion), they amy flee in panic. Actual instances of hysteria and/or wild flight are extremely rare. However, when such irrational behaviour does occur it is of no practical or operational importance. Instead of fleeing from the disaster area, people will more than likely converge upon the impacted area and immediately do what they believe needs to be done. This was borne out by events of November 19, 1989 and August 14, 1990.

If looting does occur, it will be done by outsiders rather than members of the impacted community. The point to be emphasized is that a disaster does not in itself markedly increase social disorder, pathology or conflict.

What does increase, however, are the relevant resources which victim populations can potentially provide. The reason for this is simple. Disasters free people from work, household, and school demands and/or the performance of daily tasks and responsibilities. If properly planned for, victims could therefore be mobilized to help meet emergency community needs. In the aftermath of most community disasters, there is a varying pool of unused and available physical labour. The personal skills and knowledge that victims have are not destroyed by disasters and could also be utilized. Local people have vast amounts of information about their neighbourhood which could be relevant in effecting an efficient and effective disaster response. In short, victims provide a large reservoir of human, material, and social resources that are potentially unable in disastrous situations. Unfortunately, this potential is seldom given serious consideration during organizational or community disaster planning.

It should be thus clear to everybody that disaster preparedness is every citizen's business. It just cannot be left only to the disaster response agencies. There are three important reasons for worker involvement in the industries involving hazardous substances.

Firstly, workers are in most cases first to be in direct contact with the substances they produce, use or transport. They are the most likely potential victims of an accident. Therefore, as part of the overall protection of their personal safety and health workers have an immediate interest in preventing accidents.

Secondly, they have practical experience of their work and the substances they have to deal with. As a rule, they have a long commitment to the place of their work. Given the opportunity and the facilities, they want to make this experience available for the

safe operation of their workplace. Workers are also in a position to recognize dangerous situations and to take action to prevent or mitigate their consequences.

Thirdly, they and their families live near the plants which produce the harmful substances and have a concern over the environmental well-being of those communities. There is an inseparable connection between the safety of a workplace and the safety of its environment.

Workers, should participate actively and responsibly in any relevant development in preventing disasters involving hazardous substances. This includes: support for expanding the information on health and environmental effects of hazardous substances; strengthening regulations; and ensuring their implementation.

To ensure that all the workers of the industry as well as citizens living in adjacent areas of the industry are protected from technological hazards NEMA has recently prepared two documents namely; Awareness and Preparedness for Emergencies at Local Level (APELL) and Procedure for Hazard Identification and Evaluation in a Local Community. These have been widely distributed to the industry owners, local governments and others who are associated with the industries. I have brought a few copies for you gentlemen because I like you to actively participate in the process of carrying out hazard analysis and making out awareness and preparedness programmes.

In conclusion, it is with no pleasure that I wish to launch you into some negative thinking. Every man, woman and child in Trinidad and Tobago lives under a disaster-edged sword of Damocles, hanging by the slenderest of threats, capable of being cut at any moment by accident or a natural phenomenon. Challenge, self-doubt, mutual acceptance and toleration resulting from this negative thinking will make us better prepared for disaster.

STORM WARNINGS

It has been said that Science can predict an eclipse of the sun many years in advance but cannot accurately predict the weather over the weekend.

To be sure, many atmospheric hazards can be predicted. But the accuracy and lead-time vary with individual event and hazard type.

Timely and action-provoking warnings, especially on atmospheric hazards, based on reliable predictions can and do save lives and property through immediate pre-impact preparatory measure.

This is possible if the country is aware of the dangers, prepared and acts efficiently in accordance with a well co-ordinated operational plan.

A heartening lesson learnt from the Tropical Storm "Fran" in 1990 was that the warning will be most effective if it is issued by an agency which had public confidence and it specifies expected magnitude, place and time of the event's occurrence.

The warning should also be susceptible to independent confirmation and should end with clear instructions to citizens on the basis of the national emergency plan.

Early Warning Group of Trinidad and Tobago's national emergency plan is based on the country's Meteorological Services.

Detection and observation of the hazard is the first component of our Warning system.

A forecast and warning message is then prepared and disseminated to the Emergency Operations Centre (EOC) of the NEMA, Police Control Room and to the electronic media.

Those who man the EOC will have to be quick in perception of the threat and formulation of decisions to save lives and property. These decisions will be conveyed to the citizens in the form of action-provoking warning son electronic media.

It is expected that these decisions would be made in a manner that would be worthy of being described as in Home's "Douglas",

".....On each glance of thought
Decision followed, as the thunderbolt
Pursues the flash!"

But even these timely and accurate warning messages disseminated quickly and efficiently to the population at risk are ineffective if the population fails to respond in a meaningful way.

This is not only a matter of positive action, but sometimes a matter of the avoidance of actions, such as issuing demonstrably inaccurate information or issuing accurate information too slowly, which tends to diminish creditability.

It is important that warning sources give specific local information about the threat which will not allow listeners to forget it conveniently.

Sirens, or the sound of temple or church bells, are non-specific and could be easily imagined to be something else, and not very important.

A sense of urgency should be inculated in the people for them to start acting rather than allowing time for rationalizing the warning away.

The consequences of not heeding the warning may be spelt out in explicit detail so that people do not casually dismiss them.

Above all, one must be clear about the probability of occurrences, since people tend to pay little attention to something labelled "a probability."

It should be remembered that one warning is not enough. They should be continuous because people also need to be kept up-to-date about what is happening and should be given instructions appropriate to the development of the situation.

Make no mistake about it, that those whose lives and property are saved by these warnings will encourage and admire the warning system. But there will also be those who will ridicule and malign these warnings because they were not personally in the danger zone.

It is the lot of warning source to stick to its task as it, "Persues the triumph, and partakes the Gale."

Some sectors of the population may have to be given warnings different in nature from others. Coastal areas will have to take special precautions for the benefit of boat traffic.

Disaster managers must guard against the initial human tendency to disbelieve that conditions would change for the worse. Some people may go further and actually seek reasons why they should not respond to warnings.

"Troubles and weeds thrive on lack of attention", is an old saying. Specific, clearly written and strongly worded warning messages have the best chance to attract a persons' attention if the message includes instructions on what the individual should do.

DISASTER DAMAGE ASSESSMENT

Almost all the recent disasters in the Caribbean were immediately followed by an immediate rush of the so-called relief supplies to the disaster scene.

Invariably these relief supplies consisted of roofing sheets, old clothing, and soon to expire medical supplies and tin foods. Such supplies hardly make any effect in alleviating the plight of disaster victims and only succeed in tying up disaster response resources in receiving and storing these unwanted supplies.

After Hurricane Gilbert, Jamaica was saddled with the next seven years requirements of roofing sheets while there was not enough food for many.

Monsterrat was desperate for restoration of electric and water supply after Hurricane Hugo while its much reduced port facilities were being overloaded with relief supplies.

Surely the first thing to follow a disaster should be an assessment of the damage and needs. Only then can be determined the items of food, clothing, shelter, medical supplies and life line systems repair teams that are required in the disaster zone.

Some of the necessary information can be gathered in advance. If this is done, the assessment process itself will be capable of being completed more rapidly.

Identification and mapping of hazardous zones and making inventory of elements at risk are the two important pre-disaster projects that ought to be and, I am happy to add, are being undertaken in our country.

Damage assessment immediately after a disaster is mainly the responsibility of Fire Service as part of our national emergency plan.

Initial rapid survey will determine the geographical extent of the area affected, magnitude of problems and immediate priorities.

This information would be fed to both local and national emergency operation centres. This assessment may come from reports from the disaster areas or from rapid ground inspection. Wherever and whenever practical, these reports would be supplemented by aerial surveys.

Where the emergency is triggered by a non-natural event, the hazard may not be so easy to establish. For example, estimation of the toxicity and concentration of gases released as a result of an explosion at a chemicals factory would be made by experts. And they would also be responsible for the formulation of recommendations for appropriate action measures.

Basis for decision-making of the Disaster Co-ordinators will be the data at their respective operation centres regarding "elements at risk" and resources.

So far as food, clothing and shelter are concerned "ready reckoner" calculations can be easily made once the number of persons affected is known.

A vital factor in our emergency plan is that national response must take precedence over the international. But the national "in-kind" response can be accelerated or reinforced by cash assistance from abroad.

Teams of engineers would be immediately deployed to assess damage to life line systems. It would be necessary to determine what damage has been inflicted to hospitals/health centres, water and electric supply systems, and airport and port facilities.

These assessments would be best carried out by the in-house engineers themselves. Any additional resources required to restore the facilities would be immediately reported to the National Emergency Operational Centre. The centre, in its turn, will mobilize national and international resources to restore the facilities in the shortest possible time.

Simultaneously, government, private and volunteer agencies would endeavour to supply the relief requirements of food, clothing, shelter and medical aid on the basis of the assessment reports.

Engineering surveys would also be undertaken by personnel from Works Department to assess damages to roads and bridges. Priorities for opening the roads and bridges would be laid down by the Emergency Operation Centre.

Much as we may plan carrying out scientific damage assessment after a disaster, we can still never be sure that we would be able to meet all the needs in time. What Pindaro, the Greek poet, said in the Fifth Century B.C. is just as applicable today:

> "Blind are the thoughts we cast to the future.
> Against all odds, innumerable things will happen."

All the more reason why we should have our damage assessment teams fully trained and prepared to give accurate and rapid information, based on which decisions can be made in quick succession to bring life to normalcy in the disaster area.

"YOU AND THE HURRICANES"

Hurricanes are severe tropical storms with heavy rains and intense winds which blow in a large circle around a centre "eye". If the eye passes directly overhead there will be a lull in wind lasting from a few minutes to half an hour. At the other side of the eye, the winds will return rapidly and blow from the opposite direction.

A wind storm's descriptive work is done by the high wind, flood producing rains and associated storm surges.

You would not want to experience the trauma of a hurricane destroying all your property which you did not insure, not in this "guava season". To avoid this you must ensure that you have adequate insurance to protect you. Hurricanes can strike at any time, so you should insure now.

When hurricane conditions pose a possible threat, Meteorological Service will set up a hurricane watch, which means that the hurricane may threaten an area within 24 hours. It does not necessarily mean a hurricane will strike, so you should continue normal activities.

On the other hand, a hurricane warning means that a hurricane is expected to strike an area within 24 hours. These warnings will be followed by recommended emergency instructions from NEMA and local authorities which you must follow. Wind-thrown debris and wind pressure can break windows. So cover small and large windows of your house with boards, storm shutters or heavy tape. Outdoor objects should be secured or brought indoors.

Service stations will hardly be open after the storm. Therefore, full your car.

Keep first aid items, special medication, important papers, an emergency gas or kerosene stove and a portable radio with extra batteries ready as a "family safety kit".

Gas, electric and water supply are likely to be cut off after the storm. Guard against it by securing several days supply of water, food and clothing for everyone in the family.

Stay away from coastal areas, river beds and streams until potential flooding is passed.

During the hurricane stay indoors and keep away from windows. Do not be fooled if there is a lull, it can be the eye of the storm and winds might pick up again.

Lest you jam telephone lines of NEMA and local authorities, avoid using telephone except for urgent emergencies.

Be prepared to evacuate if instructed by local authorities or NEMA.

Leave early enough to avoid being marooned by flooded roads or fallen trees when you are advised to evacuate or decide to do so on your own.

After the passage of a hurricane remain in shelters until informed by those in charge that you may return to your home. Listen to your radio for advice and instructions about medical help, emergency housing, clothing or food, and ways to help yourself and your community to recover.

Sightseers can interrupt crucial rescue recovery work, therefore stay away from disaster areas.

If you must drive, drive with caution. Watch for hazards to yourself and others and report them to local police or fire stations.

Report broken water mains to WASA and fallen or damaged electric wires to T&TEC.

Unless you take these safety steps for safeguarding aginst hurricanes you may end up believing that the Hurricane - if it ever occurs - is a punishment from God.

"YOU AND THE FLOODS"

Floods occur when water runs off steeper ground very rapidly causing drainage system to overflow with rushing flood waters and a cargo of rocks, mud, smashed trees and other debris.

Be aware of potential flooding hazards wherever you live. You must be specially prepared for floods if you live in a low lying area, near stream beds or downstream from a dam.

When flood conditions threaten the country, Meteorological Service will issue flood bulletins. These bulletins will include, flood activity and level of certainty regarding any flood forecasts.

As most of the natural disaster losses suffered in the country during the past few years have been caused by floods, you will be wise to contact your insurance agent for covering flood losses.

Remember your gas, electric and water supply may be disrupted. Therefore, keep a stock of food that requires no cooking or refrigeration. Sufficient drinking water should be stored in clean enclosed containers.

Keep a portable battery operated radio, a flashlight, an emergency oil or gas stove and first aid supplies in the safest room of your house.

You may need to store materials like, sand bags, ply wood, plastic sheeting and lumber to protect your house from flood waters and to make quick repairs. Learn where your nearest shelter is and find out evacuation route to it from your county disaster response map.

If you see any possibility of a flash flood occurring, move immediately to a safer location, do not wait for instructions to move.

Listen to radio and television for information and instructions from Meteorological Service and NEMA.

Keep sand bags away from outside walls to prevent flood waters from reaching your house.

If you have to evacuate, secure your home before leaving and move essential items and furniture to the upper floors of your house. Utilities should be turned off. Make sure that you leave early enough to avoid being marooned by flooded roads.

And if life or death situation forces you to travel during heavy rains or floods, look out for broken water mains, loose or downed electric wires and falling or fallen objects.

Even then do not drive into flood areas. If flood waters rise around your car, abandon it and move to higher ground. Otherwise you and your vehicle will be quickly swept away as flood waters rise.

Also perish the thought of trying your swimming prowess in the flood, the currents are deadly.

Unless you are specifically authorized to visit disaster areas refrain from doing so after the flood. Rather, remain tuned to radio and television for advice and instructions regarding medical care, food and water.

Use battery-powered lights to examine your home. When the entrance must be forced because of swollen doors, accumulated mud or bulged floors, try to enter through a window or other opening.

Consider the food that has come into contact with flood waters as forbidden food.

Be very cautious in turning the gas back on and handling electrical equipment. Any damage to utility lines should be reported to their authorities.

It is not enough to hope that you would be spared from floods. Prepare for them.

"YOU AND THE TORNADOES"

The tornado is a violent local storm with whirling winds of tremendous speed. It appears most times as a rotating, funnel-shaped cloud which extends toward the ground from the base of a thundercloud. Tornadoes may or may not be accompanied by the funnel cloud at the surface. It varies from gray to black in colour. The tornado spins like a top and may sound like the roaring of an airplane or locomotive. These small short-lived storms are the most violent of all atmospheric phenomena, and over a small area (20 - 50 metre radius), the most destructive.

Tornado WATCH means tornadoes are expected to develop.

Tornado WARNING means a tornado has actually been sighted.

If you see any revolving, funnel-shaped clouds, report them immediately by telephone to your local government office or dial 990.

Know the locations of designated shelter areas near you and have emergency supplies on hand during tornado season.

Be sure everyone in your household knows in advance where to go and what to do in case of a tornado warning.

If you live in a single-family house in a tornado-prone area, reinforce an interior room to use as a shelter - the basement, storm cellar or a closet on the lower level of your house.

Whenever severe thunderstorms threaten your area, listen to radio and television newscasts for the latest information and instructions.

When a tornado has been sighted, stay away from windows, doors and outside walls. Protect your head from falling objects or flying debris. Take cover immediately, wherever you are.

In a house or small building, go to the basement or storm cellar. If there is no basement, go to an interior part of the structure on the lower level (closets, interior hallways). In either case, get under something sturdy (such as a heavy table) and stay there until the danger has passed.

In a school, nursing home, hospital, factory or shopping center, go to predesignated shelter areas. Interior hallways on the lowest floor are usually safest. Stay away from windows and open spaces. Cooperate with the staff and authorities - they have had training about how to deal with emergencies.

In a high-rise building, go to small, interior rooms or hallways on the lowest floor possible.

In a vehicle, get out immediately and go to a more substantial structure.

If there is no shelter nearby, lie flat in the nearest ditch, ravine or culvert with your hands shielding your head.

Do not attempt to flee from a tornado in a car or other vehicle. They are no match for the swift, erratic movement of these storms.

Use great caution when entering a building damaged from high winds. When entering or cleaning a tornado-damaged building, be sure that walls, ceiling and roof are in place and that the structure rests firmly on the foundation.

Look out for broken glass and downed power lines.

Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of further injury. Call for help immediately.

EMERGENCY SHELTERS

"Where, O king, destined to perish, are you directing your unavailing flight? You fall upon the rock Scylla desiring to avoid the whirlpool Charybdis". This passage appears in Ancient and Modern Anecdotes by Andrews. And it describes with uncomfortable accuracy the plight of most evacuees whose destinations are not prepared before hand. The tragic fate of kurds trying to escape from Saddam Hussein to Turkey and Iran has once again proved that the incident described in the ancient anecdote was not an isolated one.

Main feature of Trinidad and Tobago's Emergency Shelter plan is that it is based completely on local resources and not on importing of tents or emergency shelters from developed countries. In fact, we are relying on participation of the local community on moving threatened population to emergency shelters and subsequent care of the evacuees.

Instructions to those who ought to evacuate would come from the country co-ordinators. These will be communicated to the public by mobile public address systems or on electronic media. Ideally, these instructions would include locations of designated shelters, the routes to be used for evacuation and the timings for moving.

Those who can move in their own cars or vehicles would do so. Voluntary agencies and neighbours would help others. Defence Force would be responsible for co-ordinating transportation for those who are still left at their home and need help in moving.

Meanwhile, shelter managers would have been officially notified to open their respective buildings. The managers, would alert basic staff and establish contact with Red Cross Headquarters.

Rooms would be prepared for receiving people and for other purposes. Needs for health, food and family services would be reported to County Emergency Operation Centre.

Registration areas would be set up and schedules established for sleeping, meals, cleaning, washing, etc.

Red Cross would organize food and clothing. Though, it is expected that the families would bring with them sufficient clothing and bedding for themselves. The Police Service would provide traffic control between disaster sites and shelters and also protection for the shelters.

Nearest health centre to every shelter would remain operational to meet health needs of the sheltered people.

Since operation of mass shelters may present many problems among which will be abnormal living conditions, sanitation and health problems, efforts would be made to house families with relatives, friends and other space available so that shelters can be closed at the earliest possible day.

Immediately after a disaster has actually occurred in an area, rapid reconnaissance of housing would be undertaken to obtain a clear picture of the extent of damage and the need for temporary shelter.

At this stage those evacuees whose houses were not affected by the disaster would go back to their homes. Others from flooded areas or those who have lost their houses to landslides and storm surges may need mass shelter. If shelter for these people is not available in their own county, they would be directed by the National Emergency Operation Centre to go to shelters in a neighbouring county.

Simultaneously, assessment of emergency shelter needs would continue by the Housing Co-ordinator of NEMA. People who can rebuild on their old site would be encouraged to do so. Options for this group would include provision of roofing sheets and other building materials.

There will be some who will not be able to occupy their land immediately. They may have to wait for the infrastructure to be repaired or flooding to subside or arrangements to be made for water and food to reach the disaster site.

The shelter option for this group will be community centres, religious institutions and warehouses, so that schools can reopen as soon as possible. Again, it is expected that many would shelter with families or friends.

If the surviving community is regarded as principle partner in disaster relief in providing shelter after a disaster, there is no doubt that the effective programmes of assistance will emerge.

But the best sheltering plan would come into being when people stop building easily perishable homes. Rather, as Sir Edward Coke said "The house of every one to him should be his castle and fortress, as well for his defence against injury and violence, as for his repose".