

WOMEN IN DISASTER MANAGEMENT

St. Peter arrived at the gates of Heaven one morning to find a huge queue of men behind the notice "Men who are henpecked". But behind the second notice, "Men who are not henpecked" there was only one weedy looking little chap. 'Why are you queuing here to enter Heaven?' St. Peter asked. 'I'm not sure', said the little man. My wife just told me to stand here!

If women can exercise so much control over men even at the point of entry to Heavenly gates can they not guide their destiny out of a disaster area?

And it is people much more powerful than some weedy characters that women can move. John Galbraith describes that in 1940 when he wished to site some sixty ordinance and munition plants in Southern and South-Central States to obviate the rural poverty there he could not get an appointment to see President Roosevelt. But soon he found out it was more important to get to Mrs. Roosevelt. Mrs. Roosevelt promised to help and soon Galbraith got the support of the President and a fair number of plants went South resulting in economic development of the region.

The term disaster management encompasses the complete realm of disaster related activities including economic development, a vast majority of them are pre-disaster activities and only a small portion related to post-disaster response. Most of these activities are executed by persons other than Disaster Managers, who work in the development field, or who plan routine economic, urban, regional or agricultural development projects. If I may be permitted to paraphrase a famous saying of Clemenceau, French Prime Minister during World War I, "Conduct of Disaster Management is too serious a matter to leave to Disaster Managers". For example planners

of a low-income housing project have the opportunity - and obligation - to mitigate the impact of a future disaster if the houses incorporate disaster-resistant technologies.

Women who serve in critical roles can provide useful services in Disaster management. Their technical knowledge and skills and especially their experience warrant recognition of their potential contribution and function in disaster management. The examples are numerous. Town and Country Planners - Director to Town and Planning Division in this country is a woman; Water Resource Developers - but the Minister of Public Utilities and Chairperson of WASA are women; Drainage Engineers - drainage Engineer in East Trinidad is a woman; Code Enforcement Officials - it was a woman Architect from the National housing Authority (NHA) who handed over to me various codes to ensure integrity of buildings in disaster situations; Public Health Specialists, doctors and nurses, dieticians and nutritionists - women dominate in these fields, economic development - it is mainly women in the Ministry of Finance who allocate development funds, Welfare specialists, forestation, land management specialists and media people - women serve in all these fields with distinction. There are women even in the Regiment who work in search and rescue fields in Police for traffic control and law enforcement, and Diplomats who are instrumental in organizing international assistance. Only fire-fighting in this country remains a men's world and I see no reason why women should not become fire-fighters too in the near future. And then there is a requirement for women to join the Red Cross in numbers.

At this point it will be useful to look at the major aspects of disaster management so that clear roles for women - and not only professional women - can be perceived in the course of events related to disasters. These elements (as shown on the chart) are Hazard Analysis, Vulnerability analysis, Mitigation and Prevention, Disaster Preparedness, Prediction and Warning, Response and Recovery.

"Shuddering awe is mankind's noblest part", Said Oswald Spengler in his treatise the Decline of the West. But these gifts have to be denied to the Disaster Managers who must seek to discover its secrets in order to reduce its adverse effects. And in this endeavour women can help by writing disaster histories in their areas as well as historical records of vulnerability and estimating what the impact of threat might be to the communities at risks.

Women can assist in Mitigation and Prevention and reduce risks by being instrumental in moving threatened communities from flood plains and areas vulnerable to sea waves and strengthening their houses. We do not experience and thus we have no measure of the disaster we prevent. But you would have the satisfaction of having done your duty. This is a task which no Government or no single agency can perform. Women have to help the communities to do it themselves. In the words of Abraham Lincoln "You cannot help men by doing for them what they should do for themselves".

Sometime back a noted clergyman was quoted as questioning Trinidad and Tobago's disaster preparedness. To me his awareness in questioning the disaster preparedness is itself a step towards disaster preparedness. Women can again help a lot in this field by spreading awareness in disaster planning.

It is during the Prediction and Warning phase that women will be called upon to play major roles in disaster management because many women often spend more time at home than men. all the mechanism of family evacuation would revolve around them. They would have to organize a stock of essential supplies to include non-perishable foods, basic medicines, clothing and first aid supplies. They will have to make sure that the family is kept together during the move and stay at shelters and that the children are well taken care of.

I am afraid that to be useful in Response phase of Disaster Management a woman has to be twice as good at everything as a man. Fortunately, this is not difficult. Women can make survey reports and submit to nearest Fire Stations. It is these survey reports which will result in appropriate response from NEMA. Women can form part of search and rescue teams in locating casualties. I know of an American woman who volunteered to go to Armenia with her dog after the earthquake and rescued numerous injured people trapped in the collapsed buildings. More importantly they can perform basic first-aid to minimize aggravation of injuries during transportation to medical aid stations or hospitals. Indeed in some countries women have already established community medical chests which become the first emergency steps for those in need of medical aid. I will personally like women to solve a major problem of Disaster Managers in this phase. Immediately after a disaster strikes, a Disaster Manager finds that most of his/her co-indicators suffer with the same dilemma as Hamlet - tortured by the call of public duty on one hand and safety of their families on the other. Wouldn't it be wonderful if these women in the Co-ordinators' households were so trained in taking care of their families that their husbands can devote their full energy to nation effort with the knowledge that their families were in safe hands?

At rehabilitation stage women can greatly help by acting as Co-ordinators of receiving and giving private donations. This necessity - and vacuum - was felt by me recently while organizing assistance to the islands hit by hurricane "Hugo". I will like to see women volunteering to keep accurate inventories of items required, received, stored and distributed. In between, labelling of the items could be done. But ultimately the greatest role of women in disaster management will be in rehabilitating their own families. They will have to be instrumental in making sure that their homes are repaired/reconstructed if they were damaged and their families return there from the temporary shelters at the earliest. Let us capitalize on women's capacity for work,

determination, resilience and intuition for disaster reduction. After all as Margaret Thatcher has said women live in contact with shortage of food supplies, housing problems and ever decreasing opportunities for children. Come and bring to Disaster Management your commitment to family life, zest, dedication, charm and simple goodness besides which all the intellectual gifts of man seem a little trivial.

For too long soldiering has been considered as the noblest profession of the world. Let us work to change this ancient popular belief. New women of the Caribbean, conduct yourself in a manner that as the twenty-first century dawns the word woman becomes synonymous with the most sublime profession on earth - Disaster Management.

LITERACY AND DISASTER PREPAREDNESS

"The Queen is most anxious to enlist everyone who can speak or write to join in checking this mad, wicked folly of 'Women's Rights' with all its attendant horrors, on which her poor feeble sex is bent, forgetting every sense of womanly feeling and propriety. Lady - ought to get a good whipping. It is a subject which makes the Queen so furious that she cannot contain herself. God created men and women different that let them remain each in their position - so said Queen Victoria in May 1870.

But, in the autumn of 1914 England cheered to the Western front men who had been carried along on a tide of patriotic enthusiasm, soon to dry with bitterness amid the mud of the battlefields of Belgium and France. When it became clear that the War was not going to be over by Christmas and the country must learn to live on an emergency footing indefinitely, women came very much into their own. For the first time in their lives, suffragettes, fighting for votes for women, found that a Government actually wanted them. The War effort could not be allowed to flag, and women trained in public speaking in whipping up fevered support were ideal for maintaining patriotism. There is no doubt that the World War I and early training of women helped British women in obtaining their right to vote and to prove Queen Victoria wrong.

75 years later today we still find that though women enjoy the right to vote in most countries, worldwide there are more women illiterate than men - the proportion is around three to two. Better education for women has an important magnifier effect. It may mean better employment for women and higher income for the family. Educated women can take better care of their families.

These days and in this region we are fortunately spared the calamity of War in which women can show their mettle. But natural upheavals like earthquakes, hurricanes, floods and landslides can strike us any time. In fact, the sources of disasters have been multiplied by technological development. The media regularly informs us of calamities which occur throughout the world as a result of transport accidents, fires, oil pollution and dam failures.

The Caribbean Women's Leaders had met in Conference in Port of Spain on November 15, 1989 and had strongly recommended that the full participation of women and their organizations be an integral part of disaster management.

In this international Literacy Year, the United Nations efforts have encompassed literacy campaigns and is launching a plan of action for eradicating illiteracy by the year 2000.

How far would women benefit from these campaigns can be gauged from the fact that women in the Caribbean have been becoming poorer by adjustment measures in the region.

Researchers have pointed out that foreign investors like to employ females because they can be paid low wages and are more likely to accept working conditions which would be unacceptable to men. These also have adverse consequences for the whole society because illiteracy is strictly proportional to poverty.

Time has come for women to train themselves so that they become indispensable components of disaster management. This would eventually result in their becoming at par with men in education and wage earning just as their contribution to World War I resulted in their getting the vote.

I suggest that disaster preparedness be made an important part of literacy programme for women. Women's organizations can play a vital part in this programme by taking over disaster management at community and village level. If I may be permitted to slightly modify what John Ruskin wrote almost a 100 years ago, "You do not educate a woman by telling her what she knows not, but by making her what she was not". It is only then that literacy of women and disaster preparedness will move ahead hand in hand.

There are already some women who are members of clubs like REACT AND TEAM who help in providing radio communications in emergencies. I suggest more women should be encouraged to join these clubs and take active part in providing communications.

Though, fire services is responsible for surveying and investigation of a disaster area, women in each village or community can be trained to become field observers and report the effects of any disaster immediately either to a fire station or NEMA. Dog-owner women can train themselves and their dogs in constituting search teams to look for casualties in buildings damaged by earthquakes or hurricanes.

There will never be sufficient people to provide first aid immediately to victims of a disaster. Women in each area can train themselves to perform basic first aid to minimise aggravation of injuries during transportation to medical aid stations or hospitals. Indeed, in some countries women have already established community medical chests which become the first emergency steps for those in need of medical aid.

Guidelines for design and construction of houses are attached to this article. Women can develop basic know how about their homes, which George Bernard Shaw described as girls' prisons and women's workhouses, and to ensure their families' safety as part of literacy programmes. They can then take an active part in management of shelters, feeding and clothing to evacuees and resident population.



If you think that all this might be a bit too much for women I relate to you the story of Harriet Tubman who in the last century risked her life to free the oppressed in America.

Harriet Tubman's physical smallness - she was only five feet tall - belied her possibilities. She possessed uncanny gifts of sagacity and courage.

She was known for her piercing eyes and the turban which always swathed her head. This turban concealed the dent in her skull caused by an overseer who threw a metal weight at her when she was 15 years old. For the rest of her life she suffered from spells of unconsciousness, even while she was helping others to escape to freedom.

Though born a slave, Harriet Tubman's spirit thought freedom. She begged her husband to flee North with her, but he refused. She chose to risk her chance for freedom without him. Alone, she faced the hazards along the way to Pennsylvania.

At 30 years of age, Harriet Tubman became a "conductor" on the Underground Railroad. In childhood she had learned of Moses, who had set his people free. And for ten years she was a "Moses" to her people, leading them to freedom. Snatches of the song, "Go down, Moses," were signals on the Underground Railroad.

During her rescues Harriet Tubman was often sought by men using guns and dogs; yet she stayed in the home of Ralph Waldo Emerson and was befriended by Louisa May Alcott. Her 10 journeys netted freedom for 300 men, women and children. The price on her head grew to an unbelievable figure for that day - US\$40,000. But she was never caught or harmed, nor were any of her "passengers".

One of her most heroic rescues was of a fugitive slave, Charles Nalle, who was in custody and being returned to his owner. Harriet Tubman gathered a crowd to make his return difficult. As the excitement rose, the abolitionists dragged the prisoner away from his captors. However, Nalle was recaptured and locked in the office of the Justice of the Peace.

One of the huge men moved forward from the crowd and splintered the door. A few moments later he dropped to the floor, felled by a deputy hatchet. Harriet Tubman stepped over his body and bore Nalle out into a buggy which carried him to freedom.

During the Civil War Harriet Tubman rendered further service. She was both a military scout and a nurse to Union armies.

Let our women learn from Harriet Tubman's example to survey damages, to rescue and to provide first aid.

I have had discussions with officials of the Ministry of Education regarding introduction of disaster management as a subject for primary and secondary schools and have also sent them some literature to be included in the curricula. When this subject is introduced, not only the children but their mothers would also benefit and in due course of time will actively participate in disseminating to their community a flow of life protecting information.

I might add here that women in the country are already making significant contributions in prevention and reduction aspects of Disaster Management. Professional women from Town and Country Planning Division and Institute of Marine Affairs are helping in carrying out vulnerability analysis of Tobago. Working women can help by getting involved in this exercise at their respective workplace..

Ultimately, the most important thing women have to do is to stir up the zeal of women themselves. A zeal which was amply demonstrated by the delegate from St. Kitts at the opening ceremony in the words "Here we come to rule". We will then be able to capitalize on women's capacity for work, determination, resilience and intuition for disaster preparedness. As Margaret Thatcher once said that women live in contact with shortage of food supplies, housing problems and ever decreasing opportunities for children. Therefore, they can have a greater impact on disaster preparedness of the communities then.

And when women display that they are as good as men, if not better, in disaster management the dream of John Stuart Mill might come true who said way back in 1869, I quote "The principle which regulates the existing social relations between two sexes - the subordination of one sex to the other - is wrong in itself, and one of the chief hindrances to human improvement; and it ought to be replaced by a principle of perfect equality, admitting no power or privilege on the one side, nor disability on the other - Unquote.

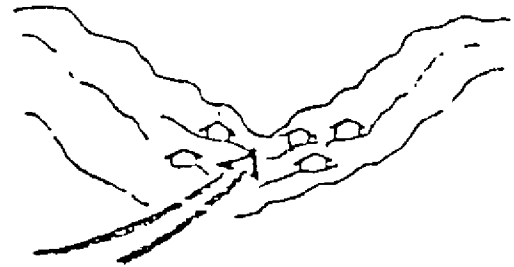
## GUIDELINES FOR DESIGN AND CONSTRUCTION

The following 25 points should be incorporated where possible when new buildings are being designed and constructed in hurricane areas, or when damaged buildings are being repaired.

These guidelines either help to reduce the forces exerted on the building whilst strong winds are blowing, or help to increase the resistance of the structure to the forces.

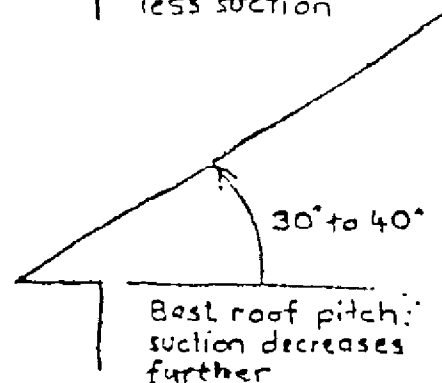
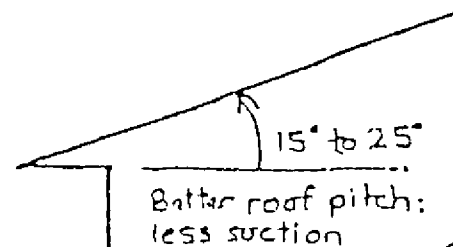
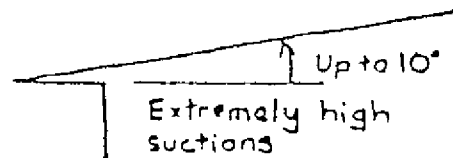
## Location:

1. Take advantage of natural wind-breaks such as trees or hedges when locating a building. Such a site can reduce the impact of prevailing winds.
2. Be careful of sites on hills or near tops of hills. Windspeeds can be much higher.
3. Valleys funnel winds and can create higher wind speeds.

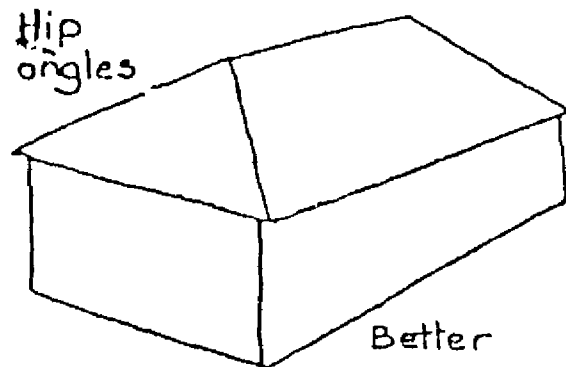
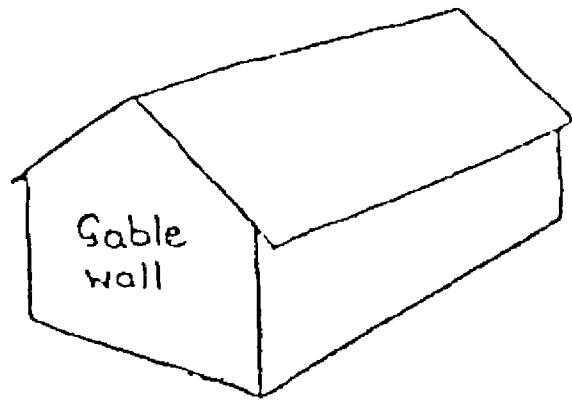


## Shape of Building:

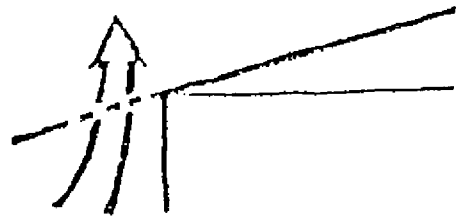
4. Carefully consider the pitch of the roof.



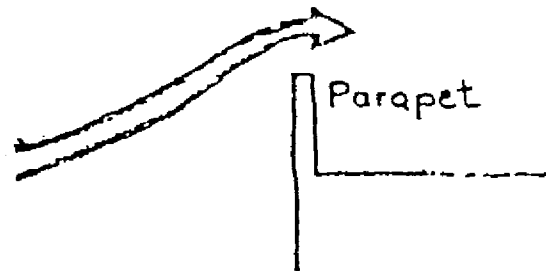
5. Consider having a hip-angle roof instead of gable ends. Roof suctions can be reduced.



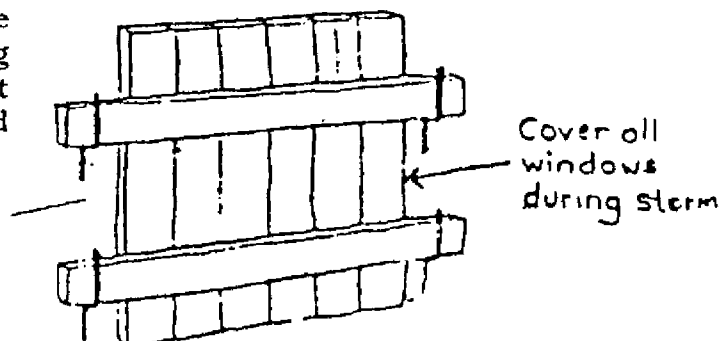
6. Avoid large roof overhangs, even if they are supported at the edge by columns. If necessary, use vents to relieve the pressure.



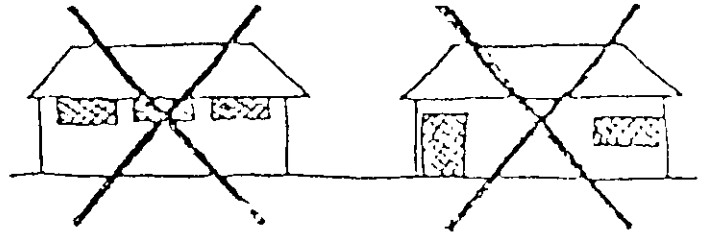
7. A parapet around a roof can help to reduce the high suctions along the roof edges.



8. Try to have shutters that can be placed over all windows during hurricanes. These will help prevent missiles breaking windows and creating high internal pressures.

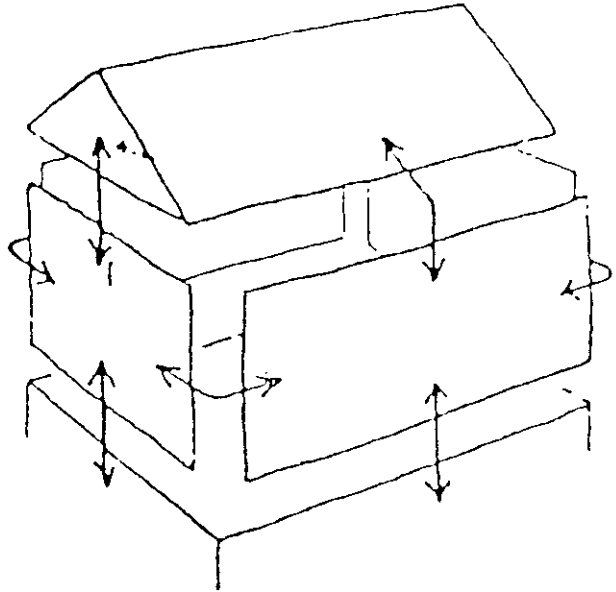


9. Avoid large openings near roof lines or near corners of walls. These tend to weaken the structure, and are located in areas of greatest loading.

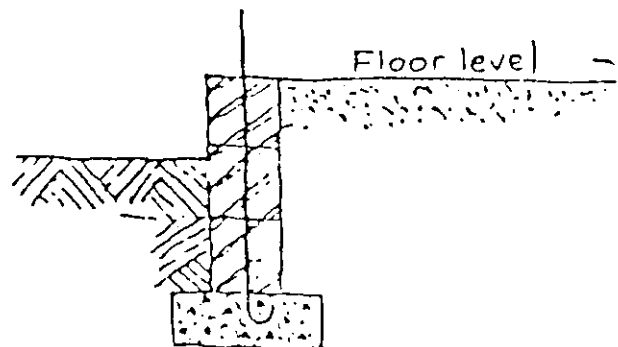


Construction details:

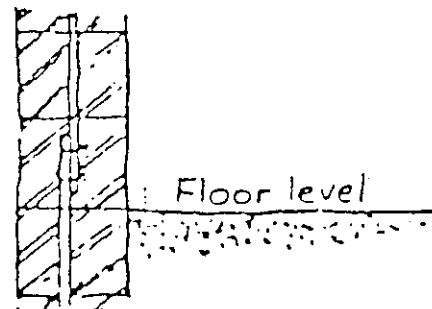
10. Make sure that every part of the building is securely tied together; all roof elements, roof to walls, walls to walls, walls to floor, floor to foundations.



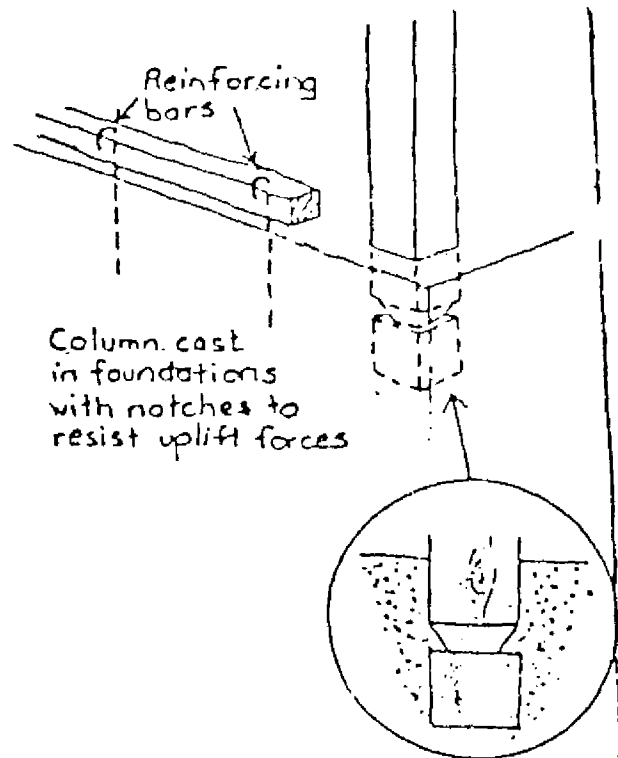
11. Have good foundations, well constructed to a uniform depth all round the building. Place a continuous concrete footing in a trench. Have reinforcing bars out of the concrete footing and through hollow masonry blocks filled with concrete.



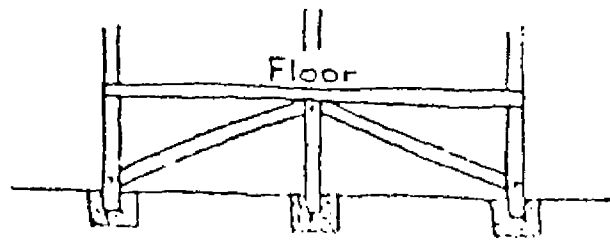
12. Use the foundation reinforcement to anchor the subsequent house construction. If masonry construction is used, lap and continue the reinforcement in the walls.



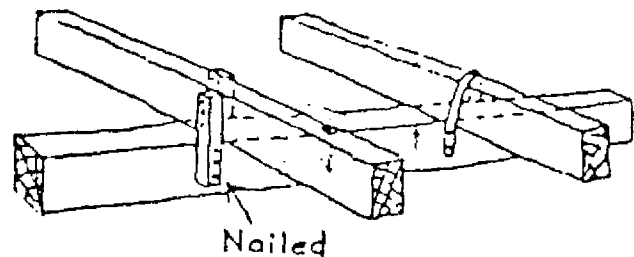
13. If timber walls are used, ensure a positive connection and tie-down to the foundations, either by using reinforcement from the footings, or by casting columns *in situ* in the foundations. In this case "notch" the columns to resist uplift forces.



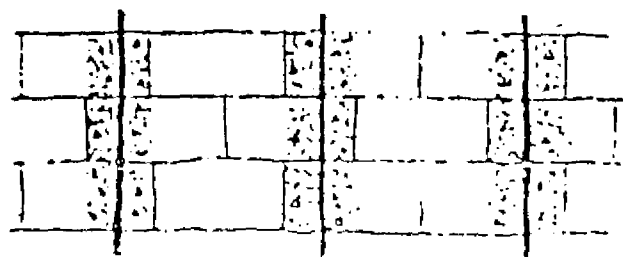
14. If a suspended floor construction is used, ensure that the entire sub-structure is braced and positively anchored to the foundations.



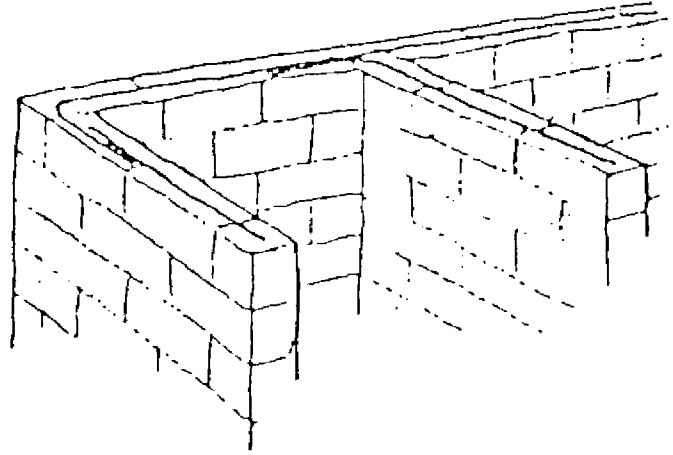
15. All timber floor joists must be firmly connected by pairs of connectors or metal straps.



16. All masonry construction must be reinforced. The voids for the reinforcement must be filled with concrete.



17. Horizontal reinforcement should be used around corners, between intersecting walls, and between columns and infill walls.

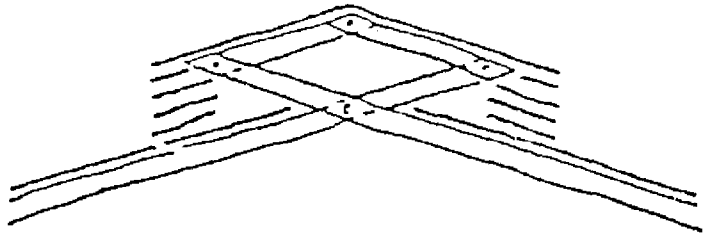


18. Ensure positive connections between door frames, window frames and lintels and the walls in which they are placed.

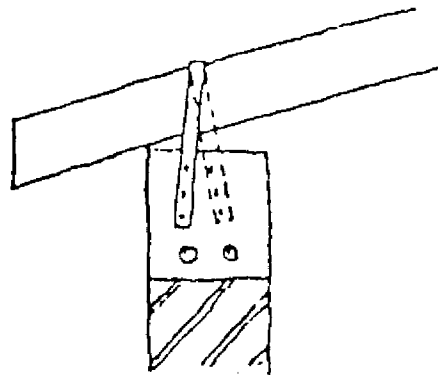
Roof construction:

19. WHATEVER THE FORM OF ROOF CONSTRUCTION, BE SURE TO TIE IT SECURELY TO ITS SUPPORTING WALLS OR POSTS. IGNORING THIS CAUTION IS THE GREATEST SINGLE CAUSE OF DAMAGE DUE TO HURRICANE WINDS.

20. Consider using a ridge ventilator to reduce the internal pressure and thus decrease the total roof uplift.

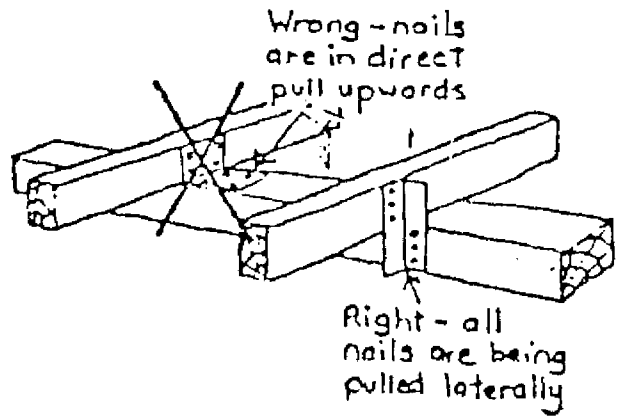
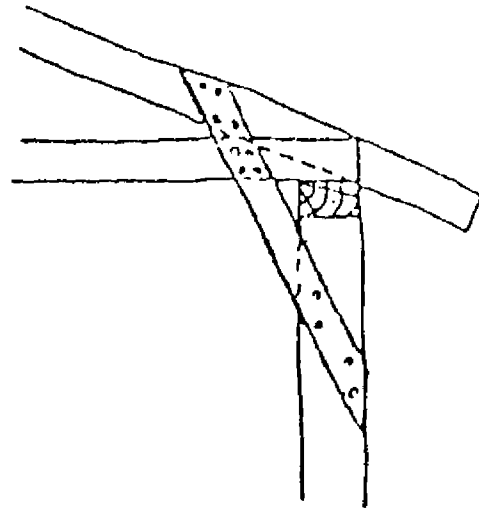


21. When connecting a timber roof to a masonry wall, use a fastening strap or reinforcing bar that is firmly embedded in the concrete or masonry.

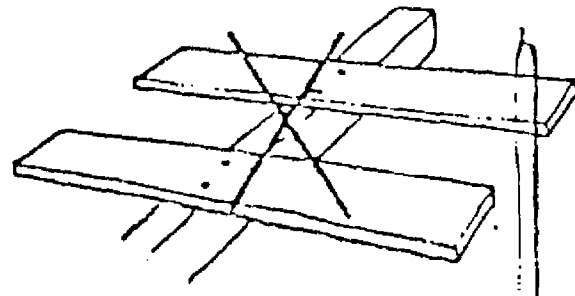
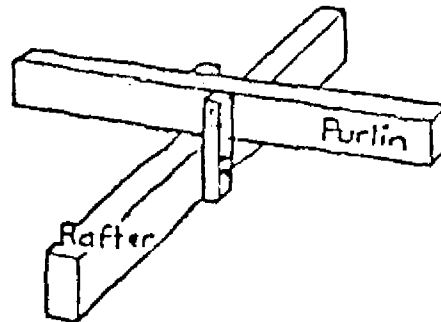




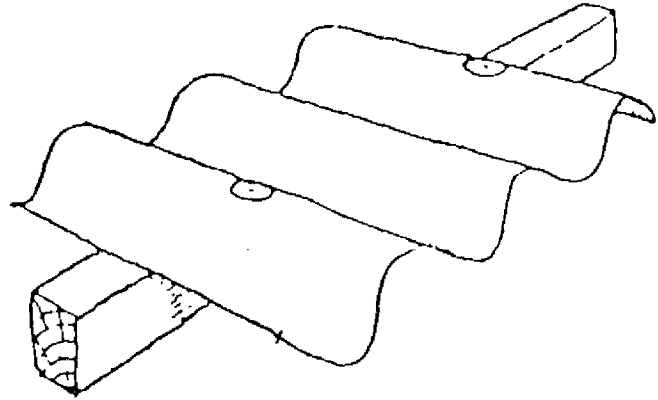
22. The roof members to timber walls with straps, brackets or wooden cleats. Nail the connectors to all members, MAKING SURE THE NAILS ARE DRIVEN IN LATERALLY, NOT IN DIRECT PULL.



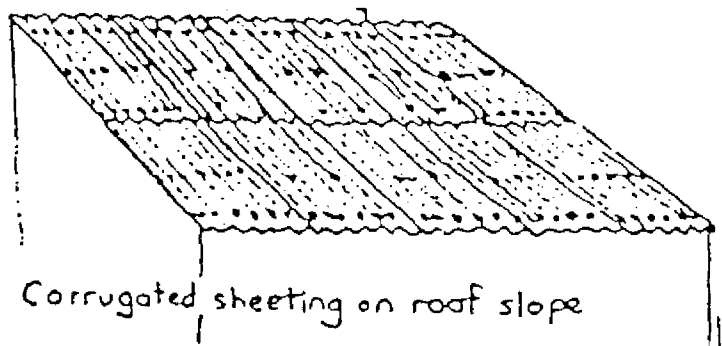
23. Tie all purlins to all rafters by at least one, and preferably two, connectors. DO NOT NAIL PURLINS FLAT ON TO RAFTERS.



24. When nailing corrugated roof sheeting to purlins, nail through the top of the corrugations and use a washer at least  $\frac{3}{4}$  inch in diameter.



25. Nail every corrugation along the bottom purlin (at the eaves); nail every corrugation along the top purlin (at the ridge); nail every corrugation on the end sheets (at the gable ends); nail every third corrugation over the rest of the roof. Ignoring these nailing recommendations result in the tremendous loss of roof sheeting in hurricane winds.



ORGANIZING DISASTER MANAGEMENT

A Frenchwoman had died and at her funeral her husband bore his bereavement with stoic fortitude, but her lover was in floods of tears.

'Cheer up, old man' said the husband consolingly. "After all, I shall probably marry again before long".

I am afraid Disaster Managers are not so lucky. They seldom get a second chance. Be it in Jamaica after Hurricane 'Gilbert' or in South Carolina after 'Hugo' they are usually shown a Red Card. But I don't believe anyone is here this afternoon to sympathise with Disaster Managers. Having been a Rotarian myself - albeit undistinguished - it is not difficult for me to diving that the sympathy is with those who suffer - or indeed, with those who at some time will inevitably suffer from the impact of disasters. Generally these sympathies stem from a conviction that was expressed by the then Prince of Wales in the last great world depression thus, 'Something must be done for the less fortunate who bear the greatest risks and who are the least well endowed to meet them.'

'Something must be done.' By what? 'Something', in our country has been given the name of Emergency Management. When I was asked to take over the post of Director of National Emergency Management Agency, Head of a senior service in the Ministry of National Security remarked 'why waste an engineer in this capacity because disaster do not happen in Trinidad and in any event only when earthquakes and hurricanes occur a Disaster Manager is required.'

Second structure is a Technical Tasks Force under the Chairmanship of the Permanent Secretary to the Prime Minister to deal with Hazard Analysis, Vulnerability Analysis, Mitigation prevention and Recovery. Members of this Task Force are drawn from the University of the West Indies and various relevant Ministries.

The Policy decisions concerning Emergency management are taken by the National Emergency Management Board which is presided by the Prime Minister and has Ministers of Works, Health, National Security, Food Production, Resettlement and Planning & Mobilization.

1990's have been designated as an International Decade of Natural Disaster Reduction by the United Nations General Assembly. This country was requested to form a National Committee for the decade to reduce risks and losses caused by the violent forces of nature. The National Emergency Management (NEM) Board decided to constitute such a Committee which was members from the Chamber of Industry and Commerce, Insurance Industry, Bureau of Standards, Association of professional Engineers, Town and Country Planning Division and Ministry of Works. At present it is directing its efforts to inspection of vulnerable buildings, standing orders for various hazards, compulsory insurance of low-income dwellings and identifications of areas exposed to various hazards.

We have had an opportunity to test these organizations recently when Hurricane Hugo threatened to strike at Tobago and North Trinidad and when it actually hit St. Kitts and Montserrat.

At Whitehall stables we established an Emergency Operations Centre on September 15, 1989, set up radio communications with the help of the Amateur Radio Society and eight (8) Walkie Talkies donated by Maritime (Caribbean) Insurance Company and arranged with all the co-ordinators to assemble there in case of any emergency or at least to remain in touch by radio communications. That night we kept getting information from all parts of the country and various Caribbean islands on the havoc that the Hurricane was inflicting on them.

He was wrong on both counts. Firstly, our country can experience major industrial accidents, or accidents of sea and air transport. Nor are we safe from deliberate actions which produce the same results as do accidents. And we are all conversant with the damage that can be inflicted by earthquakes, hurricanes, landslides, tsunamis, floods and wildfire. Whether accidental or deliberate, these events commonly produce many casualties, local communication failures, confusion if not chaos, and possibly needs for evacuation, sheltering, feeding and so on - quite apart from the general disruption of ordinary life and the direct and indirect economic effects.

Secondly, Disaster Management encompasses both routine and crisis situations. Routine management relates to those activities which occur during non-crisis periods such as disaster mitigation and disaster reconstruction. Crisis management applies to emergency operations and covers both the preparedness phases and the immediate post-disaster periods. Major aspects of Disaster Managements can be described as Hazard Analysis, Vulnerability Analysis, Mitigation and Prevention, Preparedness, Prediction and Warning, Response and Reconstruction. Thus you will see that the harder part of Disaster Management is really during routine situations.

You may well ask what organizational structures have been set up in the country to deal with these aspects of disaster management. First there is the National Emergency Management Agency (NEMA) Task Force under the Director to deal with preparedness, Prediction & Warning and Response. This Task Force comprises of Meteorological Service, Fire Service, Defence Force, Police Service, Ministry of Works and Decentralization, Information and Communication Divisions in the Office of the Prime Minister, Ministry of Health, Red Cross, Private Sector, Ministries of Public utilities, Education, Energy and External Affairs. As you will notice this Task Force has been drawn from various private and public agencies to form a homogenous team.

A report came in from Manzanilla on the night of September 16, 1989 that dwelling of thirty-five (35) fishing families were in danger, Arima Fire Station sent a survey team immediately and they reported to me that water had entered their houses. Immediately, a Detachment from the Defence Force was sent to evacuate them but by the time they reached the site the Fire Service had brought the situation under control. Nonetheless, next day we sent a Works Department Force there which helped in clearing up and forming a temporary bond to resist wave action. Crisis, small thought it was, was controlled with precision and efficiency.

More difficult was the task of organizing assistance to the hurricane hit St. Kitts and Montserrat. On the 16th and 17th of September we received reports of damage to housing, hospital facilities, water supply and power supply from St. Kitts and Montserrat. On 18th morning Caricom Secretary-General formally requested the Prime Minister for assistance. I got in touch with Mr. Roderick Rainford the Secretary General to find out the exact requirement and he referred me to the Caricom Disaster Relief Centre at Barbados who in turn agreed to give me their specific requirements. The same afternoon the Prime Minister summoned a meeting of the NEMA Board at which it was agreed that we will send a chartered BWIA Flight on Thursday the 19th and request any commercial shipping company to convey our relief supplies thereafter as early as possible. Immediately our Task Groups of Survey, Search and Rescue, Public Utilities, Health, Private Sector and Volunteer resources got into action and we were able to respond in the following manner:

- (a) A Relief Contingent of 81 self-contained personnel and relief supplies were sent aboard a special BWIA flight on 21st September
- (b) Approximately 40 tons of food and building materials were sent on the ship "Minstrel" next day.

- (c) Approximately 6 tons of food and building materials were sent through a special French Aircraft on 28th September
- (d) Three (3) containers of food and building materials were sent aboard "Nicollette" on 8th October, 1989.

I will be quite out of place if I were to offer you some unsolicited advice as to how to render assistance to those who are hit by natural disasters in our own or even neighbouring countries. But I will fail in my duty if I did not state that 'NEMA' is organized to collect first hand information of damage assessment and needs, marshal the appropriate resources and ensure their timely despatch to the distressed area. You are most welcome to use this Agency to channel your donations.

Rotarians, for too long a military career has been regarded as the noblest profession in the whole world. But I suggest more relevant to us is what Emerson said a hundred and twenty-five (125) years back, I quote "War and Peace resolve themselves into a mercury of the state of cultivation. At a certain stage of his progress the man fights if he be of a sound body and mind. At a certain higher stage he makes no offensive demonstration but is alert to repel injury and is of an unconquerable heart. At a still higher stage he comes into the region of holiness as one engaged throughout his being no loner to the service of an individual but to the common soul of all men". Come then let us strive to be at least at the second stage and together be alert to repel injuries caused by disasters.