

**Best Practices and Continuing Challenges:
Comprehensive Disaster Management
In The British Virgin Islands**

Territorial Visits Conducted

5 – 26 July, 2003

and

10 – 24 August, 2003

Report Submitted

December 6, 2003

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1.0 Introduction

1.1 This report is written as a companion to Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, 2003, which is on file at the Department of Disaster Management, #3 Wailing Road, MacNamara, Road Town, Tortola, BVI. The Capability Assessment for Readiness process required two visits to the Territory during the summer of 2003. As this report is written as a companion piece to Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, the two documents are complementary. This report can be viewed as an executive summary of the companion report, and items discussed in detail in the companion report may not be as detailed in this report.

1.1.1 A wide variety of governmental, private sector, non-governmental, and voluntary organisations were visited during these two periods of time to ascertain the status of the Territory's comprehensive disaster management programme. The contributions of representatives of these organisations were invaluable to understanding the Territory's arrangements for disaster management. Any mistakes of fact or misunderstandings of the actual conditions present during the visits are solely the responsibility of the consultant.

1.1.2 The organisations consulted during this visit included:

Government

Office of the Governor

Governor His Excellency Mr. Thomas MaCan
Attorney General's Chambers
Department of Disaster Management
Royal Virgin Islands Police Force
Marine Unit

Office of the Deputy Governor

Deputy Governor Mr. Elton Georges, OBE
Training Division

Office of the Chief Minister

Department of Information and Public Relations
Department of Town and Country Planning
BVI Tourist Board and Film Commission

Ministry of Finance

Financial Secretary
Development Planning Unit
Department of Customs

Ministry of Communications and Works
Department of Fire and Rescue Services
Department of Public Works
Department of Water and Sewerage
BVI Electricity Corporation

Ministry of Natural Resources and Labour
Department of Agriculture
Department of Conservation and Fisheries

Ministry of Education and Culture
Department of Education and Culture

Ministry of Health and Welfare
Department of Health
Environmental Health Division
Department of Social Development
Community Development Unit

Private Sector

BVI Chamber of Commerce and Hotel Association
Caribbean Insurance Management, Ltd.
Caribbean Insurers, Ltd.
Cable and Wireless (West Indies) Ltd.

Non-Governmental and Voluntary

BVI Red Cross
Virgin Islands Search and Rescue

- 1.1.3 This report is designed to highlight those exemplary practises already in place within the Territory of the British Virgin Islands. While several practises are highlighted below, it is not an exhaustive list. There are certainly exemplary practises within individual ministries/departments and private sector organisations that were not identified during the consultancy.
- 1.1.4 In addition to discussion best practices, this report will highlight some of the key challenges in disaster management facing the Territory. There may be challenges existent within the Territory that were not identified during the consultancy.
- 1.2 Consultant. The Department of Disaster Management (Government of the Virgin Islands) contracted with Mr. Jeffery A. Hartle, CFPS, MIFireE, to prepare Best Practices and Continuing Challenges: Comprehensive Disaster Management In The British Virgin Islands. Mr. Hartle has made several visits to the Territory as a consultant to the Department of Disaster Management. Mr. Hartle is a Certified Fire Protection Specialist and a Member of the Institution of Fire Engineers. Additionally, Mr. Hartle has earned undergraduate degrees in Fire and Safety Engineering Technology, and a Master of

Science degree in Industrial Safety Management. Mr. Hartle is presently pursuing a Ph.D. in the field of Environmental Science, with a specialisation in Disaster and Emergency Management. Mr. Hartle has more than fifteen years of experience in industrial and commercial fire protection, and more than 20 years of experience in the fire and emergency services, including nine years of experience as an Assistant Chief Fire Officer. Mr. Hartle has taught fire science and emergency management at several universities and colleges, and has lectured at numerous professional conferences. He presently serves as an adjunct instructor at Park University, where he teaches in the Disaster and Emergency Management Option of the Master's of Public Affairs degree. Mr. Hartle can be reached by the following methods:

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2.0 Best Practices

- 2.1 The Government of the Virgin Islands has long been recognised as a regional leader in disaster management. Representatives of the Territory, including governmental authorities and members of the staff of the Department of Disaster Management (DDM), are regularly asked to present at regional and international conferences on the successes of the Territory's comprehensive disaster management programme. The Territory was singled out in the Study of Disaster Management Capability in the United Kingdom Caribbean Overseas Territories (February 2000) as possessing "the most comprehensive DM (disaster management) programme of all UK Caribbean Overseas Territories. There are many exemplary disaster management practises in place within the Territory. As noted above, it is possible that existing exemplary practises were not identified during the consultancy.
- 2.2 One of the great strengths of the Territory's comprehensive disaster management programme is the formal assignment of the responsibility to a specific government organisation. As discussed in Disaster Digest: 20th Anniversary Issue 1983 – 2003 (on file in the Department of Disaster Management), Elton Georges, OBE, recalls that prior to 1983, disaster management was not a formal unit of government and there were no specific plans in place to manage the disasters that periodically impact the Territory. However, since that time, great strides have been made to inculcate the culture of disaster management throughout the community.
- 2.2.1 The antecedents of the current Department of Disaster Management (DDM) were introduced in 1983. One individual in the Office of the Deputy Governor was assigned part-time responsibilities for disaster management. Since 1983, the population of the Territory has almost doubled. In addition, the economy of the Territory has seen exponential growth. These two factors have supported the growth of DDM into the organisation it is today. Disaster Management is now a recognised department within the Office of the Governor of the Territory. There has been significant personnel growth within DDM in response to the demands placed upon it by the expanding economy of the Territory. The economic growth has been built on two segments of the economy: the financial services sector and the tourism sector. It should be noted that both of these 'twin pillars' of economic strength rely upon trust. Corporations seek to locate their financial organisations in stable countries where the public infrastructure supports the round-the-clock demands of the global economy. Tourists seek pleasant experiences, where the community is able to provide the services that make their vacations memorable. Any significant disruption to normal life created by natural or technological hazards can upset the balance of trust placed in the Territory by corporations and tourists. It is essential that the Territory adopt comprehensive disaster management plans to minimise the impact of disaster events and restore community services as soon as possible.
- 2.2.2 The Territory's legislature has recently enacted the Disaster Management Act, 2003. This act formalises many of the disaster management procedures adopted over time by the Department of Disaster Management (DDM) and its antecedent organisations. The adoption of this Act places the Territory's comprehensive disaster management

programme in advance of many other Caribbean nations. While the experience of operating under this new Act is minimal, the Act provides structure to the programmes of DDM. In addition, the Act clearly defines the powers of the department and its director during both emergencies and normal activities. As a result, the department is clearly positioned to move forward with a clear legal mandate for its activities.

- 2.2.3 As a result of practises adopted over time, and formal recognition within the Disaster Management Act, 2003, the Department of Disaster Management has formal mutual aid agreements with other Caribbean nations and non-governmental organisations that will support the disaster management programme of the Territory. Excellent relationships with the Caribbean Disaster Emergency Response Agency (CDERA) and the Pan-American Health Organisation (PAHO) have been forged through professional and personal contacts. Through these organisations and others, the Territory has access to a vast array of resources that will aid in reducing the impact of disaster events.
- 2.2.4 The Territory has adopted and implemented a National Disaster Management Plan. This plan, currently authorised under the Disaster Management Act, 2003, must be reviewed and adopted anew every five years. This statutory requirement ensures that the plan will not become significantly outdated, and that a periodic review of the National Disaster Management Plan, as well as any recent disaster events, will take place. While other nations may have national plans, it appears that the Territory's plan is both current and effective.
- 2.3 The Territory of the Virgin Islands is fortunate to have a stable government structure. This stability may be responsible, in part, for the economic growth of the Territory. The Government of the Virgin Islands is organised in such a way as to minimise any constitutional crises created by the death or incapacitation of senior governmental officials. As a result, the Territory is well situated to withstand any continuity of government issues.
 - 2.3.1 The Virgin Islands are a British Overseas Territory of the United Kingdom. The Governor is appointed by the Foreign and Commonwealth Office of Her Majesty's Government in the United Kingdom to represent the Crown within the Territory. The Governor has direct responsibility for external affairs, defence and internal security (including the Royal Virgin Islands Police Force). Should the Governor be unable to fulfil his duties, the Foreign and Commonwealth Office will appoint another Governor. In the Governor's absence, a Governor (Acting) is appointed to exercise the office. In many cases, the Deputy Governor is appointed as Governor (Acting). Both the Governor and the Deputy Governor are actively engaged in the disaster management programme overseen by the Department of Disaster Management, which is currently assigned to the Deputy Governor's portfolio. A National Disaster Management Council is mandated by the Disaster Management Act, 2003 and the Council is chaired by the Governor. The National Disaster Management Council is discussed in more detail below.
 - 2.3.2 The Constitution of the Virgin Islands provides for a large measure of internal self-government. The Constitution provides for a ministerial system of government headed by the Governor, an Executive Council (ExCo) and Legislative Council (LegCo). The

Legislative Council comprises 13 elected members – 5 Ministers and 9 other elected members: 9 members are elected under a district system and the others by territory-wide vote. The Constitution makes provision for the replacement of Ministers who are unable to fulfil their duties. In addition, each Ministry has a Permanent Secretary, who is the senior civil servant in that ministry. Departments within each Ministry are assigned Department Heads, who ensure that the daily activities of each department are carried out. As a result of these provisions, the regular functions of government should be able to be continued during times of disasters or emergencies.

- 2.4 Another great strength of the Territory's comprehensive disaster management programme is the adoption of a mitigation plan that incorporates the principals of the National Integrated Development Strategy adopted by the government. The framework of the Territory's mitigation programme was adopted in April 2002, and much work is needed to fully integrate mitigation into the routine activities of both government and private sector organisations. However, the acceptance of mitigation into everyday activities would not have begun without this significant step forward. The Territory is to be commended for its foresight in adopting a formal mitigation programme.
 - 2.4.1 Another exemplary activity adopted recently by the Department of Disaster Management (DDM) is the cooperative development with H. Lavity Stoutt Community College, the Territory's tertiary educational institution, of a programme of study in Disaster Management. This program is unique in the Caribbean, especially at the community college level. HLSCC and DDM are discussing the possibility of expanding the current Certificate programme into an Associate of Arts degree programme. DDM has assisted HLSCC with curriculum development, including the use of regional hazards such as Montserrat's Soufriere Hills volcano for field laboratory experience. In addition, DDM has assisted students interested in disaster management as a career field by providing tuition assistance to qualified participants. The assistance programme has already provided direct benefits to DDM, as several graduates of the first Certificate course have been given disaster management responsibilities within their government organisations, beginning the process of developing a disaster management culture throughout the community.
- 2.5 In addition to the mitigation plan mentioned above, there are several other plans that have been adopted by the National Disaster Management Council and the Department of Disaster Management. These plans are designed to increase the functionality of the existing resources within the Territory and ensure the efficient delivery of disaster resources throughout the Territory.
 - 2.5.1 The Department of Disaster Management (DDM), working collaboratively with the Department of Health (Ministry of Health and Welfare), has focused attention on the role of the Department of Health in the comprehensive disaster management programme of the Territory. The Department of Health has hired a disaster planner to develop a medical disaster plan to maximise the health resources of the Territory and strengthen the medical system's capacity, especially as it relates to disaster management. DDM, working with its regional partners, including the Pan-American Health Organisation, is supporting the activities of the medical disaster planner. The

result of this unique partnership between DDM and the Department of Health should be a territorial health system that is more robust and capable of supporting the health needs of its citizens during and after disaster events.

- 2.5.2 The Department of Disaster Management (DDM) has implemented a supply management (SUMA) programme within the Territory that is compatible with the SUMA systems adopted by other nations throughout the Caribbean. The SUMA system, sponsored and supported by the Pan-American Health Organisation (PAHO), allows the Territory to access disaster relief supplies catalogued and maintained by countries throughout the region. By participating in this system, the Territory's disaster resources are augmented during periods of emergencies and disasters by the resources of other countries in the region. Additionally, the Territory is able to support the disaster management activities of other nations by making its resources available to other disaster-impacted nations, as authorised by the Disaster Management Act, 2003.
- 2.5.3 The National Disaster Management Council and the Department of Disaster Management (DDM) has developed and implemented an effective National Emergency Operations Centre (NEOC). The NEOC is physically located at DDM, and the DDM staff operate the NEOC during periods of declared emergencies and disasters. The present facility has served the Territory well during previous disasters. The companion report, Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands points out several shortcomings of the current NEOC facility. While these limitations cannot be overlooked, the Territory should be proud of the standard operating procedures that have been developed for the operation of the NEOC. These procedures have allowed the National Disaster Management Council to effectively manage the government's response to hazard events.
- 2.6 There are several miscellaneous elements of the Territory's comprehensive disaster management programme that are worthy of mention. Each of these elements contributes to the Territory's success in managing disasters and emergencies.
- 2.6.1 The Department of Disaster Management has been able to attract an experienced staff through the recruitment of resident full-time personnel from other government agencies and the use of multiyear contracts. The personnel turnover in recent years has slowed the department's ability to meet its ambitious annual work programme, but it appears that there will be some stability in the future. The Department has organised itself in an efficient manner, although the failure to finance an approved staff position for the Training and Research programme has created workload problems. It is essential that this staff position be financed as soon as possible to enable the Department to fulfil its assigned missions.
- 2.6.2 The reputation of staff of the Department of Disaster Management is well-regarded in the Caribbean region. Staff are routinely asked to participate in and lead disaster management workshops throughout the region. As a result, the Department has been able to attract several well-qualified individuals from other nations to work in the Territory under multiyear contracts. There is also a high level of educational

achievement among the staff of DDM. This speaks well for the Department and the Territory.

- 2.6.3 The Department of Disaster Management (DDM) has coordinated the delivery of specialised disaster management training for the emergency responder agencies of the Territory. DDM is able to bring appropriate training resources to the Territory that benefit numerous responder agencies. At times in the past, DDM has had to be a responder organisation to fill the gaps in the existing infrastructure. The training function is an example of this transition, as DDM has had to teach courses or fund specialised training for specific agencies. However, as emergency responder agencies more fully implement their own support mechanisms for disaster management, DDM will be able to serve its intended role as a coordination agency, ensuring that specialised responder training courses within the Territory are well publicised and attract students from a variety of responder agencies.
- 2.6.4 The Territory is fortunate that exercises are considered an integral part of the comprehensive disaster management programme. The Territory has a history of conducting annual full-scale exercises that regularly involve most emergency responder agencies. The lessons learned from these exercises are then utilised to improve the National Disaster Management Plan as well as the internal plans of the various government agencies.
- 2.6.5 The Department of Disaster Management has an active public information programme that generates numerous messages to the public in the form of print, audio, and video media. The community is generally well informed about the more common natural hazards such as hurricanes, and the public information programme should receive credit for this. DDM, working collaboratively with the Department of Information and Public Relations (Office of the Chief Minister), should continue this public information programme and expand it to include other natural hazards and technological hazards. The community has readily embraced the internet, and efforts to publish the various messages on the internet should be embraced and supported.

3.0 Continuing Challenges

There are a variety of disaster management challenges facing the Territory of the Virgin Islands. Many of these have been detailed in the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands. The companion report details twenty major recommendations for the improvement of the comprehensive disaster management programme of the Territory. In addition, additional minor recommendations are offered throughout the companion report. It is not the goal of this report to deal with each of these recommendations here. However, several issues are significant and must be addressed.

- 3.1 There is an under appreciation of the private sector contributions to the Territory's comprehensive disaster management programme. As Dennis Mileti notes in Disasters by Design, a 1999 book about mitigation, the construction and insurance industries are partnered with the public and government in the creation and use of building standards. In section 3.1.4 of the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, it is observed that the government has failed to recognise that the construction and insurance sectors have implemented mitigation-supportive procedures far in advance of government regulation. Mileti also observes that the tourist industry relies upon the public messages disseminated by disaster personnel about hazards and how to best prepare for them. The Territory's disaster management programme must develop an appreciation for the strength, resources, and resiliency of the private sector in order to fully serve the public's needs. This appreciation can only come about through direct involvement in the disaster management programme.
 - 3.1.1 The National Disaster Management Council (NDMC) has limited representation from the private sector. While the NDMC must have representatives from government ministries and departments, there needs to be more opportunities for the private sector to be involved in the Territory's disaster management programme. It is difficult to set any figure as the appropriate level of participation, but it is certainly desirable to have a more significant involvement of the private sector than is currently present. In addition, the various sub-committees of the NDMC should also seek increased participation from the private sector.
 - 3.1.2 As noted in Recommendation #6 in the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, the financial services sector and the tourism sector need to be invited to join in private-public partnerships that will aid these two vital sectors of the economy in achieving disaster resiliency. As was discussed above in this report, these two segments of the local economy provide a significant percentage of the government's revenues. Any mitigation efforts within these two market segments could result in a reduction of future disaster losses and strategically position the territory ahead of its regional competitors.
 - 3.1.3 As noted in the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, the Government of

the Virgin Islands needs to more fully understand the total cost of disasters and emergencies within the Territory (see Recommendation #20). The Ministry of Finance is encouraged to develop the ability to gather information about insured losses without revealing the confidential business information of the insurers working in the Territory.

- 3.1.4 As noted above, the construction, real estate, and insurance sectors of the economy are already partners of the public and government in the establishment and use of building standards. There is an urgent need for the Government of the Virgin Islands to adopt and implement regulations on the use of hazardous materials in commerce and fire safety regulations for the protection of public health and environmental protection. The government must seek out the participation of the private sector in the development of these regulations, but not at the cost of eliminating regulations altogether. The protection of public safety is one of the fundamental reasons for governments to exist within a civil society.
- 3.2 There is a significant problem associated with the government's need to continuously operate during and after a significant hazard event. There are several elements that need to be addressed.
 - 3.2.1 As noted in Recommendation #15 of the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, all ministries, departments, and statutory boards of the Government of the Virgin Islands must develop, adopt, and implement internal disaster plans for the delivery of essential services to the public. As the companion report observed, the Disaster Management Act, 2003 authorises the Governor to request such plans from any government organisation. It is recognised that this problem will not be resolved immediately. However, the Governor, in consultation with the National Disaster Management Council and other bodies, should determine which organisations are essential to the public welfare and ensure that these organisations move quickly to adopt continuity of operations plans.
 - 3.2.2 As noted in Recommendation #16 of the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, vital government records are not being adequately protected from harm or loss. The loss of vital government records could result in disruptions to the real estate, insurance, and financial services sectors of the local economy. In addition, the loss of birth, death, educational, and immigration records could be disruptive to citizens and lead to a loss of confidence in the ability of government to function after a disaster event.
 - 3.2.3 The government emergency responder organisations within the Territory are located in many different ministries. There have been emergency events in the past where these various emergency responder organisations could have worked more closely and collaboratively with one another. This situation has improved recently, but remains a concern. In a Territory as small as the Virgin Islands, all responder agencies must develop professional working relationships based on respect for the knowledge, skills, and capacities of its fellow responders. As efficient delivery of emergency services

complements the disaster management programme of the Territory, the National Disaster Management Council may seek to establish a forum for the regular exchange of information between these agencies in a formal manner. Section 3.3.4 below suggests the establishment of a new Emergency Planning sub-committee of the National Disaster Management Council that could provide the forum discussed herein.

3.3 There are challenges associated with the eight existing sub-committees of the National Disaster Management Council. The terms of reference for these sub-committees have been reviewed, resulting in recommendations for improvement.

3.3.1 The National Disaster Management Council has established eight sub-committees. These sub-committees are as follows:

- ❖ Damage Assessment and Mitigation
- ❖ Public Information and Education
- ❖ Telecommunications Management (also referred to as Emergency Operations and Telecommunications)
- ❖ Welfare and Relief Distribution
- ❖ Transport, Logistics, and Road Clearance
- ❖ Administration and Finance
- ❖ Marine Safety Action Group
- ❖ Health Disaster

3.3.2 The eight existing sub-committees have a variety of assigned roles. In some cases, the sub-committee has an advisory role, recommending actions to the National Disaster Management Council (NDMC). In other cases, the sub-committees have functional roles (including field activities during disaster events); although it appears that there are no resources or authority allocated to the sub-committee to achieve these functional responsibilities. It is apparent that all sub-committees of the NDMC should be assigned advisory roles only. Functional roles should be assigned by the NDMC to particular government ministries, departments, or statutory boards, based on the capabilities of the various government agencies. Most of the government agencies that might be assigned functional responsibilities already have representatives on the sub-committees. For example, the Administration and Finance sub-committee is assigned the responsibility of managing the disaster fund, although this responsibility is statutorily assigned to a Fund Committee chaired by the Financial Secretary by the Disaster Management Act, 2003. Some effort should be made to distribute the disaster-related functions widely throughout the government in order to minimise the burden on any one agency. All government agencies must realise that the Department of Disaster Management is a coordinating organisation only, and cannot be expected to perform all disaster-related functions of the government (see Recommendation #5 of the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands).

3.3.3 The responsibilities of each sub-committee appear to have evolved over time, without a periodic review and reconciliation of the relationships between the various sub-committees. As each sub-committee of the National Disaster Management Council

(NDMC) is assigned a representative of the Department of Disaster Management as an *ex officio* member, the staff officers of DDM often serve on more than one sub-committee. It is suggested that the NDMC periodically review the responsibilities of the sub-committees and reconcile their assigned responsibilities in relation to other sub-committees. For example, as logistics seems to be a fundamental element of welfare and relief, it would appear that logistics more closely fits with the resource management functions currently overseen by the Welfare and Relief Distribution sub-committee. Other such overlaps or gaps might be observed and rectified by the NDMC.

3.3.4 It is recognised that names are important and communicate to others the roles expected of various organisations. It would appear that some reorganisation of the sub-committees and their names might communicate the essential roles these organisations are expected to fulfil. The following are recommended to begin the discussion of reorganisation:

- ❖ Mitigation (formerly Damage Assessment and Mitigation)
 - This sub-committee should retain all of its current assignments, except as noted below.
 - The Damage Assessment assignment should be focused on physical damage. Reports from this sub-committee should be forwarded to the Administration and Finance sub-committee. Financial damage assessments should be assigned to the Administration and Finance sub-committee, thereby spreading the work load.
- ❖ Public Information and Education
 - This sub-committee remains unchanged
- ❖ ~~Telecommunications Management (also referred to as Emergency Operations and Telecommunications)}~~
 - This sub-committee should be disbanded and its telecommunications responsibilities are included in the Transport and Infrastructure sub-committee below.
 - Emergency Operations responsibilities are transferred to the Emergency Planning sub-committee.
- ❖ Welfare and Relief Distribution
 - Internal logistics (movement of resources within the Territory) are an integral part of this sub-committee and should be re-assigned from the former Transport, Logistics, and Road Clearance sub-committee.
 - All other existing responsibilities remain with this sub-committee.
- ❖ Transport and Infrastructure (formerly Transport, Logistics, and Road Clearance)
 - Internal logistics are removed from this sub-committee and re-assigned to the Welfare and Relief Distribution sub-committee. The sub-committee retains jurisdiction of external logistics (movement of resources to the entry ports of the Territory).
 - This sub-committee should focus on the critical infrastructure upon which a modern society depends. This includes land-based and wireless telecommunications, water and sewerage systems, electricity distribution, and fuel supplies (propane, gasoline, and diesel).

- The responsibility for transportation accident contingency plans is removed from this sub-committee and assigned to the Emergency Planning sub-committee.
 - All other existing responsibilities remain with this sub-committee.
 - ❖ Administration and Finance
 - Financial damage assessments should be coordinated by this sub-committee
 - ❖ ~~Marine Safety Action Group~~
 - This sub-committee should be disbanded and its responsibilities distributed to the Mitigation sub-committee and the Emergency Planning sub-committee.
 - ❖ Health Disaster Management (formerly Health Disaster)
 - This change focuses on the positive aspects of their responsibilities rather than the negative.
 - ❖ Emergency Planning
 - This sub-committee should be created to serve as a forum for the regular meeting and exchanging of information between all emergency response agencies. It is anticipated that many of the emergency response agencies will have staff officers assigned full-time or part-time to disaster management planning duties.
 - This sub-committee is staffed by representatives of all emergency response agencies, including law enforcement agencies (Royal Virgin Islands Police Force, Department of Customs, etc.); fire services (Virgin Islands Fire and Rescue Service, Terrance B. Lettsome International Airport Fire and Rescue Service); emergency medical service providers (Department of Health, Virgin Islands Fire and Rescue Service, Virgin Islands Search and Rescue); environmental response agencies (Department of Conservation and Fisheries, BVI National Parks Trust, Marine Services Unit); Department of Civil Aviation and any other agencies with emergency planning, exercise, or response responsibilities.
 - This sub-committee is assigned responsibility for oversight of the coordination of all emergency response plans, including the responsibilities transferred from the existing Transport, Logistics, and Road Clearance sub-committee; the existing Telecommunications sub-committee, and the Marine Safety Action Group. The sub-committee can recommend the development of additional emergency response plans based on recognised need.
 - This sub-committee is assigned responsibility for oversight of the Territory's disaster exercise programme.
- 3.3.5 The recommendations for the reorganisation of the sub-committees of the National Disaster Management Council (NDMC) are illustrative of the different ways the sub-committees can assist the NDMC in achieving the goals of protecting life and property from natural and technological disasters and emergencies. The recommendations above are not the only method of reorganisation; other methods could be as effective. However, the NDMC should adopt an operating procedure requiring the periodic review of sub-committees and their assigned responsibilities. This review could be scheduled to coincide with the re-issuing of the National Disaster Management Plan as required by the Disaster Management Act, 2003.

- 3.4 There are several miscellaneous challenges that should be remarked upon in this report.
- 3.4.1 As noted in Recommendation #11 in the companion report Capability Assessment for Readiness: An Analysis of the Disaster Management Programme of the British Virgin Islands, there is a need for an integrated coastal patrol capability within the government. This agency should have law enforcement authority and the ability to conduct all-weather search and rescue functions near shore and off shore in the waters of the Territory. This recommendation does not require the creation of an agency with all new staff, however. It is feasible to staff this new organisation with a Director and personnel seconded from all current departments with a marine capability. The benefits to the Territory's disaster management capability are significant, including a more coordinated response to all maritime disasters and hazards.
- 3.4.2 The Territory needs to focus attention on its long-term need for additional research capacity related to its disaster management programme. Geophysical phenomena (hurricanes, earthquakes, tsunamis, global sea level change, etc.) dominate the natural hazards threatening the Territory and there is an inadequate knowledge base within the Territory in support of disaster management decision-making. One example is the current lack of meteorological and marine data for the territory. A functioning meteorological and marine unit, with auxiliary reporting stations on the Sister Islands, could aid marine, agricultural, and resort interests in the private sector in addition to providing key data for long-term disaster management planning. One possibility for consideration is a collaborative relationship with a regional partner, such as the University of the West Indies or some other organisation, which would immediately increase the knowledge of natural processes while supporting the educational development of residents in these fields. Additionally, there is increased exposure within the Territory to technological disasters (transportation accidents, hazardous materials, environmental pollution, etc.) and a limited capacity within the Territory to research the effects of these events and develop management strategies for these events. The government's educational assistance program must recruit residents to study these critical fields, in addition to the large numbers of students pursuing business management degrees in support of the financial sector.