

**DOCUMENTO ORIGINAL INCOMPLETO**

THE UNIVERSITY OF THE WEST INDIES CURRICULUM.  
ROLE OF THE FACULTY OF ENGINEERING IN DISASTER  
PREVENTION

by

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**BACKGROUND**

The University of the West Indies has been at the centre of disaster management in the Caribbean ever since the assimilation of the Seismic Research Unit (SRU) and the launching of the Faculty of Engineering on the St. Augustine Campus in 1961. But this is not to diminish its contribution to the field of disaster prevention by the Mona Campus before or by other facilities on all the three campuses since.

The Seismic Research Unit continued its work of collecting data, analysing and disseminating information, conducting research, issuing warnings and assisting in recovery after vulcanic eruptions and seismic episodes. But it was the Faculty of Engineering, in particular the Department of Civil Engineering, that was to naturally plunge deep in the question of disaster prevention. It should be pointed out that even here the initial thrust was not in disaster prevention per se but rather in the application of engineering science and technology in attempting to resist the forces of nature.

At this juncture it would be instructive to note that when we speak today of disasters management we must use as the framework a wider vision which includes Natural Disasters, Man-Made Disasters and Epidemics. (See Fig.1).

The principal focus of this presentation will be confined to the grouping, Natural Disasters primarily since this was the initial and principal thrust in dealing with disasters.

Academic staff in the department of Civil Engineering were in the forefront of the discussion on the design requirement in dealing with seismic activity. They, together with their colleagues in the profession, began to organise several seminars and workshops, as they wrestled with such issues as zoning, ground(soil) response, building dynamics and codes of practice.

While the seismologist and the engineeris were addressing the effect of earthquakes on buildings, the question of wind damage to buildings was put under greater engineering scrutiny. The yearly visits of tropical storms and hurricanes demanded workshop, seminars, conferences and above all the collecting of data and the conducting of research.

The question of landslides and slope instability in the region has been put under the same engineering scrutiny by academic staff. While the initial focus on hydrology included surface water management, increasingly this was to include drainage designs to deal with flooding. This was to yield its full share of seminars, and conferences, research and publications and the consequent influence on design practice.

We should point out that the Faculty of Engineering of the West Indies drew its student population from the entire English speaking Caribbean. Its field research was to collect data on the entire region and through its link with the professional bodies in each territory as

In Chemical Engineering staff have introduced the question of industrial disaster and industrial safety into several of the courses beginning in the first year. In the third year in Civil Engineering we have the following:

**CE32B Environmental Geotechniques**, which includes Landslides, Earthquakes, etc.

**CE34B Environmental Engineering I**. This includes ETA. Mitigation of forest destruction.

**CE34B Environmental Engineering II**. This includes disaster mitigation.

**ME36A Maintenance and Safety Engineering**  
Industrial disasters, Fires, Explosion etc.

**CE31A Structural Analysis and Design**  
Wind and Seismic design.

These are only some of the areas in which disaster management has been introduced

We can say in concluding, that the focus has been as follows :

- a. At the Undergraduate years:  
Introductory lectures on the technical issues and some discussion on the impact of disasters and the possible responses via disaster management.

THE CARIBBEAN DISASTER MANAGEMENT RESEARCH CENTRE  
(CDMRC)

In 1989 a proposal was presented first in the Department of Civil Engineering and then to the Faculty of Engineering in respect of the setting up of a Disaster Management Centre.

*"A disaster management centre should be established within the Department of Civil Engineering of UWI, which will act as the focal point for a network of researchers in the area of disaster management and undertake a programme of research on the various aspects of disaster such as structural design of roofs. In addition it will serve as a documentation centre for the dissemination of information and the monitoring of workshops/seminars/training seminars on relevant disaster management topics."*

The proposal went on to say:

"The activities of the proposed centre will included, inter-alia :

"i) Research into natural and manmade industrial disaster. A documentation centre for information on disaster and dissemination of information gathered, to Caribbean territories.

ii) The development and implementation of training programmes for the region including lectures/seminars/workshops on all aspects of disaster management.

The programme of work for the CDMRC can be presented in the following three phases :

1. Short Term (rest of 1991)

Courses/Workshops, etc

- (a) Vulnerability Analysis of Essential Facilities
- (b) Establish contact with all other Disaster Management and Research Centres and visit some of them to get first-hand knowledge and establish personal contacts. This will prove very valuable,
- (c) Begin assisting in developing disaster plans for industrial estates
- (d) Begin a Newsletter
- (e) Begin to build a library of books, papers, journals and video films.
- (f) Begin preparing for the First Caribbean Disaster Management Conference (December 1991)
- (g) Begin preparing for the Coastal Zone Management Seminar/Workshop (July 1991).

2. Medium Term (up to end 1993)

- (a) Develop a computerised information centre;
- (b) Begin short publications and monographs;

- (c) Establish a journal for the Caribben on Disaster Management;
- (d) A research programme should be in place;
- (e) Begin a diploma programme in Disaster Management.

**3. Long Term (beyond 1993)**

- (a) A full academic programme satisfying a Certificate, Graduate Diploma and Masters Programme.
- (b) Established Newsletter;
- (c) Established Journal;
- (d) Esatblished Annual or Bi-annual Caribbean Conference on Disaster Management;
- (e) Established research programme;
- (f) Established capacity to investigate, make recommendation on disaster simulation response to both natural and man-made disasters.

It is obvious that even the initial concept of the CDMRC was bigger than the department of Civil Engineering and indeed bigger than the Faculty of Engineering.

**SUMMARY**

At this juncture, the objective conditions outside the University and within, as well, greatly favor this venture and augurs well for the successful realisation of the CDMRC. There is the objective need for the creation of this organisation and there are several disparate streams of activity within the St. Augustine Campus and without which if working together would be able to exert a powerful influence in disaster management research and training within the Caribbean. The meaningful work of this Center must ultimately demand the full blessing and financial support from the rest of the University community but the vision and the horizon must seek to encompass and lock into similar efforts in Martinique, Guadeloupe, Cayenne, Suriname, Puerto Rico, The Dominican Republic, Haiti, Cuba, Aruba, Curacao, Guyana, Venezuela, Colombia, the Central Americas and the Caribbean states of North America. The CDMRC, if it fails, will not be from want of goodwill from without and commitment from within the St. Augustine Campus.

CDMRC must link the concerns of natural and man-made disasters as well as environmental degradation. CDMRC must, by extension, therefore be concerned with the economic development of the Caribbean Basin States.

In conclusion it must be restated that while the initial responses to disasters within the University has been mainly technical and engineering, it is necessary for us to recognise that disaster management is a multi-disciplinary process involving a wide range of skill and expertise and experience. The CDMRC as conceived is