

To be returned
to
M. N. HUDA

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
UNITED NATIONS DEVELOPMENT PROGRAMME

MINISTRY OF RELIEF
DISASTER COORDINATION AND MONITORING UNIT

FAP-11

FAP-11



TERMS OF REFERENCE

FOR

COMPREHENSIVE DISASTER MANAGEMENT

(FAP : 11)

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DISASTER PREPAREDNESS



November 1992

MINISTRY OF RELIEF
DISASTER COORDINATION AND MONITORING UNIT

TERMS OF REFERENCE
FOR
~~COMPREHENSIVE DISASTER MANAGEMENT~~
(FAP:11)

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**DRAFT TERMS AND REFERENCE
FOR
~~COMPREHENSIVE DISASTER MANAGEMENT~~
(FAP:11)**

1. INTRODUCTION

1.1 The Flood Action Plan

In 1987 and 1988 Bangladesh experienced two of the most severe floods on record. Several thousand people lost their lives, many thousand more were made homeless, crops were destroyed on an estimated 2 M ha of land and enormous damage was done to rural and urban infrastructure. Both the Government of Bangladesh (GOB) and the international community of aid donors resolved that the menace of such floods was unacceptable and that measures must be taken to find a solution to such recurrent disasters.

Immediately after the 1988 flood disaster, several studies were carried out by GOB assisted by various donors aimed at finding a lasting solution to the flood problem. Amongst those studies was a Flood Policy Study, funded by UNDP. In June 1989, the World Bank agreed with the Government to coordinate the various flood control and mitigation initiatives and in November 1989 produced an Action Plan for Flood Control covering the period of the National Five Year Plan 1990-1995. The Action Plan was endorsed by the donor community at a meeting in London in December 1989.

The Flood Action Plan comprises a phased programme of water development studies in all the country's major regions, supporting studies and pilot projects to improve project design and implementation, and a number of non-structural measures to increase the flood resilience of the population and infrastructure. Most of the 26 components and supporting activities are well underway with technical and financial assistance to GOB from Donor countries (See **Table 1.1**) Disaster Preparedness was included as component 11 (FAP:11) of the Plan.

The Flood Plan Coordination Organisation (FPCO) has been established as an arm of the Ministry of Irrigation, Water Development and Flood Control (MOIWDFC) to supervise and coordinate FAP activities.

1.2 Disaster Preparedness

Amongst the studies prepared following the 1988 flood was a Flood Preparedness Study (the Cuny Report) which was funded by UNDP. As a follow up to this study GOB requested UNDP assistance in preparing a project document for FAP:11. A draft entitled Comprehensive Disaster Preparedness was prepared in January 1990 under BGD/88/056. However, at the time the document was prepared, operational procedures for coordinating activities within the Flood Action Plan were not in place. In consequence, that document required revision in order to avoid duplication of activities and to take account especially of

TABLE 1.1
Flood Action Plan Projects

FAP	Description
1.	Brahmaputra Right Embankment Strengthening
2.	North West Regional Study
3.	North Central Regional Study
3.1	Jamalpur Priority Project
4.	South West Area Water Management Study
5A.	South East Regional Study
5B.	Meghna Estuary Study
5C.	Chittagong Coastal Area Study
6.	North East Regional Study
7.	Cyclone Protection Project
8A.	Greater Dhaka Protection Project
8B.	Dhaka Integrated Flood Protection Project
9A.	Secondary Towns Protection Project
9B.	Meghna Left Bank Protection Project
10.	Flood Forecasting and Early Warning Project
11.	Disaster Preparedness Programme
12.	FCD/I Agricultural Review
13.	O&M Study
14.	Flood Response Study
15.	Land Acquisition and Resettlement
16.	Environmental Study
17.	Fisheries Study and Pilot Project
18.	Topographic Mapping
19.	Geographical Information System (GIS)
20.	Compartmentalization Pilot Project
21.	Bank Protection Pilot Project
22.	River Training and Active Flood Plain Management Pilot Project
23.	Flood Proofing Pilot Project
24.	River Survey Programme
25.	Flood Modeling/Management Project
26.	Institutional Development Programme

new disaster preparedness requirements arising from the implementation of the Flood Action Plan. The need to take full account of existing Government procedures for disaster management and to strengthen institutional arrangements for disaster preparedness was also recognised.

The Project Document for the proposed disaster preparedness project (FAP:11) was still being discussed when the cyclone of April 1991 struck. Government requested urgent UNDP assistance in finalising the FAP:11 document and in other priority aspects. UNDP gave this assistance under BGD/91/021 and these Terms of Reference have been prepared in accordance with the provisions of that project. The objectives and outputs from BGD/91/021 are given in **Annex A**.

2. BACKGROUND

2.1 Natural Disasters affecting Bangladesh

With a total area of 144,000 square kilometers, of which 800 square kilometers are occupied by the major rivers, tributaries and distributaries, Bangladesh is one of the poorest and most densely populated countries of the world. The density of population is more than 700 per square kilometer and in terms of cropped area, the population density is much higher, at 1,200 per square kilometer. This results in heavy population pressure on the land, resulting in settlement of marginal lands vulnerable to the country's recurrent floods, tidal surges and cyclones.

Economic and social conditions for most people, both urban and rural, are extremely difficult in normal years. When disasters strike life is almost intolerable, particularly for the rural poor and landless. In 1987 and in 1988 two of the most severe floods on record occurred followed in April 1991 by a devastating cyclone, one of the worst of the century. Casualties, human suffering, damage to crops, property and infrastructure together with disruption of the economy and damage to the environment have had a disastrous effect on the country. However the resilience of the population, born of centuries of surviving floods and cyclones, is one of the few redeeming features of the disaster situation.

The disasters to which Bangladesh is subject and the damage caused in the recent past are more fully described in **Annex B**.

2.2 Disaster Management Organisation

- Bangladesh has well-developed institutions and procedures for responding to natural disasters, as was confirmed by the way in which the Government and the people, with international assistance, coped with the flood disasters of 1987 and 1988, and albeit with difficulty, with the 1991 cyclone. However, these institutions and procedures are in need of updating and strengthening to take into account institutional, infrastructural and demographic changes that have taken place in recent years.

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The Ministry of Relief is the GOB designated focal point for the coordination of disaster management activities, and is therefore required to maintain very close links with links with other ministries and agencies, including the FPCO. A review of disaster management activities and organisations was undertaken by Project BGD/91/021. The establishment of a Disaster Management Bureau (DMB) under the Ministry of Relief to strengthen its disaster management role was proposed. GOB is taking the necessary steps to create the DMB.

Full details of the BGD/91/021 findings are given in **Annex C**.

2.3 Disaster Management Concepts

A key finding of previous studies was that the major deficiency related to lack of preparedness activities and it was this that led to FAP:11 being designated 'Comprehensive Disaster Preparedness'. This lack of preparedness was confirmed by BGD/91/021, but it was considered that the word 'Preparedness' in the title was too restrictive in that the whole spectrum of disaster management actions should be addressed.

There is a lack of precision in disaster management terminology with many authorities both in Bangladesh and in the international community using the same word to mean different things. The usage that has been adopted in these TOR and which is proposed be generally adopted in Bangladesh is given in **Annex D**.

3. REGION AND BENEFICIARIES

The project will support disaster management activities throughout the country, although it will focus initially on certain especially disaster-prone areas.

The direct beneficiary is the Ministry of Relief through its DMB but the indirect beneficiaries will be all people of Bangladesh who suffer from recurrent disasters. As disadvantaged people are the ones that are most affected by natural disasters so they should be the ones to benefit most.

4. SCOPE OF WORK

4.1 General

The present project, Comprehensive Disaster Management, will provide Technical Assistance support to support the MOR in organising and making operational the Disaster Management Bureau which GOB will establish under the Ministry of Relief. The work of the DMB will focus on non-structural (non-engineering) ways of reducing risks, on enhancing preparedness and more efficient response. It will seek to enhance public awareness and local level capabilities, while also strengthening national-level institutions.

Training, public education/awareness-raising, and community mobilisation, will be central to the whole project. The training strategy, developed under BGD/91/021, to provide training to large numbers of officials at all levels, and to elected representatives, especially at union level, will be progressively refined as project implementation proceeds. The project will work with and through district-, thana- and union-level Disaster Management Committees, all relevant line agencies and existing training institutes, NGOs, voluntary organizations and professional associations.

The focus will initially be on preparedness and risk reduction measures related to cyclones, floods (including flash floods) and river bank erosion. Considerations of other types of disaster, including earthquakes, landslides and man-made disasters, will be incorporated later.

4.2 Objectives

The overall **development objective** of the Comprehensive Disaster Management Project is to reduce the human and economic costs of disasters in Bangladesh.

The specific **objectives** of the present project (or "programme intervention") are:

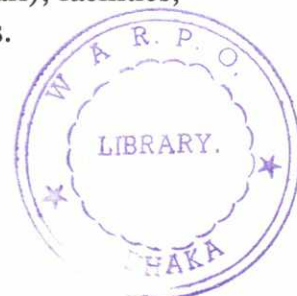
- i) to increase the capacities of households and local communities in the highly disaster-prone areas to cope with cyclones, floods, and other potentially disastrous situations;
- ii) to increase the efficiency and the effectiveness of government response to emergencies, and to expedite recovery following disasters, through enhanced preparedness at all administrative levels based on collaboration between government officials and agencies, NGOs, and other concerned bodies, in all relevant activities (including warning systems, precautionary measures, rescue, relief and rehabilitation operations); and
- iii) to ensure that measures are taken to reduce disaster risks as much as possible, and that such risks are properly considered in general development planning.

4.3 Expected Outputs

The situation and/or achievements that are expected by the end of the project are:

a) National-level institutions, policies and plans

- i) a functioning Disaster Management Bureau (DMB) serving as national coordination unit for disaster management (integrating civil and military capabilities) with necessary expertise (trained staff), facilities, documentation, information and communication systems.



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- ii) National policy statement and relevant legislation
 - iii) A National Disaster Plan incorporating, inter alia:
 - refined Standing Orders (definitions of responsibilities, co-ordinating mechanisms, lines of communications);
 - arrangements for necessary logistic support servicesModel disaster action plans for district, thana, and union levels
 - iv) A Disaster Management Handbook (for all government personnel and others) incorporating, inter alia:
 - improved procedures, guidelines and criteria for early assessments of damage, needs, and resources, following a disasters;
 - guidelines on possible assistance needs and standards of provision;
 - guidelines/decision aids of resource allocations (including refined "distress/deprivation" factors); and
 - guidelines on accountability.

b) Training, public awareness/education, and local preparedness planning

- i) A range of education and training materials available and widely distributed to promote and support disaster management training for various target audiences and at different levels. (Materials developed and distributed through collaboration with existing government agencies, training institutes and NGOs).
- ii) Political leaders and senior government officials aware of disaster management concerns and the practical measures to be taken.
- iii) In the most disaster-prone districts, thanas and unions:
 - Disaster Management Committees formed and functioning;
 - officials aware of disaster management concerns, and trained in their particular roles and responsibilities;

- hazard maps, disaster profiles, and Disaster Action Plans prepared. (Supporting activities would include specific disaster management training workshops, and close collaboration with initiatives in the health sector).

- iv) Enhanced public awareness of individual and community-level actions possible to reduce risks associated with disasters; specific community/village-level disaster action plans in .. (No.) .. most vulnerable thanas. [Activities would include public information materials, district-level motivators, collaboration with NGOs etc. Plans cover: local initiative risk reduction ("proofing") measures; community response to warnings and arrangements for evacuation, rescue; self-help initial relief and recovery].
- v) Disaster management modules introduce into the basic and refresher training of a wide range of government personnel (including BCS officers, police, all field-level officials and staff, etc.) and others (including religious leaders).
- vi) Basic information of disaster risks, mitigation possibilities, and preparedness arrangements included in school curricula (and teacher training).

c) Other activities

- i) Improved cyclone warning message content and dissemination.
- ii) Local (district/thana) level flood warning dissemination systems, with maximum community participation through established union structures, and volunteers. [Action research to develop local systems to complement forecasting arrangements to be refined under FAP:10].
- iii) Core of individuals experienced in managing emergency and post-disaster operations on call at short notice. [Arrangements may be promoted within relevant professional bodies].
- iv) Improved arrangements for telecommunications during emergencies, including back-up/alternative routing possibilities based on inter-agency co-operation.
- v) Improved arrangements to ensure rapid availability, following disasters, of food, other relief items, seeds, pumps, fertilizer, and other equipment. [May include stockpiles or standing arrangements with suppliers].

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- vi) Effective liaison and collaboration with official and other bodies concerned with environmental protection.

4.4 Linkages with other FAP Activities

The project would maintain close liaison with relevant FAP activities, through the Flood Plan Coordination Organisation (FPCO), especially the proposed Flood Forecasting and Early Warning System project (FAP10), and be kept informed of the findings of other FAP projects and studies such as:

- i) the FAP regional projects FAPs 1/9, especially 5B Meghna Estuary Study and 5C Coastal Area Study, which are studying the feasibility of, and developing proposals for, reducing the risk of severe flooding throughout the flood-prone areas by flood control measures, notably the rehabilitation and/or construction of embankments, drainage channels, and sluices;
- ii) the FCD/I Agricultural Study and Operation and Maintenance Study (FAP12, 13);
- iii) development of flood 'proofing', follow on to FAP23;
- iv) the Environment Study, FAP16;
- v) the Topographic Mapping, FAP18;
- vi) development of a Geographic Information System for disaster management under FAP19;
- vii) the Compartmentalization Pilot Project, FAP20;
- viii) the Flood Management Modelling Project FAP25; and
- ix) the Institutional Development Project, FAP26.

4.5 Complementary Activities

The Project will complement a number of other ongoing or planned projects, notably :

- cyclone forecasting and warning (donor assistance to BMD, and International Red Cross assistance to BDRCS/CPP);
- (multi purpose) cyclone shelter studies and construction (with assistance from

EEC, ADB, IDA, various bilateral donors, and NGOs);

- sea facing embankment construction (CPP II)
- various studies and projects planned in the coastal area including

Coastal Area Resource Management
Integrated Development for the Sundarbans
Second Coastal Project
System Rehabilitation Programme
Shrimp Culture Programme
Bangladesh Building Code
Cyclone Damaged Road Reconstruction

An overall Disaster Management programme would also include other activities, not yet defined in detail, such as:

- measures to protect critical facilities and lifeline services in high risk areas;
- systems for monitoring and maintaining embankments and other protective structures;
- arrangements for maintenance of roads and other infrastructure in high risk areas
- adequate, minimum storage facilities at local/union level in cyclone- and flood-prone areas, where presently lacking;
- development of economic assistance strategies for post-disaster recovery;
- credit for disaster mitigation and recovery: for pucca housebuilding in cyclone-risk coastal areas; for house reconstruction after a disaster; for cattle purchase after a disaster;
- establishment of stockpiles and standing arrangements with suppliers; and
- boats: provision of suitable craft and standing arrangements with boat operators in coastal and flood-prone areas.

5. TERMS OF REFERENCE

5.1 Introduction

The project will follow on from the current, short-term project (UNDP BGD/91/021), and support the MOR in organising and making operational the Disaster Management Bureau (DMB) that is to be established by the Government in place of the embryonic Disaster Co-ordination and Monitoring Unit (DCMU).

A three year project is proposed with the detailed work plan being defined and approved on an annual basis by the Programme Management Committee.



26 5.2 Work Plan for Year 1

During the first year of project operations, the emphasis will be on:

- i) establishing, or consolidating, the DMB as a functioning unit with appropriate staff and necessary equipment in a suitable location--and establishing procedures for the operation of a national Emergency Operations Centre within the DMB at times of emergency;
- ii) initiating training for staff of the DMB;
- iii) completing the process, begun under the current project BGD/91/021, of reviewing and refining the existing Emergency Standing orders (ESOs), and preparing refined, consolidated Standing Orders;
- iv) undertaking a thorough review of procedures and criteria for initial damage and needs assessments, and preparing improved procedures and guidelines;
- v) developing general policies and standards for the provision of relief and rehabilitation assistance following disasters;
- vi) developing and testing model disaster preparedness plans for district, thana, and union levels;
- vii) collaborating with line ministries and agencies in the preparation of their own contingency/action plans (in continuation of the work with them on the ESOs);
- viii) refining the management information systems currently being developed under BGD/91/021, and developing additional, complementary systems as aids to decision making and resource management;
- ix) specifying user requirements for a GIS system to support disaster management, and co-operating with FAP:19 in developing such a system;
- x) continuing the process, initiated under BGD/91/021, of working with BMD, CPP and others to refine the system of cyclone warnings;
- xi) initiating action research, in conjunction with BWDB/FFWC, FAP:10, relevant line agencies, BDRCS, and other concerned organizations, to develop and test local level flood prediction and warning dissemination

systems (linked to the central forecasting mechanisms);

- xii) establishing a taskforce, or permanent working group, on disaster management training and, through that group, defining training curricula and related training material needs for the various target audiences and arranging for the preparation and production of those materials;
- xiii) follow up on the initial discussions, initiated under BGD/91/021, with existing training institutes throughout the country to arrange for the inclusion of appropriate disaster management modules in their courses, and too provide relevant material and, if necessary, resource persons;
- xiv) working with the relevant education authorities to arrange for the inclusion of suitable items in the school curricula, or text/reading books;
- xv) initiating, on a pilot basis in three districts, the training of officials, elected representatives and others, and the process of preparing local/level preparedness plans;
- xvi) following up on the work already done by certain NGOs, arrange for any further studies needed to define approaches to public awareness-raising and education, and initiate the preparation and testing of materials and community-level strategies;
- xvii) working with the Director-General R&R, the D-G Food, the Ministry of Agriculture, the D-G Health, and others, to review arrangements for the supply and, where necessary, the stockpiling of commodities and equipment (food, pumps, relief supplies, agricultural inputs, tubewell spare parts, etc).

During the second and third years it is expected that the emphasis will shift to intensified activities in the field, in the most disaster/prone areas, with training and the preparation of plans at district and thana level, and community mobilization and planning at union and village level.

5.3 Special Studies

A considerable number of studies have been made and reported on by various government agencies, research institutes, and NGOs following earlier disasters, and particularly following the floods of 1987 and 1988, and the cyclone of 1991.

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The FAP process itself represents a set of inter-linked studies to specify means of achieving greater control over flooding in order to: protect important urban centres and infrastructure; increase agricultural production and other economic outputs in areas that can be protected against unusually severe flooding; and reduce the human and material losses, caused by unusually severe floods, among populations living in areas that are not protected. Of particular relevance in terms of non-structural (non-engineering) measures are the proposals for what has come to be termed "flood proofing", suggested by FAPs 14 and 23 and the measures envisaged to improve flood forecasting that are to be developed under FAP:10.

There is no need to duplicate the work that has already been done, rather the need is to put into practice the various practical measures that have been proposed. However, some aspects require more in-depth analysis, and there are a number of areas that have been identified in earlier reports that have yet to be addressed, such as:

- house damage mitigation: simple construction techniques that would increase the resistance of traditional structures to high winds, floods and earthquakes. A linkage may be established with the ODA (UK) assisted Oxford Polytechnic Project which is preparing guidelines on how to set up and run training and educational programmes in 'safe building'
- ferro-cement tanks, or other means of protecting and preserving critical household stocks and property
- the potential role of insurance for particular population groups

In these cases, the emphasis would be on "action research", i.e. an activity that seeks to develop and test possibilities in actual practice.

5.4 Job Descriptions for Technical Assistance Team

Detailed terms of reference for the Technical Assistance Team are given in **Annex E**.

6. REPORTING

The Technical Assistance Team (TAT) will assist the Programme Manager in preparing regular Programme Reports describing their activities. Programme Reports will be prepared at the end of month 3 and thereafter at six monthly intervals. The Reports at month 9 and 21 will include a proposed Work Plan for Year 2 and Year 3 respectively.

The Month 21 report will also review overall progress and make proposals for extended Technical Assistance support beyond month 36, if this was considered necessary.

The report prepared at the end of Month 33 will be the Draft Final Report and will describe in general terms the activities carried out over the full period of the Project.

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Short term specialists will be expected to prepare a full report of their activities, findings and proposals at the end of each input.

TAT will assist with the preparation of Working Papers on any specific topic as requested by the Programme Manager.

7. SCHEDULE

To achieve the objectives given in Section 4, a three year Project period is considered appropriate.

8. STAFFING

Figure 8.1 shows the Technical Assistance Team (TAT) inputs proposed. The TAT would work closely with their counterparts in the MOR/DMB.

9. PROJECT IMPLEMENTATION

Under the UNDP "programme approach", it is envisaged that the project will be executed by the Government through the Ministry of Relief, with the assistance of either a UN implementing agency or a Panel of Experts appointed by mutual agreement between the Government and UNDP. The Government will appoint a Programme Director (the Secretary, Relief) and a Programme Manager, probably the senior officer in the DMB.

Implementation will be overseen by a Programme Management Committee (PMC) including senior officials designated by the Government, and the UNDP Resident Representative. A representative of any other major contributing donor may also be included. A Programme Advisory Committee (PMC) will be formed including representatives of concerned government agencies, NGOs, voluntary organizations, and professional associations.

MOR are considering how best to implement the Project. Aspects that they are considering include :

- their in-house capacity
- the likely time lag in establishing the DMB
- the expertise available
 - through the UN system (e.g. UNDRO)
 - through other agencies (e.g. ADPC)
 - by direct recruitment in the world market
- local recruitment modalities

MOR is also considering how the Technical Assistance Team might be mobilised by either direct recruitment of individuals or through a consulting firm under sub contracting arrangements.

10. RESPONSIBILITIES OF THE GOVERNMENT

The Government will be required to establish the Disaster Management Bureau and fund the local costs identified in Section 11.

A precondition for donor support is likely to be the issue of the administrative order to form the DMB and the actual appointment of the chief executive of the Bureau.

11. COSTS

Table 11.1 details the full costs in US dollars, required for the three year project period. This includes both the TA costs and the GOB counterpart costs for the operation of the DMB. The staff costs allow for the procurement of TA staff through a consulting firm. If direct recruitment was adopted the costs would be lower.

Table 11.2 gives the GOB non establishment costs in Bangladesh Taka while **Table 11.3** gives the establishment costs. The sums allowed for GOB officers are inclusive of all allowances.

12. DONOR ASSISTANCE

There are indications that some financial assistance would be available from UNDP who have actively supported all disaster management initiatives following the floods of 1987/1988. They are funding the ongoing Project BGD/91/021 which it is hoped will lead directly into the proposed Project.

The British Government have funded and will continue to fund the attendance of both civil and military officers on disaster management courses at the Cranfield Disaster Preparedness Centre in UK.

UNICEF are considering supporting the public awareness and community mobilisation aspects of the Project. Following the floods both US-AID and SDC earmarked funds to assist disaster management activities but as the project preparation was delayed their interest lessened.

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Figure 8.1

COMPREHENSIVE DISASTER MANAGEMENT
Technical Assistance Team Inputs

Post	Year 1	Year 2	Year 3	Total MM
International Specialists				
1. Programme Management Adviser				36
2. Disaster Management Specialist(s)				30
3. Visiting Specialists (Training; public awareness/education and community mobilisation; telecommunications; management information systems and geographic systems etc.).	INTERMITTENT			24
			Sub total	90
National Experts				
Dhaka based Specialists				
1. Disaster Preparedness				36
2. Engineering				36
3. Financial Accounting				36
4. Social Anthropology				18
5. Training and Public Awareness				18
6. Management Information				18
7. Logistics				18
8. Visiting Specialists (Institutional arrangements & procedures; local level planning; local level warning dissemination systems; training materials development; mass communications; folk media; data base management; library science/documentation systems; community mobilization; water transport systems; storage and commodity management etc).	INTERMITTENT			48
			Sub total	228
Field based Specialists				
Zonal Disaster Preparedness	1			30
	2			30
	3			30
	4			30
	5			30
	6			30
			Sub total	180
Dhaka and field based				
Research Assistants	INTERMITTENT			72
			Sub total	72
			Total	570

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Table 11.1
Comprehensive Disaster Management
Cost Estimates for Three Years (1992-1996)

Item	Nr.	Length o input	Total Months	Rate/month (US \$)	Total Cost (US \$)
1. Technical Assistance Costs					
Technical Consultants					
International consultants (Core)	2\3	--	66	18,000	1,188,000
Visiting international consultant	--	--	24	18,000	432,000
National consultants (Core)	3	36	108	2,500	270,000
	4	18	72	2,500	180,000
Visiting national consultants	--	--	48	2,500	120,000
Zonal level motivators	6	30	180	2,000	360,000
Research assistants	--	--	72	1,000	72,000
Supporting staff (P.A., Secretary, Typist, Drivers, MLSS)	20	36	720	500	360,000
Field research studies	--	--	--	Sum	200,000
Training material publications and films	--	--	--	Sum	200,000
Overseas training	--	--	--	Sum	150,000
In country training	--	--	--	Sum	180,000
Computer equipment	--	--	--	Sum	100,000
Equipment (Furniture, ACs, Generator, Copier etc.)	--	--	--	Sum	90,000
Expendable stationeries	--	--	36	2,000	72,000
Vehicle procurement (5 already procured)	7	--	--	25,000	175,000
				Sub-Total	4,149,000
Contingencies 10%					414,900
Price escalation 15%					622,350
				Total	5,186,250
Professional Panel					
International	--	--	9	18,000	162,000
National	6	6	36	2,500	90,000
				Sub-Total	252,000
Price escalation 15%					37,800
				Total	289,800
				Total for Technical Assistance	5,476,050
2. GOB Costs					
Establishment Costs	--	--	--	--	204,000
Vehicle operation (POL, servicing, taxes and maintenance)	12	36	432	300	129,600
Office rent	--	--	36	2,000	72,000
Utilities	--	--	36	2,000	72,000
				Sub-Total	477,600
Contingencies 10%					47,760
Price escalation 15%					71,640
				Total for GOB	597,000
				Grand Total for the Three Year Project	6,073,050

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Table 11.2
Comprehensive Disaster Management
GOB Non-establishment Costs (1992/96)

Years	Vehicle Operations	Rent	Utilities	Tk. Lakh
				Total
1992-3	6.60	3.70	3.70	14.00
1992-4	19.90	11.00	11.00	41.90
1992-5	19.90	11.00	11.00	41.90
1992-6	13.20	7.40	7.40	28.00
Total Tk. (Lakh)	59.60	33.10	33.10	125.80

Note : inclusive of 15 % price escalation

Table 11.3
Comprehensive Disaster Management
GOB Establishment Costs (1992/96)

Staff	Nr.	Rate per month (Tk)	Monthly Cost (Tk)	Tk. Lakh
				Annual Cost Tk.Lakh
Additional secretary	1	30,000	30,000	3.60
Senior specialists	4	25,000	100,000	12.00
Other officers	14	20,000	280,000	33.60
Supporting staff	27	10,000	270,000	32.40
		Total	680,000	81.60
		Price Escalation (15%)		12.24
		Grand Total		93.84

ANNEX A

OBJECTIVES AND OUTPUTS
OF BGD/91/021 : ASSISTANCE TO THE
MINISTRY OF RELIEF IN CYCLONE REHABILITATION

OBJECTIVES AND OUTPUTS OF BGD/91/021**IMMEDIATE OBJECTIVE 1**

To strengthen the Government's capability to co-ordinate and monitor disaster-related activities, through the Ministry of Relief.

Output 1.1

An effective unit, under the MOR, with initial management information and related systems to support the planning, promotion, coordination and monitoring of disaster-related activities with special reference to preparedness, relief, and short-term rehabilitation and repairs.

Output 1.2

Improved arrangements for damage assessments and the preparation of repair and rehabilitation projects and programmes.

Output 1.3

Assessment of the repair and rehabilitation efforts following the 1991 cyclone.

IMMEDIATE OBJECTIVE 2

To review existing procedures and organisational structures for disaster management with a view to their integration, reinforcement or expansion, as required, including the need for and functions of an Office of Disaster Management; and to assess training needs and initiate preliminary training activities.

Output 2.1

Evaluation of existing procedures (government and non-government) relating to disasters, and recommendations for up-dating and strengthening.

Output 2.2

Assessment of existing and proposed organisational structures, and an outline for the duties, staffing, and rules of business of a future Office of Disaster Management, or similar body, if required.

IMMEDIATE OBJECTIVE 3

To prepare a project document and other related documents for a Comprehensive Disaster Preparedness/Management programme within the context of the Flood Action Plan.

Output 3.1

A project document and draft terms of reference for a follow-on project for comprehensive disaster preparedness/management to be undertaken as FAP:11.

IMMEDIATE OBJECTIVE 4

In conjunction with the Flood Action Plan, to prepare a concept plan for integration measures to protect coastal areas from the effects of cyclones and tidal surges into the overall disaster preparedness system and into the Flood Action Plan.

Output 4.1

A concept plan which would outline an integrated approach to coastal protection and indicate how long-term measures can be implemented in a co-ordinated and consistent manner, taking due account of the need to emphasize priority investments.

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Reports/Working Papers

Date Issued

Inception Report

20 June 1992

Quarterly Report

20 October 1992

Draft Terms of Reference for FAP:11

18 November 1992

Working Papers

Nr 1 Planning for Disaster
Management in Bangladesh

31 August 1992

Nr 2 Telecommunications in
Disaster Management

11 November 1992

Nr 3 Agriculture

29 October 1992

Nr 4 Information Procedures and
System for Disaster Management

11 September 1992

Nr 5 Review of Disaster Management
Procedures

22 September 1992

Nr 6 Disaster Management : Basic
Concepts and Definitions

20 September 1992

Nr 7 Concept Plan for Integrated
Coastal Protection

12 November 1992

Nr 8 Data Collection and
Reporting Formats

(Draft, not yet issued)

Nr 9 Institutional Arrangements for
Disaster Management in Bangladesh

3 November 1992

Nr 10 Functions/Structure of Disaster
Management Unit/Organisation
in Bangladesh

25 October 1992

Nr 11 Social and Gender Issues

(Draft, not yet issued)

Nr 12 Elements of a Training Strategy
for FAP:11 - DM Training Programme

(Draft, not yet issued)

ANNEX B
DISASTERS IN BANGLADESH

ANNEX B

DISASTERS IN BANGLADESH

B.1 Overview of Physical Environment

Bangladesh is a low-lying riverine country on the northern edge of the Bay of Bengal. The country is a huge delta formed by three major river systems. The terrain is extremely flat and is interlaced with an intricate system of rivers and tidal channels which cut the land into numerous separate areas. These channels carry flood water from the main rivers as well as act as conveyor channels for rainfall and tidewater to the Bay of Bengal. Because of the flatness of the land and heavy rainfall, the surface drainage system is not well-defined. Many of the separate land areas created have saucer like shapes with higher elevations on the natural banks adjacent to rivers. At places, the rivers change course and flow through the center of the saucers, creating floodplains. Elevation varies from below sea level to an extreme of 6 m or more above sea level, however it seldom exceeds 3 m.

The influence of the Himalayan, the Assam, and the Burmese mountain ranges in the north and the northeast, and the Bay of Bengal in the south, results in the tropical monsoon climate of the country. In addition, the country's location with some 600 km of coastline, leaves large tracts of land open to the destructive effects of cyclones and storm surges.

B.2 Disaster Context

B.2.1 Cyclone and Storms

An average of twelve tropical depressions occur in the Bay of Bengal annually. Five of these may worsen and become cyclonic storms, with winds in excess of 63 km. per hour. The more severe tropical cyclones occur at a rate of 1.3 a year in the coastal districts. These cyclones may have winds in excess of 240 km. per hour and create large storm surges (locally called tidal bores), which occasionally crest at 9 meters. The storm surges are far more devastating to land, people, and buildings than are the wind and rain of the cyclone. Because crests of up to 4 m. between low and high tide are common in the northern Bay of Bengal, a storm of moderate intensity approaching the coast at high tide can be as, or even more dangerous than a severe storm which coincides with low tide.

Tropical cyclones typically form over the southern portion of the Bay of Bengal and move northwestward to the Indian coast, or gradually turn northeastward to Bangladesh. Though depressions are most numerous during mid-summer (June to September), severe cyclones have usually occurred in the months of May, October, and November.

During the past 190 years, Bangladesh has experienced 34 severe cyclones, an average of one every five years; however, the distribution has not been even. A significant increase in

cyclone activity in the first part of this century was followed by a lull between 1930 and 1960, when only four severe storms occurred. Since 1960 there has been a rise, with an average of one cyclone a year. There is no generally accepted explanation for this increase.

Cyclones have been most frequent in the coastal districts of Khulna, Bakerganj and Noakhali. A map of cyclonic storm tracks is shown in **Figure A.1**.

Devastating storms, called 'Kalbaishakhi', originate over land and move southward towards the coast, often causing heavy property damage or loss of life among the fishing community. This hazardous phenomenon is accompanied by violent squalls, heavy rain, hail, and isolated tornadoes, and occurs primarily during the pre-monsoon months of March to May.

B.2.2 Flood

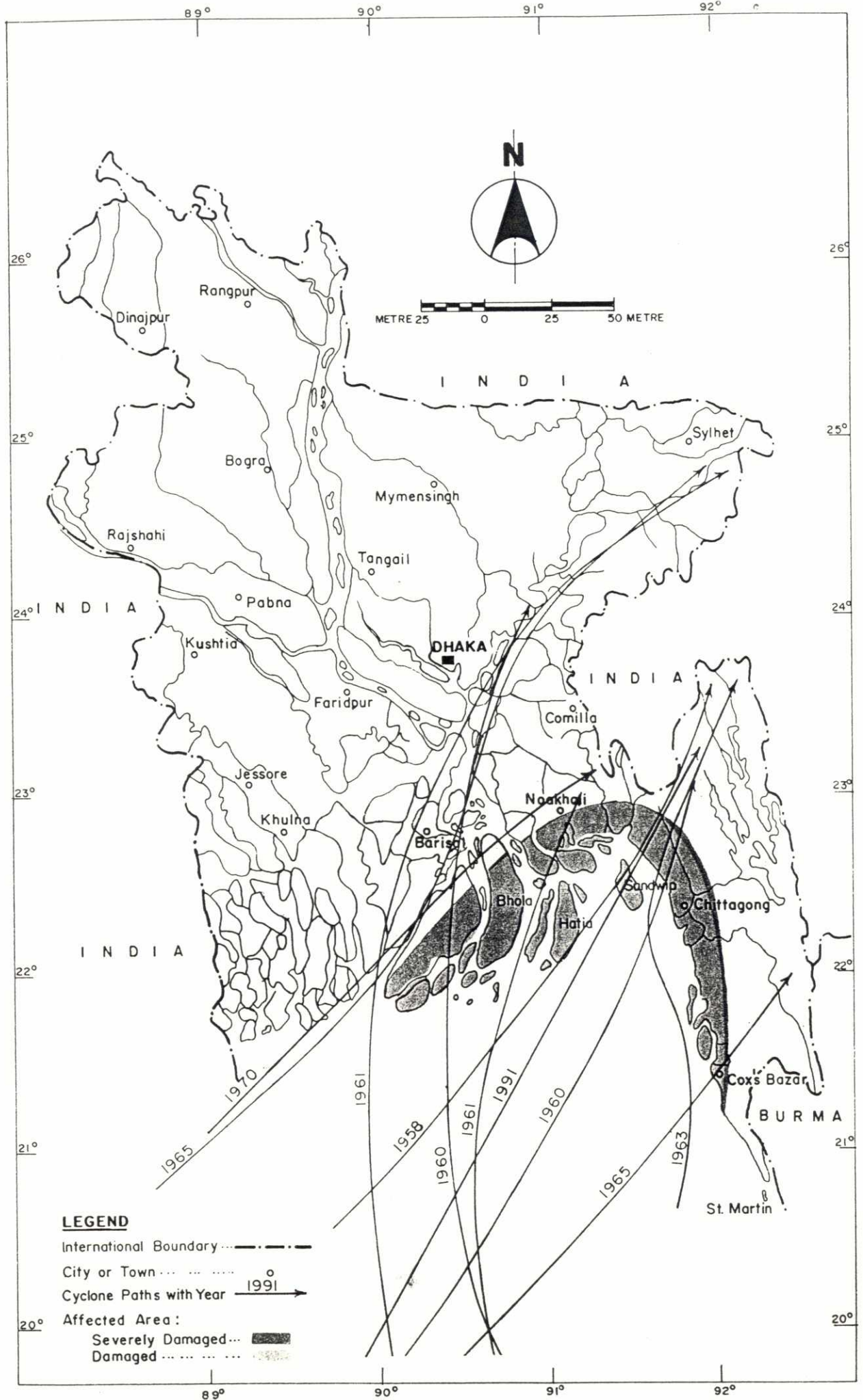
Flooding is one of the most common types of natural disasters in Bangladesh and causes millions of dollars of destruction each year to agriculture, housing, and infrastructure as well as taking thousands of human lives. According to the Bangladesh Ministry of Relief 151 thanas (out of a total of 480) in 13 districts covering an area of 48,000 sq. km. (approximately one-third of the country's total area) are prone to flooding. The population of these flood-prone regions totals nearly 30 million.

There are many causes of flooding in Bangladesh. They include: the general low elevation of the terrain; excessive rainfall in catchment of distributaries and main rivers; the rising of river beds (through siltation) due to earthquakes; the effects of embankment construction along upper reaches of rivers outside of Bangladesh; deforestation; backwater effects of ocean tides; the rise of the sea level and coincidental peak flooding along several river channels.

B.2.3 Drought

About two-thirds of the rainfall received in Bangladesh occurs during the period of the southwest monsoon (June to September). Variations in mean annual rainfall from year to year are only moderate, so that there is a high degree of reliability in mean annual amounts. However, failure of the monsoon may occur (as in 1972). During the dry season, river flows are drastically reduced. Water shortages during this season are felt most severely in the northwestern portion of the country and in the lower delta areas. Furthermore, the coastal regions of the country are regularly inundated by the sea; these areas have ground water with high salinity levels during the dry season, making water unsuitable for irrigation. Diversions of the major rivers in India and Nepal also typically result in reductions in water levels in the Bangladesh sections of the rivers.

Figure A.1
Cyclone Paths and Cyclone Affected Area



B.2.4 Seismicity

Geologically, most of Bangladesh forms a part of the Bengal Basin, a seismically active area. The country can be divided into four seismic zones. Zone I is a high intensity area covering Sylhet, Mymensingh, Rangpur, and parts of Dinajpur. Zone II is likely to be subject to moderate intensity earthquakes and covers parts of the Chittagong Hill Tracts, Comilla, Dhaka, Tangail, Bogra, Rajshahi, and Dinajpur. Zone III is a light intensity zone covering Chittagong, Noakhali, parts of Comilla, Faridpur, Kushtia, Jessore, Pabna, and Rajshahi. Zone IV has negligible intensity and covers the remaining area in the south comprising Barisal, Patuakhali, Khulna, and Jessore districts.

During the past 100 years, the country has received damage from four major earthquakes (in 1987, 1918, 1930 and 1934). Only one of these (the Srimangal earthquake in 1918) had its epicenter in Bangladesh.

B.2.5 Civil Strife

Bangladesh has had a turbulent past, with a history of political instability. The country's fight for independence from Pakistan in 1991 resulted in a major refugee situation and widespread famine. Since that time, political instability has continued with two of Bangladesh's presidents assassinated. While the current political situation appears to be under control, the history of instability indicates that political unrest could occur in the future.

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B.2.6 Other

Other type of disasters which occur less frequently in Bangladesh include river bank erosion, water pollution, and epidemics.

Severe erosion and scouring frequently result because the unstable river system of Bangladesh is not capable of handling the huge hydraulic discharge and sediment load. Increased river flows during flood season further exacerbate river bank erosion. Apart from causing hydraulic problems for the river system, river bank erosion has an enormous impact on human settlements, including loss of agricultural lands to the river and destruction of housing, businesses, and industries.

Water degradation is also a serious problem in Bangladesh. Only a small portion of the population has access to safe drinking water due to contamination by human wastes, agricultural fertilizers, pesticides, and dumping of toxic industrial wastes.

Epidemics occur periodically in Bangladesh. Cholera, endemic in the deltaic regions poses the major threat. The disease appears to strike different parts of the country in a seasonal pattern, beginning in September in the northern areas of the country, and moving south to reach Dhaka in November and December and the most southern areas in March, April, and May.

B.3 Disaster History

Bangladesh has been affected by 80 disasters since 1900, making it the second most disaster-prone country in the world in terms of disaster occurrences as recorded in the OFDA Disaster History. Of these disasters, more than half were caused by cyclones, and 22 (as listed below) resulted in more than 500 deaths.

Selected Major Disasters

Date	Disaster Type	Location	Number Killed	Number Affected ('000)	Damage (\$ mil)
1918	Influenza Epi.	Nationwide	393,000	n.a.	n.a.
1943	Famine	Nationwide	1,900,000	n.a.	n.a.
10/30/58	Cyclone	n.a.	500	n.a.	n.a.
10/10/59	Cyclone	Bay of Bengal	14,000	n.a.	n.a.
1960	Flood	n.a.	10,000	n.a.	n.a.
10/9/60	Cyclone	Coastal Areas	3,000	n.a.	n.a.
10/30/60	Cyclone	Coastal Areas	5,000	n.a.	n.a.
5/9/61	Cyclone	Meghna Estuary	11,200	n.a.	11.9
5/30/61	Cyclone	Coastal Areas	11,466	n.a.	n.a.
5/28/63	Cyclone	Chittagong	11,500	1,000	46.5
5/11/65	Cyclone	Barisal District	36,000	10,000	57.7
12/15/65	Cyclone	Chittagong-Teknaf	874	60	n.a.
10/1/66	Cyclone	Chittagong, Sandwip	850	500	22.4
4/14/49	Cyclone	Dhaka and Comilla	849	160	n.a.
11/12/70	Cyclone	Khulna, Chittagong and Bay of Bengal	300,000	3,648	86.4
3/25/71	Civil Strife	Nationwide	200,000	27,000	1,400.0
12/9/73	Cyclone	South Coast	1,000	n.a.	n.a.
7/74	Flood	Nationwide	28,700	36,000	579.2
4/1/77	Typhoon	5 Districts	600	n.a.	n.a.
4/78	Refugees/Burma	Chittagong District	6,150	200	n.a.
4/9/78	Storm	Bay of Bengal	1,000	n.a.	n.a.
8/80	Flood	Northwestern	655	10,000	150.0
5/85	Cyclone	South of Bangladesh	11,069	5,000,000	n.a.
8/87	Flood	Nationwide	1,657	10,000,000	n.a.
9/88	Flood	Nationwide	2,379	45,000,000	
4/91	Cyclone	South East Coast	138,868	15,000,000	456.19 (Inception Report)

Source: OFDA Disaster History on file in Washington, D.C. Covers 1900 to the present

B.4 Vulnerability of Infrastructure

In the event of severe flooding or a cyclone, the two most common destructive disaster types in Bangladesh, the country's infrastructure would be very vulnerable to damage from winds and water associated with these phenomena. The two major ports, Chalna (Khulna district) and Chittagong (Chittagong district) and one of the major airports, also at Chittagong, are located in two of the most cyclone-prone regions of the country. These facilities would more than likely be forced to close during a cyclone, storm surge, or major flood, and would possibly suffer some degree of damage. Inland waterways would most likely be affected also. During the monsoon season, these waterways may be too swollen with flood waters for normal river traffic.

Additionally, numerous hospitals, electric power plants, natural gas plants, oil refineries, and steel mills are located throughout Bangladesh in disaster-prone regions, and would possibly be subject to shutdowns or damage from natural disasters.

Housing is also extremely vulnerable to disasters. The typical rural house in Bangladesh is a one-room structure of clay or rice straw and bamboo. In areas where flooding occurs regularly, earthen plinths 4 meters high are used to raise houses above the flood level. However, the houses are not often of permanent resistance and must be replaced every two to three years.

B.5 Vulnerability of Agriculture

Agriculture, the most important sector of the Bangladesh economy, is extremely vulnerable to natural disasters, principally floods, droughts, cyclones, and storm surges. Floods are perhaps the most frequent destructive force to agricultural lands. Seasonal flooding is normal over two-thirds of Bangladesh. Traditional land use and cropping patterns are closely adjusted to the seasonal flooding affecting particular types of land. Flood damage occurs when flooding is earlier, higher, or later than normal, thus drowning standing crops or preventing (or delaying) the sowing of a major crop. The time of occurrence of abnormal flooding is generally more critical than the absolute level of flooding. Droughts occur during the dry season (October to May) when river flow is sharply reduced. Crop damage by cyclones is only partly attributed to the strong winds. It is usually caused by associated heavy rains and consequent flooding. Storm surges are destructive when flood waters are highly saline. These disasters affect not only agricultural crops, but food reserves and livestock as well.

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Agricultural Crop Calendar for Bangladesh

Crop	Planting	Harvesting	Transplanting
Maize	April-May	July-August	
Rice-Aman	March-May	November-December	
Rice-Aus	March-May	July-September	
Rice-Boro	September-December	March-May	October-December
Sugarcane	February-March	December-January	
Wheat	October-November	February-March	

Crops by Region

Coast	:	Rice (Aman, Aus and Boro) and Sugarcane
Highlands	:	Maize, Rice (Aman and Aus) and Sugarcane
Northeast	:	Maize, Rice (Aman, Aus and Boro) and Sugarcane
Northwest	:	Maize, Rice (Aman and Aus), Sugarcane
West	:	Maize, Rice (Aman, Aus and Boro), Sugarcane and Wheat

ANNEX C

DISASTER MANAGEMENT IN BANGLADESH

WORKING PAPERS

- | | |
|-----------------------|---|
| Nr 1 (Rev.1) : | Planning for Disaster
Management in Bangladesh |
| Nr 9 (Rev.1) : | Institutional Arrangements for
Disaster Management in Bangladesh |
| Nr 10 (Rev.1): | Functions and Structure of a
Disaster Management Unit/Organization
in Bangladesh |

WORKING PAPER No.1 (rev.1)

PLANNING FOR DISASTER MANAGEMENT IN BANGLADESH

This paper presents brief notes on aspects relevant to the overall planning of, and organizational arrangements for, disaster management in Bangladesh. A first version was prepared in July 92 and circulated to members of the Professional Panel of the project present (BGD/91/021). This revised version takes account of most of the comments and suggestions made by Panel members. It does not pretend to be definitive, nor prescriptive, but puts forward a number of tentative propositions as a basis for discussion and further development, with the aim of helping to:

- define the functions to be performed (in the specific context of Bangladesh in 1992);
- clarify, and focus attention on, the principal issues involved; and
- generate consensus on the particular actions to be taken and the mechanisms to be established.

The specific topics covered are:

1A	Hazards, Vulnerability, and Risk Factors in Bangladesh	2
1B	Some Basic Propositions concerning Disaster Management in Bangladesh	5
1C	Organizational Arrangements: Response to the 1991 cyclone.	10
1D	Summary of Principal Tasks to be Performed in Disaster Management	17

N.B. *"Disaster Management" includes all aspects of planning for and responding to disasters. It refers to the management of both the risks and the consequences of disasters, and includes both:*

- (i) *prevention and preparedness measures taken in disaster-prone areas in anticipation of the known hazards -- often referred to as "pre-disaster" measures; and*
- (ii) *response to disasters when they occur, involving search and rescue, relief, short-term rehabilitation (including repairs), and reconstruction/long-term rehabilitation.*

Ron Ockwell
Disaster Management Specialist
1 Oct. 1992

1A Hazards, Vulnerability, and Risk Factors in Bangladesh

The following notes summarize some of the principal features of the disaster proneness (the risk profile) of Bangladesh, and the implications for disaster management. More detailed work is required, and some is underway, to prepare specific hazard maps and analyse vulnerabilities. However, the present brief notes suggest the main considerations and consequent priorities. Reviewers are requested to indicate any amendments, or additions, they consider to be important.

[Reviewers' Comments]

1A.1 Demography and Land Use

1A.1.1 Population density is increasing in all parts of the country, both rural and urban (where density is increasing most rapidly). The number of people "at risk" in each disaster-prone area is therefore increasing. Within the total, the number of very poor people, who are vulnerable to any level of disaster, is increasing.

1A.1.2 The pressure on land is such that newly-formed char land is immediately occupied for agricultural use while, at the same time, existing land in several riverine and coastal areas is continually being lost to erosion. Increasing numbers of (poor) people have no option but to live and work (farm) in locations that are known to be exposed to considerable risks both along the coast and in flood-prone areas. In some cases, whole families migrate to exposed (but fertile) char areas, often working land that is owned by landlords who live in safer areas inland. The coastal area also attracts large numbers of transient/seasonal workers (for fishing, harvesting, salt and shrimp production). Not all of these people are indigenous to those hazardous areas: traditional coping mechanisms are not uniformly practised.

1A.2 Cyclones (incidence and impact of)

1A.2.1 Major cyclone events are fortunately rare but, in the last fifty years, they (and the accompanying storm surges) have been responsible for the largest number of disaster-related deaths as well as considerable losses to agriculture and damage to infrastructure in the coastal areas.

1A.2.2 Experience in 1991 (and before) demonstrates:

- (i) the effectiveness of coastal embankments and associated afforestation in reducing losses and damage; and
- (ii) the life-saving potential of shelters and any form of pucca building, provided they are sufficiently accessible and people understand the seriousness of the threat in time.¹

¹ People evacuate to safer sites if (a) they are convinced that their lives are in immediate danger; (b) they assess the risk of death to be greater than the risk of their land and property being stolen in their absence; and (c) there is time to reach known safe sites.

1A.2.3 Trends in the incidence of cyclones are difficult to detect, but experts studying the effects of "global warming" predict increases in both the frequency and intensity of cyclones in the tropical areas.

1A.3 Floods (incidence and impact of)

1A.3.1 Data show a declining trend in the total area flooded each year, but with wide annual variations as illustrated by the exceptional floods in 1987 and 1988.² Various factors are assumed to be at work, including river embankment construction in both Bangladesh and India, and the Farakka barrage, as well as changes in local and regional rainfall.

1A.3.2 Extensive river floods cause great disruption and damage to infrastructure, and the loss of crops and other property can be the "last straw" for subsistence farmers and others already struggling to survive. However, there is little evidence of any significant negative effects on aggregate agricultural production: in fact, major floods are typically followed by bumper harvests.³ In some areas, cropping patterns have been modified over the years, benefiting from increased irrigation, to reduce reliance on aman and other crops vulnerable to monsoon flooding.

1A.3.3 Flash floods cause considerable, localized damage to crops, fish ponds, property, and infrastructure, particularly in the north, north-east and east of the country.

1A.3.4 Experts studying the effects of "global warming" predict increases in both the frequency and intensity of floods in tropical areas.

1A.4 Other Natural Disasters (erosion, droughts, tornadoes, earthquakes)

1A.4.1 *River bank erosion* along many rivers, both major and minor, carries away land and destroys houses and other structures. Close to a million people are displaced every year as a direct result of erosion.

1A.4.2 Historically, *drought-induced famines* were a major killer, but the effects of drought have been considerably reduced by increased access to irrigation and by the provision of food aid. Nevertheless, drought remains a threat to the livelihoods of many subsistence farmers and agricultural labourers, particularly in the north-west of the country.

1A.4.3 *Tornadoes* cause localized devastation in widely scattered areas, and demand an immediate response. A seismic zone extends across the country and there is a definite risk of an *earthquake* that could cause

² See figure 1 appended to this report (on page 23).

³ Floods indirectly contribute to the concentration of land ownership and wealth: small landowners who lack resources to carry them over, and cannot obtain credit, are forced into "distress selling"; their land is bought up by rich landowners who then profit from the subsequent bumper crop

serious damage to infrastructure including embankments and other flood control structures. *Landslides* can occur in the hilly areas.

1A.5 "Man-made" Disasters

1A.5.1 Increases in population, population density, and industrialization in urban areas have considerably increased the risks associated with major *fires, industrial and other accidents*. These risks are further increased by the growth of unplanned squatter settlements as increasing landlessness, unemployment, and poverty, forces people to migrate from the rural areas.

1A.5.1 The current Rohingya refugee influx has highlighted the implications of, and the need to be able to respond to the considerable demands imposed by, *population displacements*, arising from political or other causes.

1A.6 Disasters and Development: Priorities for Action

1A.6.1 The various disasters and disaster risks referred to above have caused, and/or have the potential to cause, major setbacks to the process of development, both locally and nationally. Setbacks result from both direct losses of assets and the indirect costs associated with the diversion of resources to meet short-term relief and repair/rehabilitation needs.

1A.6.2 Attention to, and improved performance in, disaster management are essential for economic as well as humanitarian reasons. The various aspects of disaster management -- including prevention/mitigation, preparedness, emergency response, and rehabilitation -- directly influence, and are themselves affected by, "development." They are, and must be considered and planned as, an integral part of the development process, not as separate, peripheral activities.

1A.6.3 Priority may initially be given to cyclones and floods -- and river bank erosion -- but all the disaster risks described above must be considered, and comprehensive arrangements should be developed as quickly as possible.

1B Some Basic Propositions concerning Disaster Management in Bangladesh

The following notes suggest (as a basis for discussion and refinement) some "propositions" concerning measures and arrangements for the various aspects of disaster management -- prevention or mitigation of particular disaster risks, preparedness and emergency response, and post-disaster rehabilitation and reconstruction -- in Bangladesh. Reviewers are invited to indicate any amendments, or additions, they consider to be important.

[Reviewers' Comments]

1B.1 Prevention/Mitigation Measures

1B.1.1 The formulation of policies, and the planning and implementation of measures to prevent disasters, or mitigate their effects, are one component of integrated development planning for any disaster-prone area. They must be incorporated fully into the general development planning and management process at all levels, and be accorded due priority.

1B.1.2 Disaster prevention/mitigation and preparedness measures must complement each other. Development co-ordination committees/bodies at all levels should have subcommittees focusing on disaster risks, and the possibilities to reduce risks through prevention/mitigation measures and preparedness.⁴

1B.1.3 In disaster management, as in almost all aspects of "development," community participation in local-level planning, implementation, and maintenance, is an underlying principle.

1B.1.4 Awareness of the risks, and of the practical possibilities for reducing risks, is essential at all levels. Broad-based public education is needed in all disaster-prone areas, and orientation workshops for senior officers and planners in all sectors.

1B.1.5 Specialist disaster management expertise, advice and guidance should be available to the sectoral and inter-sectoral planners at all levels. Performance in implementing established policies should be monitored, and the effectiveness of various measures evaluated.

1B.1.6 Poverty alleviation is probably be most important mitigation measure in terms of decreasing people's vulnerability and increasing their capacity to cope with, and recover from, disasters of any kind.

1B.2 Preparedness and Emergency Response

1B.2.1 The provision of "relief" (food, shelter and clothing) is essentially a welfare (humanitarian) function, analagous to the delivery of other forms of service, albeit with greater urgency and often under

⁴ District and local-level planning, with community participation, need to be institutionalized. At the national level, disaster risks must be considered by the planning cells in individual ministries and the Planning Commission.

difficult circumstances. Rescue, the provision of medical/health care, and assuring the availability of potable water, are also required.

18.2.2 The establishment of effective preparedness measures and emergency response capability, and the management of the overall response to an actual emergency, or disaster, are complex inter-sectoral and inter-agency processes.

18.2.3 At community level, the resilience, initiative and efforts of the people themselves are important (probably the greatest) resources in coping with and recovering from disasters. Assistance from Government, NGOs, and other aid organizations, if well-conceived and well-directed, can be vital in supporting and enhancing local efforts, and in restoring local infrastructure and services.

18.2.4 During and immediately after a sudden disaster, rescue and survival depends largely on the coping strategies and capacities of the people themselves. Initial assistance to stricken communities then depends, during the first few days, on the mobilization of locally-available resources in all relevant sectors, from governmental and non-governmental agencies. Such relief operations typically involve telecommunications, water supply, medical care, public health, transport, storage, etc., in addition to the distribution of relief supplies. Preparedness, at local and national levels, must ensure effective, co-ordinated, inter-sectoral action.

18.2.5 At the local, community level, mechanisms are required to mobilize and involve local resources, officials, community leaders, and volunteers; to organize them effectively; to establish priorities and specify the additional resources that are essential but cannot be found within the community; to defend the interests of the least fortunate members; to co-operate with governmental and other assistance agencies/personnel; and to arrange (and account for) the effective use of aid provided.

18.2.6 The community as a whole must be involved in arrangements for preparedness, and the organization of emergency response (including evacuation and subsequent relief operations). These vital functions should not be left to, or be controlled by, special groups with vested interests. It has been suggested that disaster preparedness and response should be the responsibility (at village/union level) of a committee comprising: all locally-posted government officers/extension workers; teachers; religious leaders; elected representatives; NGO representatives including BDRCS (and CPP in coastal areas); VDP. Enhanced public awareness is essential.⁵

18.2.7 Special consideration must be given to the needs of women and children, who have been shown to be the most vulnerable (the most likely to die) in cyclones and floods. Special efforts must be made to

⁵ The composition and functioning of previously established union relief committees may need to be reviewed, and equivalent committees be formed at ward/village level. Guidelines must be provided and measures be taken to ensure that the needs and interests of *all* members of the community are considered and protected.

increase women's participation in decision-making at the community level (and above). Arrangements must be envisaged for children, women, old and disabled people who are left without families and family support.

18.2.8 At district and thana levels, the civil administration (the DCs and TNOs) are, and must be, responsible for ensuring preparedness and for the overall management (direction and co-ordination) of emergency response. This includes mobilizing locally-available resources and requesting specific expert advice or material assistance (including financial sanctions) if and when required. They must have delegated authority to take initial action.⁶

18.2.9 Any major disaster affecting a large area, large numbers of people, and/or vital national assets, constitutes a "national" disaster, the response to which reflects on the Government as a whole. Such situations demand, and receive, the direct attention of the national authorities at the highest level. The chief executive necessarily takes overall charge.

18.2.10 The Armed Services have particular capabilities in terms of communication and logistic equipment, and large numbers of trained and disciplined personnel who can be mobilized rapidly and operate effectively in difficult circumstances. These capabilities are particularly relevant and valuable in relation to large-scale search and rescue, initial reconnaissance, and initial relief operations, following a sudden disaster. The Armed Services have always been involved in initial, post-disaster response. Standing arrangements must be refined and institutionalized to ensure that their capabilities are further developed and effectively used in support of the civil administration in the context of both preparedness and response.

18.2.11 Information that is reliable and appropriately analysed is essential for both preparedness planning and the management of emergency response. Mechanisms (i.e. systems and trained personnel) are required to ensure that relevant information is rapidly gathered, reported, analysed, cross-checked, appropriately used, and shared, at all levels. During an emergency, there must be a recognized focal point (e.g. a control room) for up-to-date information at each level: national, district, and thana. Detailed maps must be readily available at all levels.

18.2.12 Relevant, task-oriented training must be made available for all personnel who would be expected to be involved in preparedness arrangements and in emergency response to any disaster or crisis. Appropriate disaster management modules should be included in the basic and refresher training of various categories of government personnel and others. Special disaster management workshops should be organized for key personnel (including people's representatives), especially at thana and district levels. Joint training of government, armed service, and NGO personnel, should be arranged, to the extent feasible.

⁶ Existing authorities (advance allocations) need to be reviewed and, if necessary, increased, with associated policy and operational guidelines.

1B.2.13 Policies and guidelines, possibly standard protocols, should be established for the mobilization and use/operations of special foreign assistance teams, when required.

1B.3 Rehabilitation and Reconstruction

1B.3.1 Short-term rehabilitation focuses on restoring essential services as quickly as possible, and enabling people to resume more-or-less normal lives and livelihoods. This includes immediate action to: restore tele-communications, road communications, water and power supplies, health care, education/schools, etc.; help farmers to replant, where necessary; help others to resume economic/income-earning activities; provide special, temporary employment opportunities, where required; avoid/control distress selling and forward-mortgaging of land and labour; avoid/control excessive increases in the price of essential items. This requires rapid technical assessments of damage and possibilities for repairs/rehabilitation; decisions on priorities (within and between sectors) and on the allocation of available resources (human, financial and material); and action to mobilize additional resources, where needed.

1B.3.2 Reconstruction (or "long-term rehabilitation") involves the permanent reconstruction or replacement of severely damaged physical structures, the full restoration of all services and local infrastructure, and the revitalization of the economy, including agriculture. Reconstruction must be planned in the context of relevant long-term development plans, taking account of any changes in the environment, future disaster risks, and possibilities to reduce those risks by the incorporation of appropriate mitigation measures. This requires detailed technical assessments of damage and the new environment, and the careful preparation of projects for national and/or external funding.

1B.3.3 Short-term rehabilitation therefore requires closely co-ordinated action within each sector (line agency) and between sectors at local level. Inter-sectoral priorities and co-ordination should be established at district level, by the DC and the district disaster management subcommittee (including people's representatives), under the overall guidance of the national-level co-ordination committee and specialist unit. Reconstruction/long-term rehabilitation, on the other hand, should be planned and managed in a manner similar to that of regular development projects albeit using accelerated, "fast-track" procedures. Special arrangements should be established -- within the Planning Commission -- to ensure overall co-ordination of the reconstruction efforts, and expedite action.

1B.4 "Co-ordination"

1B.4.1 Concerted action is essential in all aspects and phases of disaster management. It is important that action in all sectors and at all levels be in harmony, within the framework of agreed overall priorities, and that none are left unattended or lag behind. Clear, shared understanding of the competence and capacity of each body/agency involved is an essential prerequisite for effective co-ordination.



18.4.2 Co-ordination mechanisms must be designed -- and used -- to ensure that:

- (i) the efforts of all concerned agencies are harmonized and synchronized towards the achievement of agreed objectives;
- (ii) operational problems and bottlenecks affecting one or more agency are resolved so that each is able to fulfill its particular responsibilities;
- (iii) the overall situation and needs, and progress towards meeting the agreed objectives, and jointly reviewed at regular intervals, and agreement reached on any corrective action required.⁷

18.4.3 Operations in each sector should remain the responsibility of the body responsible for such activities in normal times. The role of overall disaster management authority, and any co-ordinating body, should be to ensure that all concerned bodies are able to satisfactorily fulfill their assigned functions, not to take over. The role is to enable and ensure complementarity of action by the various operational agencies.

18.4.4 Reliable, up-to-date information on the situation and the progress of operations/activities in various sectors, and the capacity to analyze and synthesize that information, are prerequisites to effective co-ordination.

⁷ Attempts by a "co-ordinator" to take over the control and direction of activities that are normally the responsibility of other bodies/agencies are often less effective than expected. Only reluctant co-operation is received from those being "co-ordinated" (especially if the co-ordinator is perceived as being a peer rather than a respected higher authority) and the interventions may even inhibit the effectiveness of the operational agencies' own activities.

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1C Organizational Arrangements: Response to the 1991 cyclone.

The following notes describe the arrangements made by the Government to manage (direct and co-ordinate) the response to the 1991 cyclone. NGOs made a major contribution individually and collectively, but these notes concern only the Government's organizational arrangements. The information is derived from four main sources:

- *Report of the GOB/UNDP Task Force, 1991;*
- *Report on Cyclone Disaster Response in Bangladesh, G.P. Sevenhuysen 1991;*
- *Operation SHEBA, Mokammel Huque, Zonal Relief Co-ordinator, Chittagong, 1991;*
- Personal recollections of Mohammad Siddique Rahman, the Cabinet Secretary at the time.

Reviewers are requested to:

- (i) check the accuracy of these notes as a record, and indicate any corrections needed;
- (ii) note any specific benefits or disadvantages of particular aspects of these arrangements;
- (iii) indicate whether, in their opinion, similar arrangements would -- or should -- be made if another major cyclone, or flood, were to occur in the next few months.

[Reviewers' Comments]

1C.1 Background

1C.1.1 When the cyclone struck on 29/30 April 91, the new democratically elected government had been in power for only five weeks.⁷

1C.1.2 The Armed Services, under the direct control of the President, had played the leading role in dealing with the most recent, major disasters (cyclone in '85; floods in '87 and '88), pre-empting the role of the civil administration as defined in the existing Standing Orders. The civil administration was active, but in a secondary role.

1C.1.3 The relationship between the new administration and the Armed Services was not clearly defined -- was still being developed -- when the 91 cyclone struck. Neither wished there to be any appearance of the Armed Services resuming a predominant role. The Armed Services participated in high-level meetings from the outset, but were less active than previously in 555X during the immediate aftermath.

1C.1.4 Memories of the major floods of '88 were still fresh in the minds of many officials. This included the special, *ad hoc* arrangements made at that time, such as the assignment of ministers and senior officers to reinforce the management and co-ordination of relief operations at local level.

⁷ The government of President Ershad had fallen on 8 Dec.90; elections organized by the Interim Government had been held on 27 Feb.91; the new Cabinet took oath of office in 20 March 91.

1C.2 Prevention, Preparedness and Warning Activities in advance

1C.2.1 Following the major cyclones of 1970 and 1985, there had been bursts of activity in relation to the warning system (the CPP), and the construction of coastal embankments and cyclone shelters. But interest and the availability of funds had declined as memories faded.⁸

1C.2.2 The construction of coastal embankments had not kept pace with continuous process of land erosion and accretion, and there were no adequate arrangements for regular maintenance. The number of purpose-built shelters was far from sufficient for the population at risk, and problems of siting and inadequate maintenance were reported. There does not appear to have been any overall plan for the protection or development of the coastal areas. No up-to-date maps were readily available.⁹

1C.2.3 The facilities of the BMD/Storm Warning Centre (and SPARSSO, for analyzing satellite imagery) had been consolidated, and the CPP sustained, albeit on a limited/inadequate budget. Between them, warnings were issued, and disseminated, in April 91 in line with the established procedures.¹⁰

1C.2.4 Apart from the CPP, there does not appear to have been any systematic preparedness planning at national, district, thana, or union levels in the cyclone-prone coastal belt, or within the line ministries. Any consideration of disaster preparedness had been almost entirely focused on flood risks since 1987. Some individual organizations had established their own, internal plans, but even where this had been done they were not always followed in April 91.¹¹

1C.2.5 A meeting of the Implementation Board of the CPP was taking place when warnings of the April 91 cyclone were issued. The Cabinet met and Parliament was adjourned (MPs being directed to return to their constituencies). A meeting of district officials was convened in Chittagong. Various measures were taken in the different threatened districts, but details of these measures and their effectiveness have not been compiled. (The Air Force and Navy have been criticized for failing to protect their equipment.)

⁸ The construction of coastal embankments had started before the 1970 cyclone, but the design criteria did not include protection against storm surge.

⁹ The issue of cyclone shelters has been extensively investigated by the *Multi-Purpose Cyclone Shelter Project*. The present project (BGD/91/021) is charged with the responsibility to prepare a Concept Plan for *Integrated Coastal Protection*. Neither topic is dealt with further in this paper.

¹⁰ Some questions have been raised concerning the promptness, credibility and explicitness of the warnings: these issues are being taken up separately, and are not further discussed here.

¹¹ For example: Chittagong Port Authority had a plan, but did not activate it. Eastern Refinery had a plan, and took measures accordingly. [IEB Task Force Report]

1C.3 Special Organizational Arrangements Established in April/May 91

1C.3.1 Special co-ordination arrangements were made by the Government including three *ad hoc* committees at national level, the appointment of special *Zonal relief Co-ordinators*, and the deputation of ministers and a large number of senior officials to reinforce the local civil administrations. The co-ordination arrangements prescribed (for the national level) in the *Standing Orders for Cyclone* (MORR 1985) were not followed.

1C.3.2 The overall set-up appears to have been as indicated in the Figure 1C (page 16). During the early stages, the Cabinet Secretary took the initiative. Later, the MOR assumed more responsibility. The function of the various committees and other bodies were apparently as described below:

1C.3.3 An *ad hoc High Level Relief Co-ordination Committee (HLRCC)* was established by the Government, chaired by the Prime Minister with the Cabinet Secretary as Member-Secretary. Its membership included several leading Ministers, the Secretaries of 5-6 key Ministries, and the Chief of the Armed Services. The HLRCC met frequently (every evening) in the immediate aftermath of the cyclone; less frequently as time passed. The HLRCC was also convened to deal with the floods in North Bengal in Oct/Nov 91.

1C.3.4 The role of this Committee was to:

- establish policy guidelines;
- issue directives to the Executive Committee (detailed below) and other bodies;
- review reports from the 'field';
- issue appeals for international assistance and make regular statements for the donors both in-country and overseas.

Being high level, relatively small (compact), and operating with the authority of the Prime Minister, the HLRCC was able to take prompt decisions (including the deputation of officials and the allocation of funds).

1C.3.5 An *Inter-Ministerial Co-ordination Committee (IMCC)*, comprising Secretary-level civil service officers under the chairmanship of the Cabinet Secretary, met daily initially to manage all disaster-related activities under the overall direction of the HLRCC. The duties of the IMCC included:

- arranging for the assignment of temporary Zonal Relief Co-ordinators in Chittagong and Khulna, together with supporting staff;
- arranging for posting of necessary officials to the affected areas through the Ministry of Establishments and the respective line agencies, including 'class I officers', medical teams, tubewell mechanics and pump operators;
- receiving and processing reports from ZRCs, Divisional Commissioners and DCs including damage assessments and lists of requirements which could not be met from their own resources;

- receiving and processing reports from line Ministries giving damage and listing requirements which could not be met from their own resources;
- arranging the collection, procurement, storage and transport of required items (including food grains, dry food, medical supplies, clothing, utensils, and the like) through MOR and PSO Monitoring Cell;
- liaising with the armed forces and the American Task Force through the Prime Ministers Office/PSO monitoring Cell;
- passing information on relief requirements via ERD to the donor Relief Co-ordinator (UNDP);
- arranging with ERD to liaise with donors led by the World Bank regarding long-term assistance for infrastructure.

1C.3.6 The compilation and analysis (processing) of information and requests from the field was initially undertaken by the MOR, but the system proved to be unsatisfactory and, after a few days, this function was taken over by the Cabinet Division on behalf of the IMCC. The Cabinet Secretary:

- received information on needs and problems/bottlenecks from the District/Zonal Co-ordinators other Civil Administration officials, as well as from line ministries;
- discussed this information in the IMCC, and sought to resolve problems;
- recommended and obtained orders/sanctions of funds and relief items from the Prime Minister, when needed.

Information was disseminated to the press and news media through the Information Secretary.

1C.3.7 An *Executive Relief Management Committee (ERMC)*, chaired by the State Minister of Relief also met daily. Its membership included the PSO, and the Secretaries of Relief, Food, and Health. Its duties were:

- allocation of available relief resources on the basis of information and requests from the Civil Administration and line Ministries, processed through the IMCC;
- issuing administrative orders for the allocations;
- arranging transport of resources to the field with assistance from the PSO Monitoring Cell.

1C.4 Roles of Particular Bodies in April/May 91

1C.4.1 *The PSO Monitoring Cell*, which included representatives from the three services (Army, Navy and Air-force) was to support the civil power. In practice, this support involved:

- reconnaissance flights;
- assistance with bulk transport;
- air drops;
- receiving and storing relief materials coming from abroad by air;

- managing the President/Prime Minister's relief godowns and transporting the items as allocated by the ERMCC, or on advice from the Cabinet Secretary under the authority of the PM;¹²
- assistance with security at airports and other places where 'relief' goods were held;
- assistance with crowd control at distribution points.

1C.4.2 *The Ministry of Relief (MOR)* was responsible for the administration, at national level, of the available relief resources, under the direction of the HLRCC and ERMCC. At district and thana levels, staff of the MOR supported the responsible civil officers (the DCs and TNOs), acting as "staff officers." The relief resources concerned mainly cash, food grains (under GR and VGD schemes), and CI sheets.

1C.4.3 MOR also had responsibility, initially, for consolidating and processing information on damage and requirements received from the Civil Administration. However, this function was soon taken over by the Cabinet Division on behalf of IMCC.

1C.4.4 *The Economic Relations Division (ERD)* of Ministry of Finance was to act as the Government spokesman and point of contact with the Dhaka-based donor community. For this purpose a Foreign Assistance Coordination Cell (FACC) was created within ERD to:

- obtain lists of requirements from IMCC; and
- pass them on to the interested donors.

1C.4.5 First statement of consolidated requirements for relief and rehabilitation prepared by the Cabinet Division in consultation and collaboration with line ministries. Communicated to donors through ERD. Meanwhile, donors sought information through other channels (e.g. NGOs, and assessments by their own staff) to determine what was needed. Certain line organizations approached their traditional donors directly, and the Cabinet Secretary also made direct approaches to international organizations for urgently needed items following discussion in the IMCC.

1C.4.6 *Diplomatic staff of the Ministry of Foreign Affairs* were active in requesting assistance for Bangladesh through the High Commissions and Embassies overseas, but their information and requests were often at variance with those announced in Dhaka by ERD/FACC.

1C.4.7 *The line Ministries, departments and agencies (excluding MOR and DR&R)* were responsible for:

- preparation of sectoral damage assessments, and specification of immediate and longer-term rehabilitation requirements;
- provision of assistance to affected populations, and/or arranging repairs and the restoration of services, within their areas of competence;

¹² The President had given full authority to the PM for the sanction/allotment of relief goods in the President's relief stores.

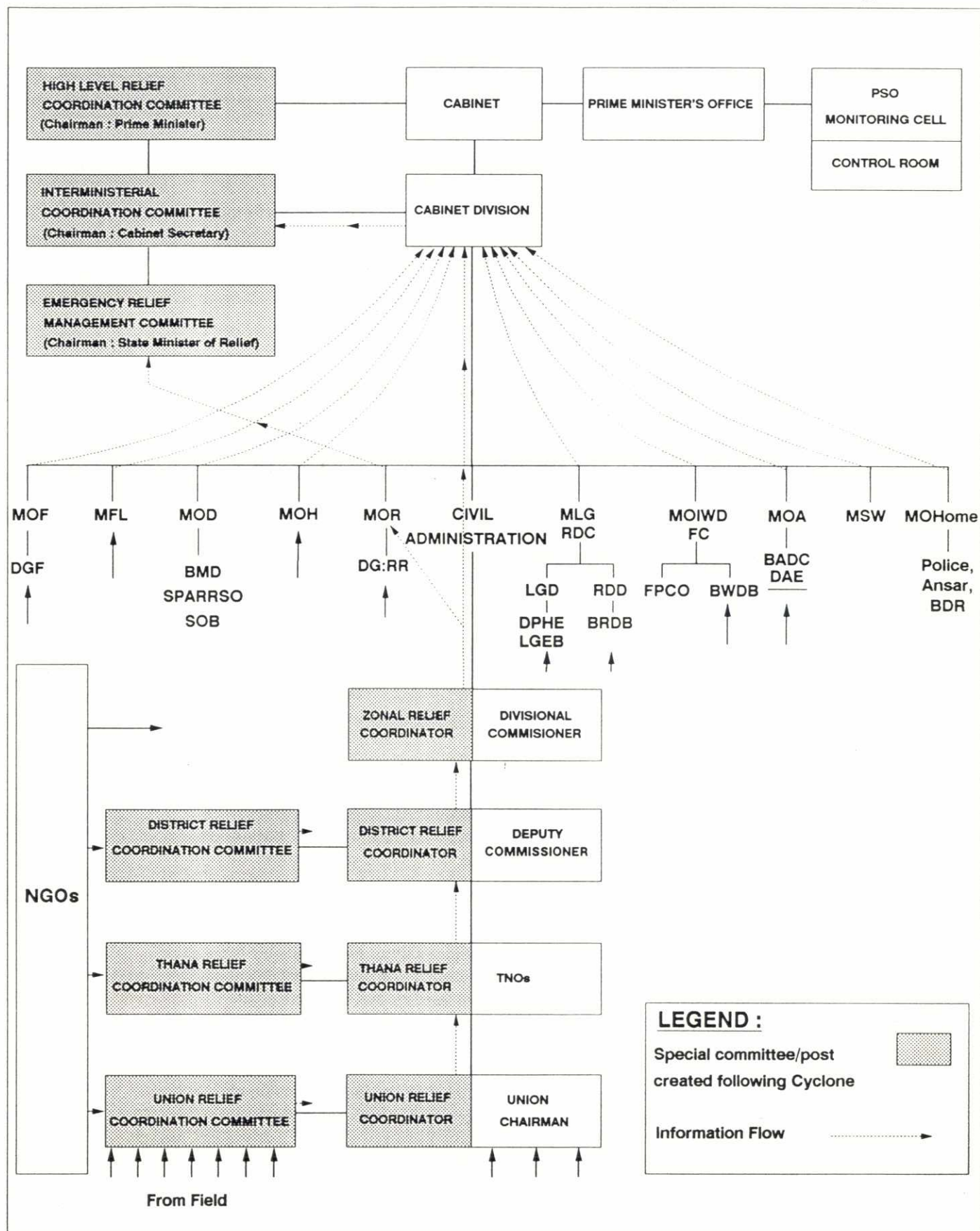
- submitting requests to the IMCC for supplies, services and/or funds, that could not be provided from their own resources.¹³

1C.4.8 *The Civil Administration* at divisional, district and thana levels, supported for a few weeks by senior officers out-posted by the Government to assist with relief operations, were responsible for:

- compiling data on damage and forwarding related lists of requirements to Cabinet Division and MOR;
- managing and co-ordinating relief activities, including co-ordinating those of all essential services and NGOs, in their areas of jurisdiction; and
- supervising the allocation and distribution of government relief (GR food and cash, and other materials), the clearing of roads, sinking/repair of tubewells, etc.

1C.4.9 *ADAB* helped to co-ordinate the efforts of *NGOs*, opened an office in Chittagong, and issued daily bulletins. Donors funding *NGOs* shared information with *ADAB*, and insisted that the *NGOs* they funded should co-ordinate with *ADAB*. Many *NGOs* brought out their own bulletins. An *NGO* leader was given space on early army helicopter flights and relayed initial assessment information to *ADAB*. The Prime Minister invited *NGOs* and donors to an information meeting on day 3(?).

¹³ It has been suggested that the priorities of line agency staff are: (i) staff survival; (ii) protection of agency resources; (iii) assisting others.

Figure : 1C
Cyclone 1991 : Organisation

1D Summary of Principal Tasks to be Performed in Disaster Management

Based on the preceding notes, this section provides an initial (incomplete) summary listing of some of the principal disaster management functions, or tasks, to be performed in Bangladesh. It focuses on "general" planning and management functions, not on the detailed actions that are required by individual (technical) line agencies. Reviewers are requested to:

- (i) suggest amendments, or additions, that they consider important;
- (ii) propose the priority (1, 2, or 3) that should be assigned to initiating and undertaking the various tasks, or groups of tasks; and
- (iii) suggest how (and by whom) the various tasks should be performed.

[Reviewers' Comments]

1D.1 Tasks in relation to Disaster Prevention/Mitigation (a) at National Level

1D.1.1 Promote awareness of disaster risks and the possibilities for reducing risks (mitigation), as well as preparedness arrangements, among the populations of disaster-prone areas and all government staff assigned in such areas -- through mass campaigns, an annual disaster day, school books/curricula, etc. (See 1D.3.8 below).

1D.1.2 Define policies and priorities for the consideration of disaster risks and the incorporation of disaster prevention/mitigation measures in general development planning. Provide corresponding guidelines to sectoral planners and local-level officials.

1D.1.3 Establish procedures and criteria for the appraisal of development projects in terms of (i) the vulnerability of the project and its outputs to known risks, and (ii) the likely effects of the project on the vulnerability of the people and other assets in the locality (on the risks to which they are exposed).

1D.1.4 Undertake risk assessments, and promote specific disaster prevention/mitigation projects and other measures (including legislation), as required. Mobilize/allocate the necessary resources. Ensure necessary technical supervision and the long-term maintenance of structures and other measures.

1D.1.5 Provide advice, and arrange for relevant expertise and up-to-date knowledge of disaster risks and mitigation possibilities to be available to sectoral planners, local-level officials, and others (including NGOs and other aid agencies). Ensure that relevant aspects are included in the training provided for technical and professional personnel. Promote additional research, where required.

1D.1.6 Monitor and report to the Government on the implementation of national policies and priorities in relation to disaster risks and mitigation.

1D.1.7 Evaluate (or arrange the independent evaluation of) the effectiveness of specific disaster prevention/mitigation measures.

1D.2 Tasks in relation to Disaster Prevention/Mitigation

(a) at Local Level (district and below)

1D.2.1 Undertake local risk assessments periodically, prepare "disaster profiles" of the locality, and incorporate relevant prevention/mitigation measures in local development plans, within the framework of national policies and priorities. (Request advice and guidance -- and training -- from the relevant specialist unit(s) at national level, as required.)

1D.2.2 Organize and ensure the effective functioning of disaster management sub-committees at all levels of planning and administration within the district, including the village.

1D.2.3 Organize relevant public awareness education at village level, and the orientation training at local level of officers, extension workers, local leaders, and volunteers. (Use the materials and guidelines prepared by the national-level unit(s); adapt them, where necessary.)

1D.2.4 Organize the implementation of prevention/mitigation projects and measures (both structural and non-structural), and ensure necessary maintenance, with a maximum of community participation.

1D.2.5 Report to the relevant national authorities on measures taken and their perceived effects.

1D.3 Tasks in relation to Preparedness

(a) at National Level

1D.3.1 Maintain and refine national forecasting and warning systems to provide relevant and timely information to officials and the general public.

1D.3.2 Define responsibilities for the dissemination of warnings and the planning and organization of other preparedness measures. Develop a national disaster Plan incorporating updated emergency *Standing Orders*; review it on a regular basis (and after every major disaster); when necessary, revise and reissue the Plan in close consultation with all concerned ministries and agencies. Propose and prepare relevant legislation, where necessary.

1D.3.3 Ensure the maintenance of up-to-date emergency procedures ("Action Plans") within all concerned line ministries and agencies. Ensure the complementarity of the arrangements and procedures within different agencies, and the adequacy of arrangements for co-operation between the civil administration, armed services, and NGOs.

1D.3.4 Monitor, and report to the Government, on the overall state of emergency preparedness.

1D.3.5 Provide (or arrange the provision of) guidelines, equipment, and training, in support of local-level warning dissemination systems.

1D.3.6 Prepare and distribute practical guidelines, for use at district, thana, and union levels, on "how to be prepared" (for cyclones and floods) and "how to minimize damage and losses." (Guidelines to be compiled on the basis of proven experience and in consultation and collaboration with other interested bodies, including experienced research organizations and NGOs.)¹⁴

1D.3.7 Establish general policies and standards for the provision of relief following disasters, and prepare and distribute practical guidelines (for use at various levels) on the organization of rescue and relief assistance operations.

1D.3.8 Promote broad-based public education concerning preparedness for and response to cyclones and floods, and the related training of extension workers, teachers, local leaders, women's groups, and others. Produce (or arrange the production of) relevant educational and training materials, and provide support in the initial planning and organization of training activities and exercises at local level. Supervise and evaluate these activities on an ongoing basis. Incorporate relevant disaster preparedness components in the school syllabus

1D.3.9 Organize training in disaster preparedness and emergency response for government officers and others (notably personnel of the armed services and NGOs) in collaboration with institutions offering basic and refresher training for such personnel.

1D.3.10 Establish procedures, facilities, communications and management information systems, for an operations co-ordination unit at national level -- a core staff to be supplemented, when necessary (immediately a disaster threatens or occurs), by personnel seconded from key sectoral agencies, the armed services, and, possibly, NGOs and international aid agencies. Organize exercises (at least once a year) including personnel from line agencies.

1D.3.11 Establish arrangements to rapidly deploy additional radio communications equipment (and operators) into areas where normal telecommunications are disrupted; and establish arrangements whereby operational agencies can establish/operate/have access to radio networks under proper authority.

1D.3.12 Establish and maintain a roster of individuals experienced in the management of emergency operations, and relevant technical specialists (government personnel and others), who would be available, at short notice, to: (a) undertake preliminary reconnaissance and assessment missions following a disaster, and (b) help to direct and co-ordinate operations (at national, zonal, or district levels) during the initial emergency relief phase. Arrange periodic group training for those on the roster.

¹⁴ Guidelines may initially focus on cyclones and floods. Later, they should be expanded to cover other hazards in addition.

1D.3.13 Establish and maintain arrangements by which trained and experienced senior civil service officers can be promptly sent on temporary assignments to reinforce the district, thana, and union-level administrations in disaster-affected areas. Ensure these officers have up-to-date guidelines.

1D.3.14 Keep an up-to-date roster of NGOs having relevant experience and capabilities.

1D.4 Tasks in relation to Preparedness **(a) at Local Level (district and below)**

1D.4.1 Establish and maintain warning dissemination systems at local level. (These to be linked to the national forecasting and warning systems, but tailored to the local situation and with maximum involvement of the disaster-related co-ordination committees at local level. Messages to be simple and explicit.)

1D.4.2 Establish, regularly review and up-date, emergency preparedness action plans for the district and lower-level administrative units, following the national guidelines but adapting to local circumstances. Ensure adequate arrangements for concerted action by all relevant line agencies, and co-ordination between NGOs and the local administrations. (Request advice and assistance from the relevant specialist unit at national level, as required.)

1D.4.3 Organize relevant public education at village level, and the local-level training of all personnel expected to perform specific roles in preparedness and emergency response. (Use, distribute, where appropriate adapt, the training materials and practical guidelines prepared by the national-level units.)

1D.4.4 Promote the establishment of broad-based village/union-level disaster management committees (see 1B.2.6 above), and assist local (village) communities in disaster-prone areas to become as self-sufficient as possible in preparing for and organizing the initial response to disasters.

1D.4.5 Establish and maintain a roster of experienced personnel within the district who would be available at short notice to undertake preliminary assessment visits to the affected areas following a disaster, and help to direct and co-ordinate local-level operations during the initial relief phase.

1D.5 Tasks in relation to Emergency Response

(a) at National Level

1D.5.1 *In the event of a warning (an imminent disaster threat)*

- Ensure that warning information is passed to all concerned officers, agencies, and public dissemination channels.
- Activate the central disaster operations co-ordination unit, and similar units/"control rooms" in line agencies.
- Convene the inter-ministerial co-ordination committee to review the overall state of preparedness and decide on any additional measures to be taken; issue relevant instructions to agencies and personnel in the threatened areas.

In the event of a disaster:

1D.5.2 Undertake immediate reconnaissance and initiate action on the basis of those observations and past experience.

1D.5.3 Compile and analyse information (on damage and needs) from DCs, TNOs, line agencies, and other sources; identify and seek to fill gaps in information; present information and recommendations for action to decision authorities.

1D.5.4 Arrange inter-sectoral assessment missions, where needed.

1D.5.5 Assign additional civil service officers to support the responsible authorities in the affected areas.

1D.5.6 Mobilize (or ensure the mobilization of) personnel, equipment and materials available to the various line agencies to restore communications and essential services.

1D.5.7 Mobilize and assign armed services units and personnel for specified operational support functions.

1D.5.8 Make allocations of available relief materials, funds, and transport units (to district authorities or, occasionally, direct to thana level).

1D.5.9 Release funds from national resources (for specified purposes), and authorize special, emergency procedures where appropriate; delegate authority to the operational level (if not already adequately provided for in the Standing Orders).

1D.5.10 Issue specific requests to donors/the international community for additional aid, if needed, for rescue, relief and short-term rehabilitation; provide regular up-dates on unmet needs, and items not, or no longer, needed.

1D.5.11 Ensure the maximum sharing of information between all concerned bodies, and the co-ordination of the activities of all operational agencies (governmental and NGO).

1D.5.12 Arrange the delivery (including procurement, temporary storage, and transportation) of needed supplies to the affected areas.

1D.5.13 Monitor the progress of operations in all areas; identify particular problems (or bottlenecks) and take action to resolve them; ensure that operations are being effectively carried out within the general framework of established policies and guidelines.

1D.5.14 Provide advice and generally "back-stop" the authorities, officials, and operational agencies in the field; arrange special missions to check information and solve problems on-the-spot, when necessary.

1D.5.15 Organize regular (weekly?) sessions/workshops with all concerned to review progress and lessons learned, and to establish (agree) priorities and directions for continuing/new activities.

1D.5.16 Co-ordinate the preparation of detailed damage assessments and proposals/projects for reconstruction/long-term rehabilitation of the affected areas.

1D.5.17 Report to the Government and donors on the progress of operations and the use of resources.

1D.5.18 Arrange a final evaluation, or at least a "post mortem," of the emergency response (including warning, relief and short-term rehabilitation operations) to draw lessons for the future. Involve impartial observers/evaluators, and publish the report.

1D.6 Tasks in relation to Emergency Response

(a) at Local Level (district and below)

1D.6.1 In the event of a warning (an imminent disaster threat)

- Ensure that warning information is passed to all concerned officers, agencies, and public dissemination channels, within the district.
- Activate the district and thana-level disaster operations centres/control rooms.
- Convene the district and thana-level co-ordination committees to review the overall state of preparedness and decide on any additional measures to be taken; issue relevant instructions to agencies and personnel in the threatened localities.
- Redeploy experienced personnel within the district to the threatened areas to assist in organizing local preparedness and damage containment measures, and be available to help direct and co-ordinate post-disaster operations at the local level.
- Report to the central operations co-ordination unit/control room on measures taken.

In the event of a disaster:

- 10.6.2 Establish contact between union, thana, and district-level authorities; identify where vital telecommunications and physical communications links have been cut, and take action to restore communications; inform and, if necessary, request assistance from, divisional or national authorities.
- 10.6.3 Organize rescue and medical relief assistance, if needed.
- 10.6.4 At district and thana levels, compile and analyse information (on damage and needs) from lower-level authorities, line agency personnel, and other sources; identify and seek to fill gaps in information; present information and recommendations for action to higher-level authorities. Report to national authorities at least daily during the initial stages.
- 10.6.5 Send staff on fact-finding and initial (inter-sectoral) assessment visits to the affected areas to verify reports and determine relative priorities. (Provide them with radio communications wherever possible, if normal telecommunications are disrupted or non-existent.)
- 10.6.6 Re-deploy civil service and other government officers within the district to support the thana and union-level authorities in the worst-affected areas.
- 10.6.7 Mobilize the personnel, equipment and materials available locally to the various line agencies to restore communications and essential services.
- 10.6.8 Agree on the deployment and functional responsibilities of any armed services units and personnel mobilized to support the rescue and relief operations; establish arrangements for day-to-day co-operation between them and the civil administration within the framework of established national policies and procedures.
- 10.6.9 Allocate and arrange the distribution of available relief materials, funds, and transport units within the district, according to needs.
- 10.6.10 Use the discretionary authority available to DCs and TNOs to release foodgrains or funds, if required.
- 10.6.11 Inform the national authorities of specific requirements for additional aid, if needed, for rescue, relief and short-term rehabilitation; provide regular up-dates on unmet needs, and items not, or no longer, needed.
- 10.6.12 Ensure the maximum sharing of information between all concerned bodies, and the co-ordination of the activities of all operational agencies (governmental and NGO) within the district.
- 10.6.13 Arrange the delivery (including procurement, temporary storage, and transportation) of needed supplies within the district, to the affected communities.

1D.6.14 Monitor the progress of operations within the district; identify particular problems (or bottlenecks) and act to resolve them.

1D.6.15 Provide advice and guidance to the lower-level authorities, officials, and operational agencies in the field; send staff to check information and solve problems on-the-spot, when necessary. (Request help from national authorities, as needed.)

1D.6.16 Organize regular (weekly?) sessions/workshops with all concerned, at district level, to review progress and lessons learned, and to establish (agree) priorities and directions for continuing/new activities, including the transition from relief to rehabilitation.

1D.6.17 Co-ordinate the preparation at district level of detailed damage assessments and proposals for reconstruction/long-term rehabilitation.

1D.6.18 Report to the national authorities on the progress of operations and the use of resources.

1D.6.19 Judge when special "emergency" operations and assistance should be phased out, and inform the national authority and all concerned locally.

1D.6.20 Co-operate with the national authorities in undertaking a final evaluation, or "post mortem," of the emergency response (including warning, relief and short-term rehabilitation operations) to draw lessons for the future.

1D.7 Tasks in relation to Rehabilitation and Reconstruction

(a) at National Level

1D.7.1 Arrange for the detailed assessment of damage to major infrastructure, economic assets, and public service facilities/utilities, and the consolidation of data from district-level authorities concerning other damage. Co-operate with potential donors in preparing agreed assessments.

1D.7.2 Prepare projects for the reconstruction/long-term rehabilitation of infrastructure, etc. Define priorities and process the proposals (using accelerated, "fast-track" procedures). Ensure the incorporation of relevant disaster prevention/mitigation measures wherever appropriate.

1D.7.3 Allocate available national resources, and request/negotiate with international donors for additional resources, as required.

1D.7.4 Arrange the implementation, with necessary supervision, of approved projects, and assure the ongoing maintenance of the structures and related programmes.

1D.7.5 Hold regular sessions/workshops with all concerned to review progress, resolve problems, and adjust priorities if/when needed.



1D.7.6 Report to the Government and international donors on the progress of reconstruction/rehabilitation operations, and on the use of resources.

1D.8 Tasks in relation to Rehabilitation and Reconstruction
(a) at Local Level (district and below)

1D.8.1 Co-operate with the competent national authorities/agencies (or their designated consultants) in the detailed assessment of damage to major infrastructure, economic assets, and public service facilities/utilities.

1D.8.2 Undertake assessments of damage to local infrastructure, economic assets, and public service facilities. Estimate requirements, define priorities, and propose specific projects for the reconstruction/long-term rehabilitation of such infrastructure, etc. Incorporate relevant disaster prevention/mitigation measures in all projects.

1D.8.3 Implement any priority projects that can be undertaken using locally-available resources, and submit proposals and recommendations to the relevant national authorities for other priority projects.

1D.8.4 Arrange the implementation, with necessary supervision, of approved projects, and assure the ongoing maintenance of the structures and related programmes within the district.

1D.8.5 Hold regular sessions/workshops with all concerned to review progress, resolve problems, and adjust priorities if/when needed.

1D.8.6 Report to the relevant national authorities on the progress of reconstruction/rehabilitation operations, and on the use of resources.

Bangladesh : Area flooded by year

TRENDS WITH AND WITHOUT 1987,1988 DATA

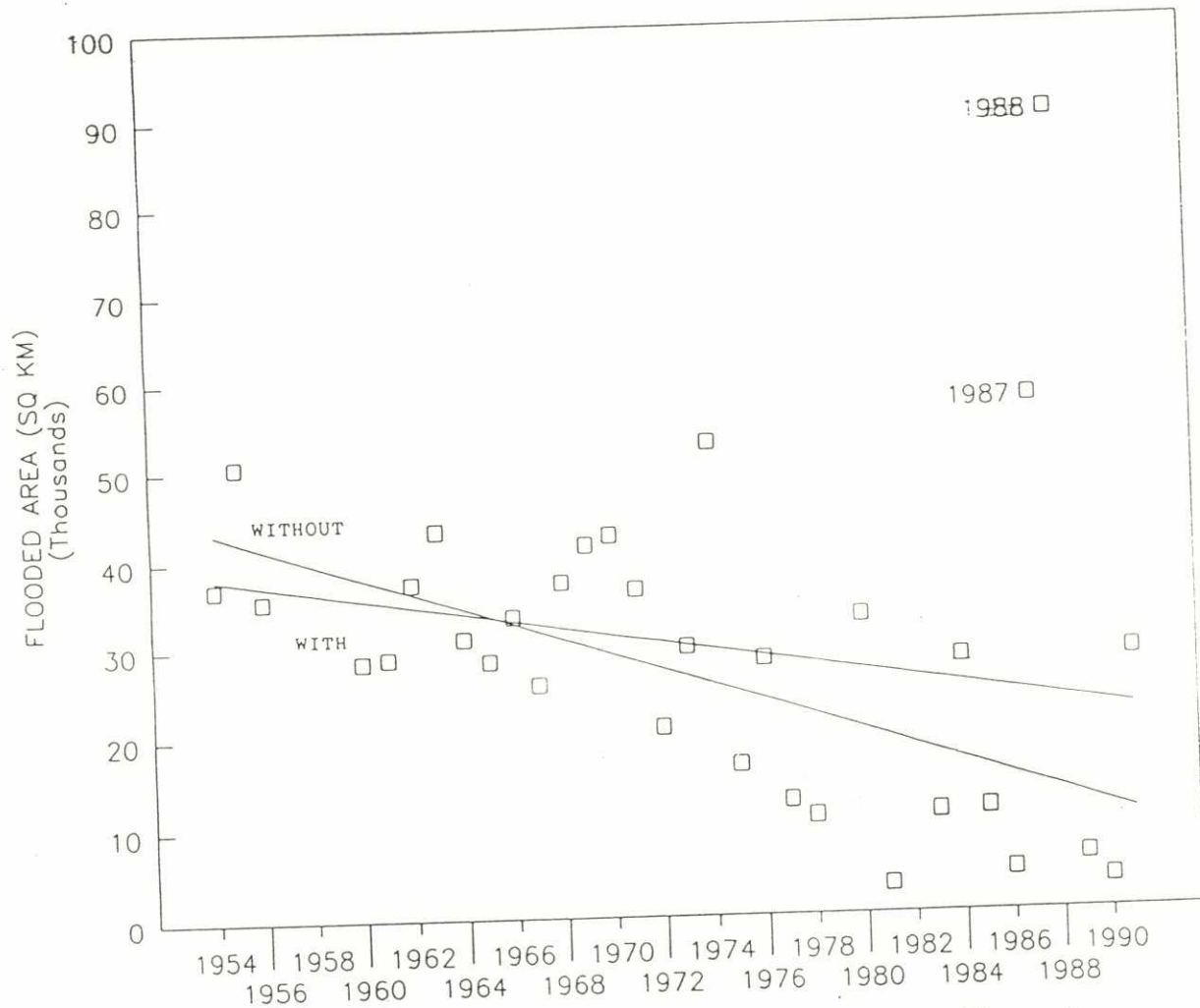
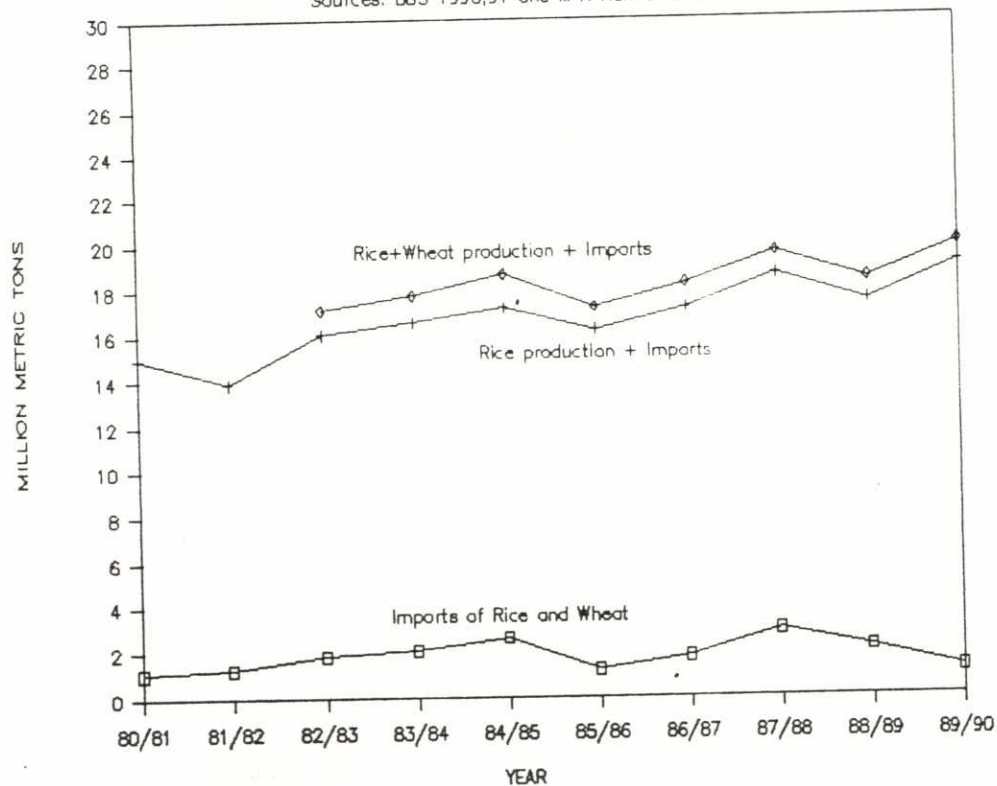


Figure 2

Annual Rice/Wheat Production & Imports

Annual Rice/Wheat Production & Imports

Sources: BBS 1990,91 and M A Hamid 1991



WORKING PAPER No.9 (rev.1)

INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT IN BANGLADESH

This paper presents brief notes on aspects relevant to the establishment of improved institutional arrangements for disaster management in Bangladesh, and presents a specific proposal that has emerged from consultations with a considerable number of concerned bodies and individuals. The present paper (rev.1) is a revised and slightly expanded version of the original paper (dated 15 Oct 92) that was reviewed by the Project Professional Panel and discussed with the Ministry of Relief. It builds on, and follows on from, Working Paper No.1 (*Planning for Disaster Management in Bangladesh*), which established some basic premises and defined the functions to be fulfilled in relation to the various phases of disaster management at national and local levels.

The present paper focuses on overall institutional arrangements, and in particular those at national level. High-level co-ordinating committees and a new specialist unit -- a *Disaster Management Bureau* -- are proposed. Details concerning the nature, composition and functioning of that Bureau are discussed in Working Paper No.10.

The specific topics covered in the present paper are:

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Ron Ockwell
Disaster Management Specialist
03 Nov. 1992

DEFINITIONS AND SCOPE

"Disaster Management" includes all aspects of planning for and responding to disasters. It refers to the management of both the risks and the consequences of disasters, and includes:

- (i) *the incorporation of preventive/mitigation measures into overall development plans and activities at all levels in disaster-prone areas: this may include structural and non-structural measures to reduce the risks of disaster occurring and the consequences of those that cannot be prevented;*
- (ii) *preparedness plans and related measures in disaster-prone areas to warn people of imminent threats and organize appropriate emergency responses, when necessary: this includes forecasting, warning dissemination systems, and standing arrangements for evacuation and the organization of rescue, relief and short-term rehabilitation activities;*
- (iii) *emergency response to disasters when they occur, including rescue, relief, short-term rehabilitation/repairs; and*
- (iv) *post-disaster reconstruction/long-term rehabilitation.*

It is proposed that, during a first phase, the focus of effort and activities (in particular activities in the field) would be on preparedness for, and preventive/mitigation measures in relation to, cyclones, floods (including flash floods) and river bank erosion. Considerations of other hazards, including tornados, landslides, earthquakes, fires, etc., would be incorporated later.

ABBREVIATIONS

BDRCS	Bangladesh Red Crescent Society
BMD	Bangladesh Meteorological Department
BWDB	Bangladesh Water Development Board
CPP	Cyclone Preparedness Programme (of BDRCS jointly with MOR)
DC	Deputy Commissioner
DOC	Disaster Operations Centre (Philippines)
DMB	Disaster Management Bureau (proposed)
DRR	Directorate of Relief and Rehabilitation
ERD	External Resources Division
FFW	Food-For-Work (food provided as remuneration for work in the context of public works programmes supported by WFP and other donors)
GR	Gratuitous Relief (free distributions under MOR/DRR auspices)
IDNDR	International Decade for Natural Disaster Reduction
IMDMCC	Inter-Ministerial Disaster Management Co-ordination Committee (proposed)
MDMR	Ministry of Disaster Management and Relief (proposed redesignation of MOR)
MOR	Ministry of Relief
NCCCE	National Co-ordination Committee for Cyclone Emergency (SOC, 1985)
NDMC	National Disaster Management Council (proposed)
NDMAC	National Disaster Management Advisory Council (proposed reconstituted version of the National Disaster Prevention Council)
NGO	Non-Governmental Organization
ODM	Office of Disaster Management (proposed in 1989/90)
OEP	Office of Emergency Preparedness (proposed in 1988/9)
PM	Prime Minister
PSO	Principal Staff Officer to the Prime Minister
SOC	Standing Orders for Cyclone (MOR, 1985)
SOP	Standard Operating Procedures
TR	Test Relief (food distributed under MOR/DRR auspices as remuneration for casual work)
VGD	Vulnerable Groups Development (food provided to destitute women in the context of a programme supported by WFP and, at times, other donors)

9A Present arrangements and recent proposals

[Reviewers' Comments]

9A.1 The Government has made considerable efforts and has been fairly successful in organizing disaster relief operations but, until now, much has been done on an *ad hoc* basis rather than on the basis of advance planning.

9A.2 The functions of the MOR and DRR, as defined in official Rules of Business, refer almost entirely to the provision of "relief", with little reference to preparedness, although the Government, in 1991, designated the MOR as "the focal point for the co-ordination of all disaster-related activities", particularly short-term repair and rehabilitation following the April 1991 cyclone.¹

9A.3 In practice, the MOR, and DRR, have until now been concerned almost exclusively with:

- (a) the administration of the regular GR and TR "relief" programmes using Government resources, and the VGD and certain FFW programmes supported by WFP and other food aid donors;²
- (b) the provision of emergency relief following disasters (including small-scale local events as well as the more publicized major floods and cyclones).

Presently the MOR/DRR has additional responsibility as focal point in the Government for the management of assistance to the Rohingya refugees.

9A.4 Although the Standing Orders for Cyclone (SOC) issued in 1985 list pre-disaster responsibilities for many ministries and agencies, and assign specific preparedness responsibilities to MOR, DCs, upazila- (now thana) and union-level authorities, little has apparently been done in practice, at least within the civil administration and line ministries/agencies.

9A.5 The SOC provide for a National Co-ordination Committee for Cyclone Emergency (NCCCE) -- composition not specified but to be determined by the President -- to "meet as and when considered necessary by the Chairman" to "review the overall preparedness measures and direct concerned authorities to take such steps as deemed necessary by the Committee." Similarly, the MOR is charged with the responsibility to "issue necessary orders for effective co-ordination of preparedness .." and to "review the state of disaster preparedness of various Ministries, Divisions, Departments and Agencies."³

9A.6 However, no specific mechanisms or programmes were established to promote preparedness activities and, although the need for a high-level inter-sectoral co-ordination committee was recognized in the SOC, the NCCCE has

¹ Ref. project document BGD/91/021.

² The regular VGD programme provides some food (wheat) to specifically-selected destitute women. It is expanded at times of emergency by the issuing of "Special VGD" cards. The scale of the FFW programmes administered by MOR/DRR has recently been reduced, with important allocations going directly to BWDB and LGED for the more substantial construction works, but resources for Local Initiative Schemes are still managed by MOR/DRR.

³ The preparedness responsibilities of the DRR, as defined in the SOC, relate to the training of its own staff, "mobilizing available relief stock" (?), and the construction and maintenance of killas (under FFW).

apparently not met in this connection. In practice, little has been done to realize the objective of improved disaster preparedness.

9A.7 National-level forecasting arrangements exist for cyclones and floods, managed by the BMD and BWDB respectively.⁴ The main "preparedness" programme is that of the CPP, established by the Red Cross (following the 1970 cyclone) and now administered jointly by the MOR and the BDRCS. This has established an impressive mechanism for the dissemination of warnings with a view to ensuring timely evacuation of people from threatened coastal areas in the face of an imminent cyclone threat. Apart from this, little has yet been achieved by way of helping local communities or the civil administration to prepare for and cope with cyclones, floods, or other potentially disastrous events.

9A.8 Apart from the Armed Forces, which have Standard Operating Procedures (SOPs), only the Ministry of Agriculture/Department of Agricultural Extension has issued departmental instructions (in the form of flood and drought codes prepared by Hugh Brammer). The Ministry of Health is now in the process of developing an emergency preparedness and response programme, with WHO assistance.

9A.8 Following the floods of 1987 and 1988, a project for *Comprehensive Disaster Preparedness* was envisaged as part of the Flood Action Plan. A main objective and output of the project was to be the establishment of a special unit, initially called an *Office of Emergency Preparedness*, later an *Office of Disaster Management*, to plan and co-ordinate disaster-related activities.

9A.9 In early 1989 it was proposed, and agreed by the Government, UNDP, and other potential donors, that the OEP/ODM would be established in the President's Secretariat. Later, it was indicated by the Government that the Office should be in the Ministry of Relief (MOR). The precise functions to be fulfilled by this Office were not specified.

9A.10 The essential inter-sectoral co-ordination, planning and monitoring functions, and the vital collaboration between the civil authorities and the Armed Forces, must necessarily be assured by a high-level, inter-ministerial entity. The overall direction and co-ordination of operations during the 1987/88 floods were assumed by the President's Office. Following the 1991 cyclone, these functions were performed by the Prime Minister and the Cabinet Division. These *ad hoc* arrangements substituted for those envisaged in the Standing Orders.

9A.11 The need for new arrangements to give proper attention to disaster management has been widely recognized, and was specifically referred to by the President in his address on the occasion of IDNDR Day, 14 October 1992, when he spoke of the need for "A separate organization" to take care of these important tasks.

⁴ BMD operates the Storm Warning Centre, and BWDB the Flood Forecasting and Warning Centre / Information Centre.

9B Essential requirements

9B.1 Disaster management involves a wide variety of tasks, only a small proportion of which concern the management of relief supplies. The complexity and inter-sectoral nature of the issues involved are clearly shown in Working Paper No.1, and in annexes I and II to the present paper.

9B.2 The distinction between the management of "relief" and "disaster management" as a whole, may not yet have been fully understood by all of the officials and others involved in discussions, or otherwise expressing views, concerning institutional arrangements. In fact:

- *Disaster prevention, or mitigation, is an integral part of long-term development planning.*
- *Disaster preparedness and response to major disasters are complex inter-sectoral operations requiring effective inter-ministerial co-operation and collaboration between the civil authorities, the Armed Forces, and NGOs.*
- *A major, inter-sectoral training programme, and the development of local-level capabilities and plans, will be an essential component of any serious effort to improve disaster management in Bangladesh.*

9B.3 Arrangements are required by which the services of a specialized staff unit are available to the entity (focal point) responsible for promoting mitigation and preparedness measures, and for supporting the co-ordination and direction of emergency response and rehabilitation following any major disaster. The unit must have appropriate communications facilities, management information systems, internal operating procedures, and clearly understood relationships and communications channels with all relevant government bodies and other concerned agencies. It should, whenever necessary, be strengthened by the secondment of additional personnel from relevant line agencies and/or the Armed Forces.

9B.4 The unit must be similarly capable of being an effective catalyst for planning and self-help arrangements at local level, for arranging public education campaigns (working with and through other agencies), and for organizing the systematic training of large numbers of government officers and other personnel from national level down to the union/community level.

9B.5 **Basic requirements for an effective disaster management unit:**

- **A respected leader and the right staff: energetic, motivated individuals with broad knowledge and practical experience in relevant specializations (e.g. disaster preparedness, emergency management, logistics, communications, field surveys and assessment, data analysis, monitoring and evaluation, training, public information/education).**
- **Sustained high-level direction and support, enabling the unit to:**
 - **perform an effective co-ordination role in the name of a high-level inter-sectoral/inter-ministerial authority; and**
 - **assure effective co-operation and co-ordination between the civil and military authorities (ensuring appropriate support from the Armed Forces to the civil power).**

- Strong administrative (as well as political) backing to ensure the allocation of needed resources the assignment of appropriate staff (by a combination of direct recruitment and secondments from other ministries, agencies, or the Armed Forces), and to take care of associated administrative aspects.
- The right location: suitable premises which are readily accessible to all concerned and interested parties (including personnel from ministries, line agencies, the Armed Forces, technical institutions, NGOs, and donors).
- The necessary facilities: good telecommunications, computers, stand-by generators, a suitable operations/conference room, up-to-date large-scale maps, adequate parking (for officials and other important contact persons visiting during an emergency), etc.

9C Models from other countries

9C.1 While institutional arrangements must be tailored to the particular needs, characteristics, and traditions, of each country, it is sensible to try to learn whatever one can from experience elsewhere. The material reproduced in the annexes provides some valuable indications. It is worth noting that in all the country examples quoted (Jamaica, Mexico, and Philippines) arrangements have evolved -- have been changed significantly -- on the basis of experience.

9C.2 Responsibility for managing emergency situations, and for preparedness, is usually vested either in a ministry having relevant normal responsibilities and an extensive, well-established structure at all levels of administration (e.g. Home or Public Works), or in the office of the Chief Executive. Within the Indian sub-continent, relief has traditionally been the responsibility of the Revenue Department. In many large countries it is a provincial, or state, responsibility. Bangladesh, with a unitary system of government, may be unique in having a Ministry of "Relief", as such, at national level.

9C.3 In annex I, Cuny argues the advantages of placing the disaster management unit in a strong line ministry, rather than in the office of the Chief Executive. The examples described also underline the importance of having:

- the right kind of individual as head of the unit;
- a high-level inter-ministerial co-ordinating committee chaired by the President or Prime Minister, and with the head of the disaster management unit as secretary;
- a small core of permanent staff, and senior personnel from relevant line ministries on fixed term secondments (thereby involving other ministries directly in the work of the unit).

9C.4 Annex II indicates the rethinking that has been found necessary in the Philippines following the major disasters of the last year-or-two. There, the need has been identified for an executive organization to provide a focal point for disaster management-related activities. The existing Disaster Co-ordinating Councils at national and local levels are to be replaced by:

- an *Inter-Agency Policy-Making Board* at national level;

- a *Disaster Operations Center (DOC)* to prepare and administer disaster operation plans and programmes at national level; and
- an *Operations Network* (a kind of task force) at national level and each local level to "operate in concert to meet as effectively and economically as possible the demands of disaster prevention, control and relief operations".

The Board at national level and the "operations networks" at all levels are to include representatives of relevant government departments and selected non-government organizations. The Board will also include representatives of the private sector.

9C.5 Annex III reproduces some extracts from general guidelines compiled by Carter on the basis of broad experience of disaster management in Asia. These suggest the need for:

- a National Disaster Committee;
- a Minister responsible to the Cabinet to ensure that adequate disaster prevention/mitigation and preparedness measures and capability exist at all times;
- a National Disaster Management Office (or Operations Centre) either directly under the national committee or under a ministry responsible, *inter alia*, for disaster affairs;
- special taskforces under the national committee or the national disaster management office to review, make recommendations, or take decisions on specific issues.

9D Proposed arrangements in Bangladesh

9D.1 There are important functions to be fulfilled that have not been undertaken by -- or even been the formal responsibility of -- any existing government entity. In broad terms, these relate to:

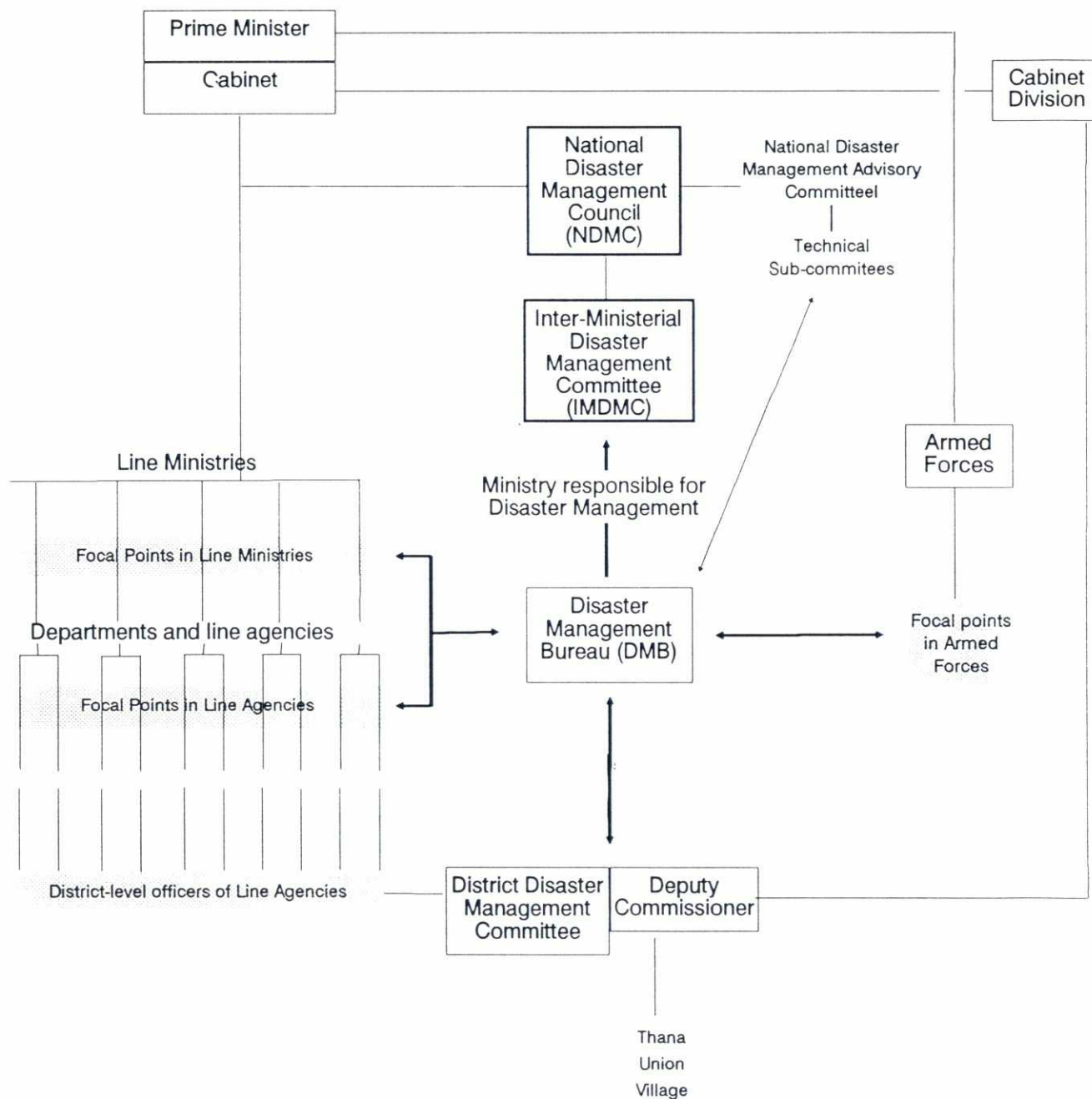
- Systematically promoting and developing preparedness at all levels of government and at local community level, including a massive effort at public education and training;
- Establishing improved arrangements for the assessment of damage and needs following a disaster, including formats, methodologies, and related training, and arrangements for rapid reconnaissance by experienced personnel;
- Developing specific expertise and management systems for the overall management and co-ordination of emergency response operations, and providing expert staff support to the high-level decision-making bodies;
- Integrating the capabilities of the civil administration, the Armed Forces, the NGOs, professional and other organizations, in relation to all disaster-related activities;
- Promoting wider knowledge of disaster risks and possibilities to mitigate those risks, and the systematic inclusion of disaster risk considerations into all development planning.

9D.2 A new, dynamic professional unit is required to perform these specialist functions, working in close collaboration with the district- and thana-level authorities, and the concerned line ministries, under the overall authority of a high-level inter-ministerial body/committee.

Figure 9.1

Schematic representation showing the functional role and relationships of a specialist disaster management "unit"

N.B. This does NOT indicate the administrative location or linkages of the proposed specialist unit



9D.3 Figure 9.1 provides a schematic indication of the general role and relationships of such a specialist unit, regardless of where it is located administratively. The unit should be located administratively within the government structure wherever its proper functioning (including staffing) can be best assured, and sustained on a year-round basis, and where the unit itself be most effective.

9D.4 Actual arrangements must be in keeping with the current general system and philosophy of government and administration in the country. In this context, three basic models are suggested by different interested parties:

- (a) A small unit in the Ministry of Relief, supervised by and servicing a high-level inter-ministerial committee;
- (b) A small unit in the Prime Minister's Office (or Cabinet Division);
- (c) A new Directorate under the Ministry of Relief.

9D.5 Following extensive consultations, option *a* is felt to be the most appropriate for Bangladesh today. The reasons are explained below.

9D.6 The model adopted in a number of other countries, of placing the Disaster (or Emergency) Office in the Ministry of Home Affairs, or Public Works, is not considered by any of the national experts consulted to be appropriate for Bangladesh, in view of the existence of the Ministry of Relief. At the same time, almost all those consulted consider that the DRR is fully occupied with its current responsibilities (and may itself benefit from some assistance to upgrade its existing operations), and express the view that a new unit is needed to spearhead new initiatives in overall disaster management planning and co-ordination. These views are endorsed by the Project Team and Professional Panel.

9D.7 Figure 9.2 shows the proposed overall institutional arrangement, which attempts to reconcile diverse ideas and present a compromise that should be effective, provided the right kind of staff are appointed in the key positions, and enjoy broad support. The proposed arrangement:

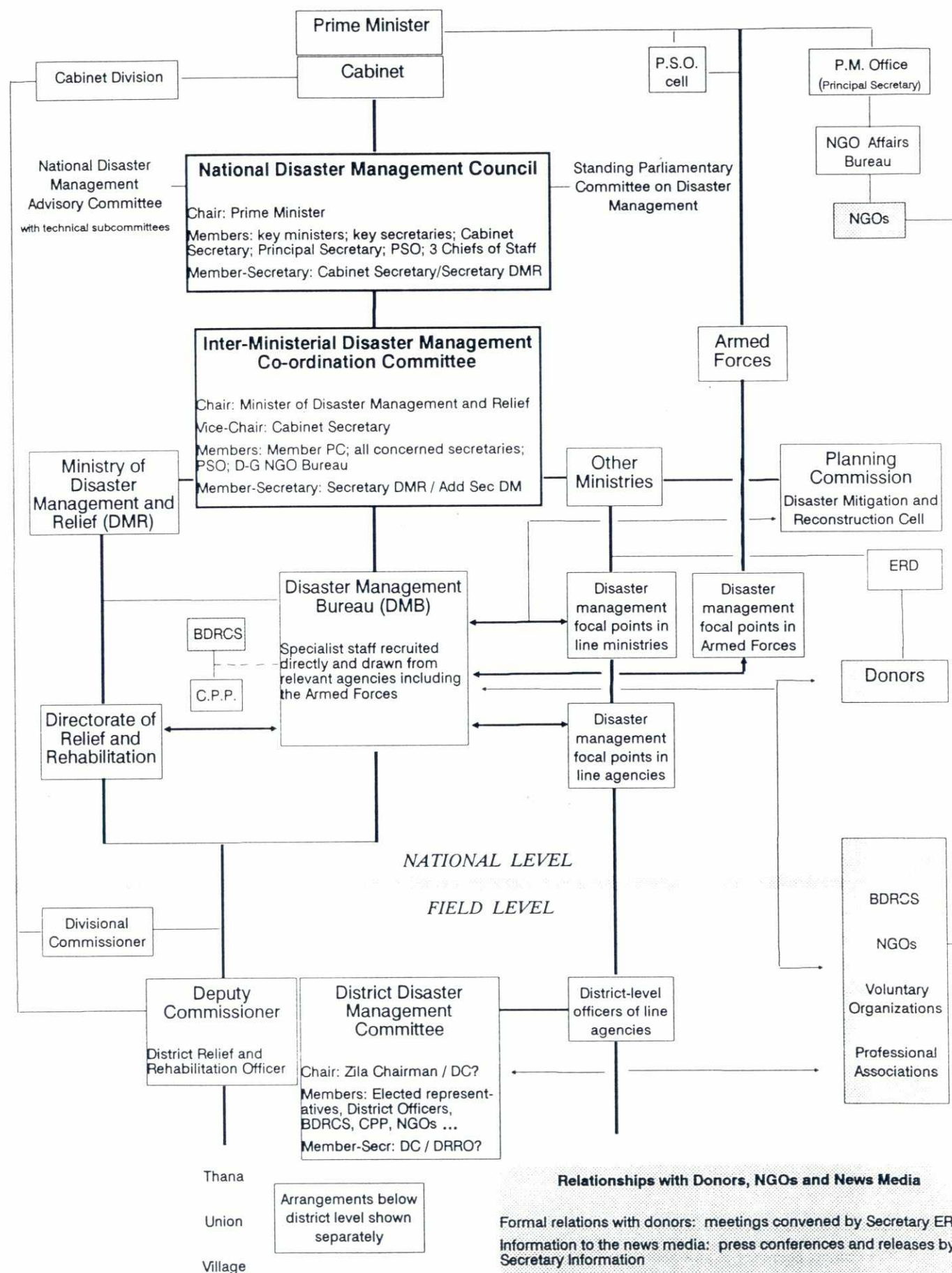
- meets the requirement for overall direction from a high-level inter-ministerial body (the NDMC chaired by the Prime Minister);
- provides for effective inter-ministerial co-operation and co-ordination at the national level, through the IMDMCC;
- recognizes and capitalizes on the key role of the Cabinet Secretary in inter-ministerial co-ordination (as chairman of the Secretaries Committee) and in supervising the district administrations;⁵
- incorporates the role of the MOR (to be renamed Ministry of Disaster Management and Relief, MDMR) as the responsible line ministry;
- provides for the integration of the PSO and the capabilities of the Armed Forces into the overall arrangements; and
- reflects the crucial role of the DCs/district administrations (which necessarily have prime responsibility for co-ordinating all aspects of disaster management at the field level).

⁵ The Cabinet Secretary is also able (in the name of the PM and the Cabinet) to ensure the essential co-operation between the civilian and military authorities.



Proposed Institutional Arrangement for Disaster Management in Bangladesh

Figure 9.2



9D.8 The specialist unit, to be called the Disaster Management Bureau (DMB), would be a part of the MOR/MDMR, but be supervised by and service the IMDMCC, of which the Minister MOR/MDMR is Chairman and the Secretary its Member-Secretary.

9D.9 The Cabinet Secretary would have a key role as Vice-Chairman of the IMDMCC, supporting the Minister in the day-to-day management of the committee and the direction of the work of the DMB. This is considered essential to ensure proper inter-ministerial participation and effective co-ordination at the national level, and to reinforce the link to the field through the DCs.⁶ It is widely believed, for similar reasons, that:

- the Cabinet Secretary should be Member-Secretary of the NDMC, thereby ensuring administrative continuity and follow up at the highest level between the NDMC and the IMDMCC; and
- the Secretary MOR/MDMR should be Member-Secretary of the IMDMCC.

9D.10 The option of placing the unit/Bureau directly in the PM's office is favoured by some who suggest that the unit would then receive more attention, be assured of getting necessary resources, and attract better staff. However, there are good arguments against placing the unit in the PM's office. In addition to those of Cuny (ref. annex I), these include:

- The lack of back-up from an established ministry.
- The absence of a field level structure (District Administrations are supervised by and report to the Cabinet Secretary).
- The principle of parliamentary democracy which would be undermined by concentrating too much responsibility in the Office of the PM.

9D.11 In fact, both the Prime Minister and the Cabinet Secretary must be involved in ensuring that adequate attention is given by all concerned to disaster prevention/mitigation and preparedness measures during "peace time", and in ensuring the overall co-ordination and direction of emergency response, relief and rehabilitation in case of a major disaster. Both must therefore be involved in the necessary high-level disaster management committee(s) which will be serviced by -- and therefore give overall supervision and direction to -- the specialist unit.

9D.12 A further alternative that has been suggested is that of appointing a senior minister with responsibility for environment and disaster management: it is suggested that this will be necessary in the long term in view of the close relationship between environment and disasters, and the importance of both.

9D.13 The National Disaster Prevention Council, established in 1988, has ceased to function and is generally felt to have been too unwieldy to be functional. It is proposed that it be reconstituted as a National Disaster Management Advisory Committee, with a maximum of 60 members, and that it establishes technical sub-committees on specific topics, as necessary.

⁶ The management of a major, inter-sectoral IFAD project by an inter-ministerial committee headed by the Cabinet Secretary is also referred to as an example of the latter's role as a high-level inter-ministerial co-ordinator.

Box 9/1

**SUMMARY OUTLINE OF THE MAIN DISASTER MANAGEMENT FUNCTIONS
OF KEY BODIES****National Disaster Management Council (NDMC)**

- Establishing policies and providing overall direction for all aspects of disaster management. Defining priorities and criteria for the allocation of resources.

National Disaster Management Advisory Committee (NDMAC)

- Providing advice to the NDMC, and directly to MDMR and DMB, on specific technical, management and socio-economic aspects of disaster management, including vulnerability analysis and disaster-development links.

Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC)

- Implementation of NDMC policies and decisions on an inter-ministerial basis.
- Co-ordination of action by all government agencies and overall direction of the activities of the DMB.
- Responsibility for major operational decisions during an emergency.
- Decisions on allocations of relief resources through its sub-committee, the **Executive Emergency Relief Management Committee**.

Ministry of Disaster Management and Relief (MDMR)

- Ministerial responsibility for disaster management, including the convening of the IMDMCC.
- Assuring the establishment, resourcing (budget), and satisfactory functioning of the DMB.
- Supervision of the DRR.

Disaster Management Bureau (DMB) -- a part of MDMR

- Provision of expert staff services to the NDMC and IMDMCC.
- Promotion of disaster prevention/mitigation and preparedness within all agencies and levels of government.
- Providing guidelines, organizing training, and promoting the preparation of disaster plans.
- Operation of the national Emergency Operations Centre (control room) at time of disaster.

Directorate-General of Relief and Rehabilitation (DRR)

- As at present with respect to: VGD; FFW; GR and TR; the management and delivery of relief supplies, and the provision of related services.

DRROs and PIOs

- As at present under the general direction of DRR and the operational supervision of DC and TNO. Increased attention by DRROs in particular to disaster preparedness under the guidance of the DMB (this compensating for some reduction in FFW workload).

9D.14 Based on the experience of May 1991, it is further proposed that an executive Emergency Relief Management Committee be established as a sub-committee of the IMDMCC. Chaired by the Minister of Relief, it would include the PSO and the Secretaries of MDMR, Health, and Local Government, as members, and it would agree overall allocations of relief resources.

9D.15 Box 9/1 provides a brief summary of the functions of some of the key bodies. Details of the duties/functions of the NDMC, NDMAC and IMDMCC are provided in annex IV, which is intended to provide a basis for further discussion and refinement.

9D.16 The DMB itself would be a small, highly skilled, unit at national level (within the MOR/MDMR) and work as a team. Each staff member would have specific functional responsibilities during "peace time" and during an emergency. The suggestion that a new Directorate of Disaster Management should be formed with its own field staff at least to district level is not felt to be appropriate, at least for the time being. During an initial 3-year period, the Bureau would benefit from technical assistance that would include a small number of field-based specialists to work with the DCs and DRROs. Details of the proposed status, composition, staffing, and functioning, of the Bureau are discussed in Working Paper No.10.

9D.17 Major, long-term mitigation and post-disaster reconstruction need to be planned in the context of up-dated development plans and programmes. The co-ordination of these efforts should be undertaken by a special cell within the Planning Commission, in the Programming or Public Administration Division. The DMB should collaborate closely with the Planning Commission Cell, which might be designated as the *Disaster Mitigation and Reconstruction Cell*.

9E Arrangements at field level

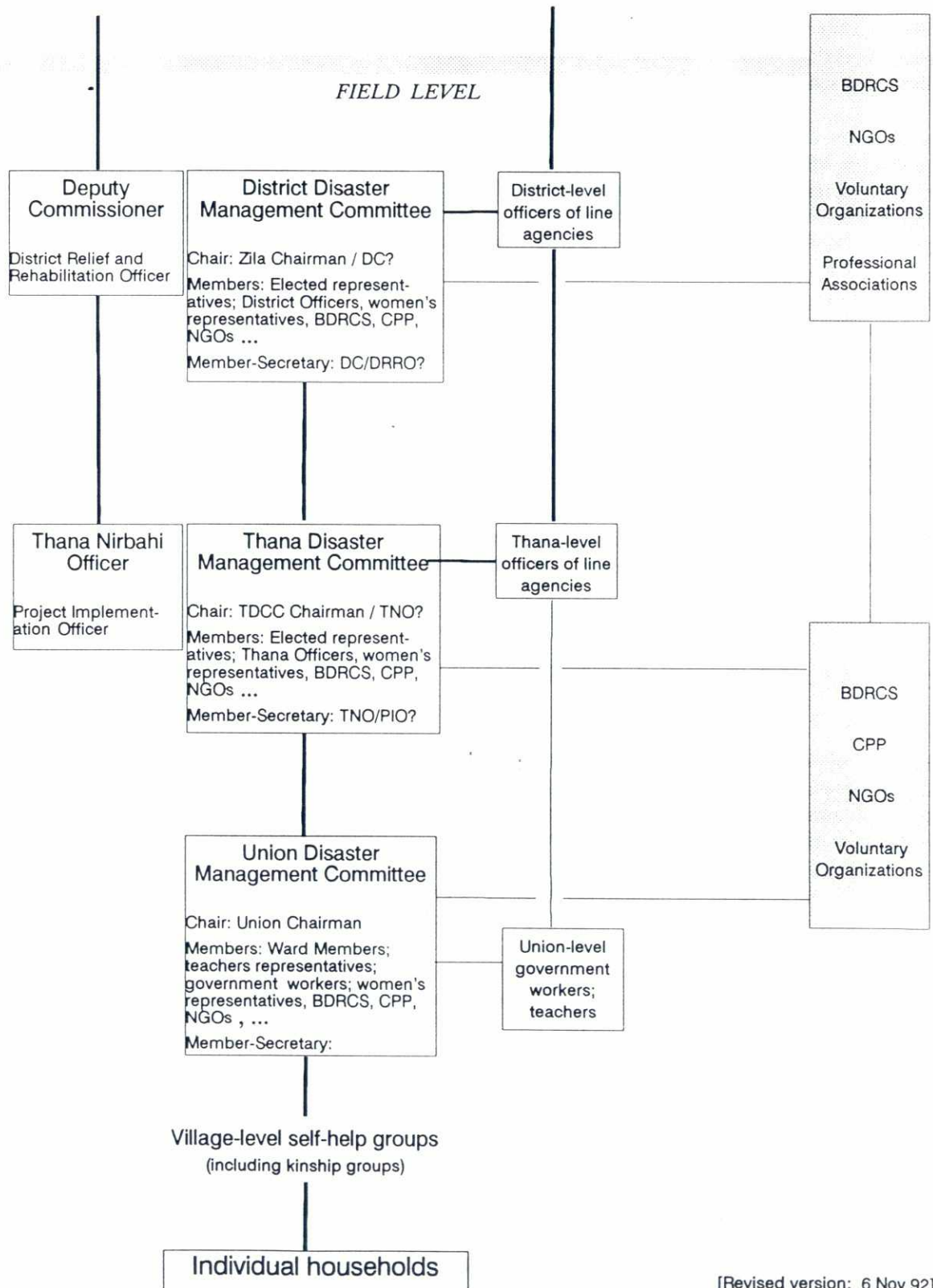
9E.1 Figure 9.3 shows the overall framework for arrangements at and below district level. Precise arrangements and responsibilities will depend on the final form of new arrangements for local government that are presently being considered in Parliament. It is understood that current proposals envisage that:

- the role of the Union Parishads (UPs) will be consolidated;
- Thana Development and Co-ordination Councils would be formed of elected representatives with the TNO as member-secretary (and other thana officers as non-voting members);
- Zila Parishads would be formed of elected members: these parishads would have specific responsibilities, and some resources, for development activities.

9E.2 If such arrangements are approved and implemented, those bodies should also have overall responsibility for planning and co-ordinating disaster management activities (prevention, preparedness, and response) at their respective levels, within the framework of the resources available to them. Executive sub-committees for disaster management should be formed as standing bodies. These might be chaired by the DC/TNO with, as members, some members of the parishad, all district/thana officers, and representatives of NGOs and voluntary organizations (e.g. the teachers' associations) which are actively involved in disaster management activities in the locality.

Figure 9.3

Institutional Arrangements for Disaster Management at Field Level (at district level and below)



Annex I

Establishing a Focal Point for Flood Preparedness

(F C Cuny, INTERTECT -- Paper prepared for Flood Policy Study, 1988)

INTRODUCTION

The establishment of a permanent focal point for flood preparedness and emergency response requires careful consideration. Planners must first define the elements of the total response and the systems necessary to implement the various preparedness plans before selecting the ministry or office where the focal point will be established. It is also important to consider the implications of locating the management function in various offices.

CONSIDERATIONS

It should be recognized that no single ministry or agency can effectively implement all the elements of a complete disaster preparedness program. It should also be recognized that in the course of preparing for and responding to a flood emergency, the type of inputs required change substantially. As the emergency evolves through its phases, the needs and types of inputs change as follows:

The Pre-Disaster (Preparedness) Phase:

Planning: Initially, flood preparedness is a planning function. The preparedness agency carries out a wide variety of studies, develops implementing arrangements, and focuses on overall management concerns.

Technical inputs: As soon as the overall plans have been defined, there will be a flurry of technical inputs centered around the flood warning system. These will include flood warning, computerization of critical data, and development of a geographic information system (GIS) based emergency information system.

The Emergency Phase:

Operational inputs: During an actual emergency, operational considerations become predominant. Flood fighting, evacuation, search and rescue, support of evacuees and isolated populations require management by an agency with established internal communications, strong logistics capabilities, and the ability to mobilize and support a wide range of heavy equipment simultaneously throughout the affected areas.

Relief inputs: During and immediately after the emergency, the inputs change to social and humanitarian. The survivors require a wide range of temporary support ranging from food and shelter to short term economic assistance. The agency in charge at this point will need to coordinate and work through a variety of social service organizations, both government and non-governmental.

The Post-Disaster Phase:

Reconstruction: During the reconstruction period, economic assistance takes precedence. Programmes must be developed to provide a wide range of loans and grants to the affected populations in all major sectors such as housing, agriculture, small enterprises, medium and large enterprises, etc. Coordination with lending institutions and the sectoral ministries is a prime requirement and the authority in charge must have strong capabilities to undertake a variety of economic analyses.

From the above, it should be apparent that it would be very difficult to create one ministry with comprehensive emergency management functions; that emergency preparedness is a function of many ministries, departments, and agencies. It can also be seen that the overriding need is for a focal point to

coordinate the full range of preparedness and response activities and integrate them into plans for each phase of an emergency.

OPTIONS

The following ministries or offices are usually considered for locating the central emergency preparedness and management authority:

- president or prime minister's office;
- vice president's office;
- public works ministry
- ministry of irrigation or water resources
- ministry of interior
- ministry of local government and regional development
- ministry of defence
- ministry of housing and urban development

In some countries the government may have a special relief ministry or commission which may also be considered. If flooding is regionalized or if a decentralized plan is being developed, provincial, district, or subdistrict governmental units may be considered.

DISCUSSION

As a general principle, emergency management should remain in the hands of civilian authorities. This is not to say that the military does not have an important role to play, but the limitations of the military in meeting civil needs is important to recognize. The fact that the military becomes involved so often is because during an emergency their communications and logistics capabilities are often invaluable. The objective therefore should be to develop an effective role for the military based on these capabilities without surrendering total authority or control over to the defense ministry.

The fact that so many ministries and government agencies will need to be involved argues for the coordinating function to be placed at a fairly high level in government. Some argue that the function should be established in the office of the chief executive. The rationale is that since ministries (and therefore ministers) need to be coordinated and given directions, the authority to do so must be placed near the seat of power. As a result of bureaucratic realities, however, there are strong arguments against this choice. The head of the preparedness office is rarely as senior or as powerful as the ministers he must coordinate and eventually, the ministers and the secretaries of their ministries will come to resent the preparedness office's closeness to the chief executive and even create obstacles and obstruction to their work. (See Case Study 1.)

Locating the preparedness office in a strong line ministry is generally considered the best choice. Not only does the office and its functions become less threatening to other powerful ministers and secretaries, the office has a strong official to defend it, to propose and support its budget, and to protect it from bureaucratic infighting. Bureaucratically, this arrangement puts preparedness at a level just below that of ministry secretary -- high enough where coordination is meaningful, but low enough to remove it from most, but never all, political infighting.

Some countries, recognizing the difficulty of putting all emergency functions under one office split the functions among two or three agencies, usually according to pre- and post-disaster phases. For example, under such an arrangement the Water and Irrigation Ministry might be in charge of flood forecasting and warning, an office in the Public Works Ministry might be in control of evacuation, search and rescue, and post disaster assessment; while the ministry of local government would be in charge of reconstruction planning and relief.

A final model that some countries have adopted, though usually as an interim solution, is to form a national flood committee made up of ministers and/or secretaries of the major ministries involved in

Case Study 1 ADAPTING TO BUREAUCRATIC REALITIES:
JAMAICA'S OFFICE OF DISASTER PREPAREDNESS

After a series of devastating floods in western Jamaica in 1979, and recognizing the threat to the country from hurricanes, the government decided to form an Office of Disaster Preparedness and Emergency Relief Coordination (ODP). Acting on advice from several major donors, ODP was placed in the Prime Minister's office. The reasoning was that coordination of ministries would require the coordinator to be at a level in government. Since the only office higher than Minister was Prime Minister, it did not seem unreasonable that his office would be the best place. A very capable technical person was selected to head the ODP and the staff were soon housed in a building immediately adjacent to the Prime Minister's offices.

It first became apparent that there was a problem when it came time to submit ODP's budget. The Prime Minister, who remained distant from the normal day-to-day work of the office, was not in a position to defend the amounts requested and ODP's budget was severely reduced.

The ODP staff began to encounter difficulties with the ministries they were to coordinate. In some cases ministry staff objected to extra demands from an outside agency, but worse, some ministers resented what they perceived as "junior staff issuing instructions in the name of the PM". The ODP staff were seen as upstarts -- people who had obtained power without the requisite seniority. As time went on, the ministries were not only generally uncooperative, in some cases they went out of their way to create obstacles.

Luckily, the Director of ODP saw what was happening. He approached the Secretary of the Ministry of Housing and Public Works and suggested that ODP be moved into the PWD. Public Works was a powerful ministry; it controlled resources invaluable in an emergency, such as trucks and heavy equipment. It had boats, and most important, its own internal communications system. As part of the housing ministry, it worked closely with provincial and local governments and urban and rural housing agencies. There were also some administrative advantages -- rather than fight for clerical support, vehicles and other equipment, ODP's requests were lumped into the overall PWD budget and were passed without much debate. And having one of the most powerful permanent secretaries, not to mention a very influential minister, didn't hurt.

Bureaucratically, the transfer removed some of the obstacles to effective day-to-day coordination. Relations with other ministries were carried out on a "horizontal" not "vertical" basis, i.e., by staff of equal rank. While some territorial issues occasionally arose, for the most part they were easy to overcome.

To enhance ODP's emergency management function, a National Disaster Committee was formed. The ministers on the committee made policy while their permanent secretaries coordinated operations. The prime minister chaired the committee while the ODP director served as secretary and chief of the emergency staff.

In 1988 Hurricane Gilbert struck Jamaica. Despite extensive damage, all agreed that ODP had prepared the country well and had done an excellent job in coordinating emergency operations.

flood preparedness and response and to provide the committee with a full-time, professional secretariat. The secretariat staff may be professionals specifically hired as emergency management staff or more commonly, a small permanent staff is hired and other personnel are seconded from the line ministries. (See Case Study 2.)

Case Study 2 MEXICO'S OFFICE OF EMERGENCY RESPONSE: THE CORE STAFF APPROACH

In 1976, Mexico formed the Office of Emergency Response. The new director's instructions were to minimize the hiring of new staff and to maximize coordination and participation of all the ministries. The way in which he went about creating the office is considered an imaginative approach to establishing a disaster preparedness agency.

First, to provide policy guidance in an emergency, a national emergency committee was formed of the senior ministers and the chiefs of staff of the army and air force (the two services most needed in a major emergency). Several seats were left vacant so the president could appoint his personal representatives. The president presided; in his absence, the Secretary of Public Works chaired the meetings. The disaster management office was designated as the secretariat of the committee. During normal periods, it was to be housed in the public works ministry.

The most innovative feature of the office was the way in which it was staffed. The director chose what he called a "core staff" approach. In other words, only the director and a few administrative staff were hired as permanent staff, all other personnel were seconded on one or two year assignments. The deputies were senior personnel from the line ministries. Technical staff were generally given longer assignments than administrative staff.

This arrangement had several major advantages. First, all ministries had significant inputs to the formulation of disaster plans. While on secondment, personnel learned about the plans and how they worked, and could often make suggestions that improved coordination with their ministries. They were able to form integrated work teams that formed the basis for expanded task forces during emergencies.

When the personnel went back to their ministries at the conclusion of their assignment, they became the links between their ministry and the disaster office. Therefore, coordination was made even more effective.

Getting staff seconded to the agency proved to be easier than had been expected: for some it was a chance to try something different while for others it was seen as a chance to demonstrate an ability to work at an interministerial level -- and thereby enhance one's promotional chances. This latter motive was so strong that eventually, the office was able to insist that only high level administrative staff be seconded, ones who were on a career track that would eventually make them eligible for consideration as the senior civil servant in their ministry.

Finally, the core staff approach had one other advantage: it was a relatively cheap way to staff the agency. In a country faced with a need for austerity, this administrative arrangement is worth considering.

Annex II

Extract from

Position paper to push Disaster Management or Counter-Disaster Strategies as part of National Development Plan, Philippines, 1992

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Disaster clearly have far-reaching repercussions and impose serious restrictions on a nation's development. Hence, the need for a prudent connection between development and disaster management policy. However, this connection does not usually exist.

Presidential Decree No. 1566, which is on "Strengthening the Philippine Disaster Control Capability and Establishing the National Program on Community Disaster Preparedness" is the legal basis for the country's disaster preparedness program. It created the National Disaster Coordinating Council whose membership includes all line agencies of the government and whose task is to advise the President of the Philippines on the status of preparedness programs, disaster operations, and rehabilitation efforts undertaken by government and private sectors. The Decree also calls for the creation of Disaster Coordinating Councils (DCCs) at the Regional, Provincial/City, Municipal, and Barangay levels.

The Calamities and Disaster Management Plan operationalizes PD 1566 and stipulates the composition and responsibilities of organizations which are members of DCCs from the National to the Barangay levels. The Plan provides a sound basis for preparedness and response but does not address disaster prevention or mitigation as well as recovery and reconstruction to any significant degree. Also, the effectiveness of the Plan has been greatly reduced owing to the insufficient provision of financial and human resources. Moreover, after a disaster, limited action is taken to draw lessons from the problems that arose and ensure that they are not repeated (Brown et al, 1991).

The importance of disaster prevention and mitigation as part of the disaster management cycle and as a contributory factor to a country's development cannot just be ignored. Disaster prevention and mitigation is aimed at the effects of a threatening hazard to man and his environment by taking certain actions such as reducing vulnerability of the physical settlements and houses, reducing vulnerability of the economy, and strengthening of the social structures of a community so that coping mechanisms can help absorb the shock of a disaster and promote rapid recovery and reconstruction. Coupled with disaster preparedness and response, are measures that enable governments; organizations; communities; and individuals to respond rapidly and effectively to disaster related situations, disaster prevention and mitigation can make the difference in a country's quest for development.

Hence, it is important that we have a clear and comprehensive national disaster policy which addresses all aspects of disaster management and which ensures that mitigation and preparedness are given proper consideration and priority if we are to establish and maintain adequate arrangements to deal with all aspects of disaster threats. This same policy must be integrated into the country's development policy. At the moment, there is no coherent, cross-sectoral disaster mitigation policy or practice by which disaster mitigation is integrated into development planning at the national, regional, municipal, and barangay levels. In other words, the national disaster plan incorporating all aspects of disaster management, should be part of the five-year national development plan.

Specifically, the following should be considered:



1. *Creation of a Permanent Disaster Management Center/Office*

The National Disaster Coordinating Council (NDCC) is primarily an advisory body. What is needed is an executive organization to provide a focal point for all disaster management-related activities.

NDCC member agencies, based on their mandate, are concerned with different aspects of disaster management. However, individual efforts of these agencies do not usually create the expected impact partly due to non coordinated efforts: The proposed Disaster Management Center/Office can therefore coordinate and oversee these efforts and provide the necessary leadership.

The office should take charge of disaster management on a permanent, continuing, and full-time basis. As such, it will prepare and administer disaster management plans and programs and act as Secretariat to the NDCC.

To respond to the changing patterns of hazards, vulnerabilities, and resources, there is a need to constantly monitor and review disaster management efforts especially along prevention, mitigation and preparedness/response standards. Also, post-disaster reviews to draw lessons from the experience and ensure that mistakes are not repeated next time are a must. These tasks may then be expected from the Disaster Management Center/Office.

Other tasks may include liaisoning (especially with international donors), research/information gathering, communications, technical exchanges, pooling of resources (both physical and human), etc.

2. *Focus on Disaster Management Training and Education*

The proposed Disaster Management Center/Office may have the conduct of disaster management trainings as one of its functions or a permanent disaster management training institution may be created.

Aside from the inadequate training of government officials along disaster management, what compounds the problem is the frequent turn-over of elected or politically appointed officials with disaster management responsibilities. Hence, the effectiveness of the disaster management training conducted is seriously weakened.

It is recommended that disaster management be included in the training program of all government institutions in order to equip officials in fulfilling their disaster-related roles. Moreover, disaster management subjects should be included in all curricular offering in schools at all levels.

3. *Conduct of Research Along Disaster Management*

In order to accurately identify and define the mitigation and preparedness measures to be undertaken, there is a need to adequately assess and monitor hazards and vulnerabilities. However, hazard mapping and vulnerability analysis can not be done if there is absence/shortage of data and scientific information. In cases where data are available, these are not shared to those who can benefit from it. Also, these data are usually dispersed, i.e., these are found in individual agencies doing disaster management-related activities.

It is recommended that a systematic approach toward collecting, analyzing, and dissemination of data be developed and a centralized disaster management data bank which would be accessible to policy-makers, planners, practitioners be established, perhaps as a function of the proposed Disaster Management Center/Office.

15. Possible Linking Arrangements

In most countries, the Ministerial portfolios involving national development and disaster management are those covering:

- National development] sometimes combined
- The economy
- Finance
- The environment
- Disaster management (which, in practice, may be included in portfolios such as Police and Emergency Services, Home Affairs, Community Services, Defence Force, etc.)

Given that the appropriate portfolios are identified and earmarked, the choice of a linking system or arrangement becomes one of national option. One choice considered by a small nation is shown as Option A.

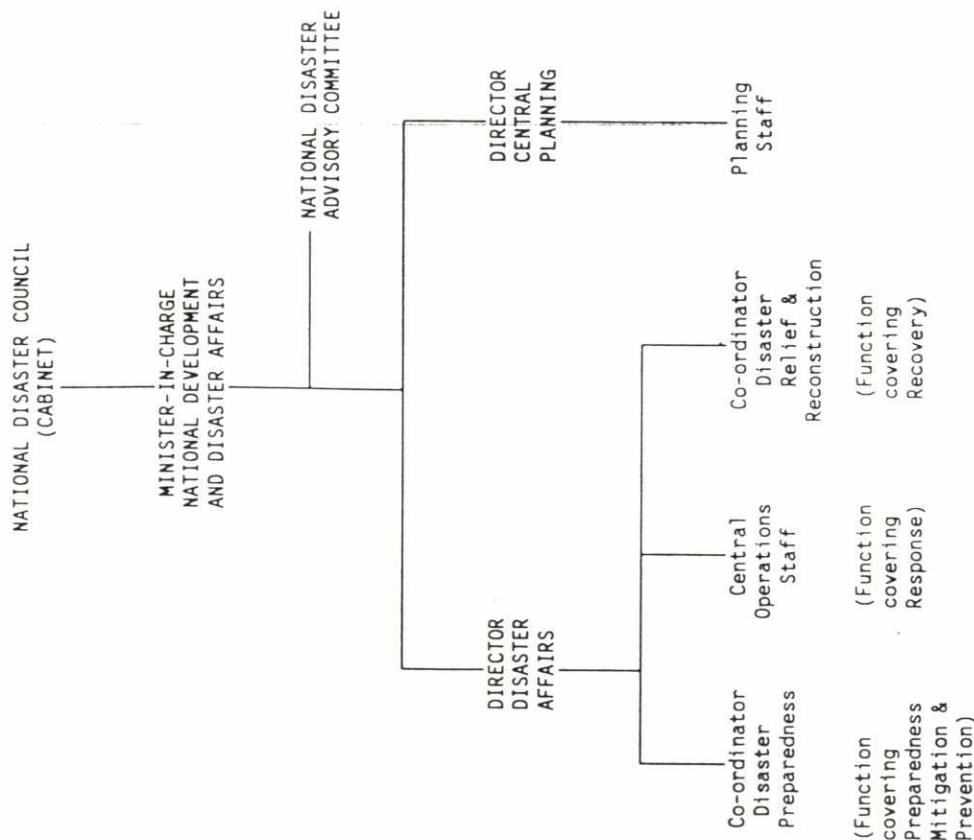
In Option A, action at Provincial Government level is processed through the Governor and his staff, as for other affairs of government.

A second option, shown as Option B, is schematic, based on the structure used in a developing country which is geographically much larger than the example used in Option A.

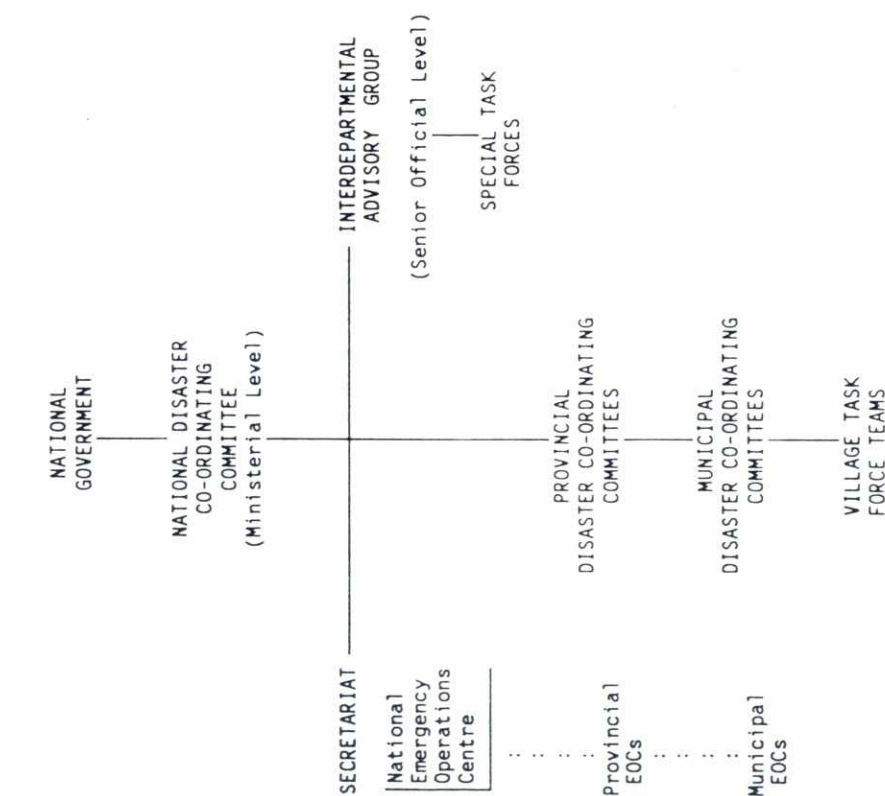
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16. The organisational options shown are, of course, for illustrative purposes only. In individual countries many different factors bear on the relationship between national development and disaster management policy. These factors need to be taken into account when organisational arrangements are made.

Option A



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Option B**Explanatory Notes on Option B**

1. This disaster management structure is directly related to and functions in line with the ongoing Five Year National Development Plan.
2. The National Disaster Co-ordinating Committee consists of Senior Ministers, all of whom have direct disaster management responsibilities. The Committee is empowered to co-opt other Ministers, as required, to deal with special issues.
3. The Interdepartmental Advisory Group, consisting of Senior Government Officials, is required to monitor and advise on all disaster-related matters, including those which affect the relationship between disaster and national development. The Group is empowered to set up Special Task Forces, as required.

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4. Provincial Disaster Co-ordinating Committees and Municipal Disaster Co-ordinating Committees have membership which is functionally in line with the National Disaster Co-ordinating Committee.
5. An important factor is that the Governor of the Province is Chairman of the Provincial Disaster Co-ordinating Committee and he has a wide range of responsibilities at his level, including Development.

5. This Act does not cover circumstances arising from combat against an enemy, unless specifically authorised by the Council of Ministers.

[Handbook Note: Governments are usually careful about separating disaster circumstances from such matters as strike-breaking and war operations.]

PART 2 - ORGANISATION

Minister Responsible

6. The Council of Ministers shall appoint a Minister responsible to the Council for all disaster-related matters applicable to this Act. In particular, the Minister responsible is:

- (a) to ensure that adequate measures are taken by government agencies to mitigate, prepare for and respond to disasters and to assist in the recovery from the effects of a disaster by persons or communities;
- (b) to co-ordinate the activities of government agencies carrying out their statutory functions, powers, duties and responsibilities in taking such measures; and
- (c) to foster and facilitate the participation of non-government agencies in measures taken by the government for disaster mitigation, preparedness, response and recovery.

National Disaster Council

7. There is hereby established under this Act a body to be called the National Disaster Council to advise the Minister responsible on all matters, including the co-ordination of activities of government and non-government agencies, relating to disaster mitigation, preparedness, response and recovery.

8. The Council is to consist of:

- (a) a Chairman nominated by the Minister responsible, from within the Minister's department;

- (b) a representative from each of those agencies which the Minister responsible considers should be so represented, to be nominated:

- (i) in the case of a government agency, by the appropriate Minister; and
- (ii) in the case of a non-government agency, by the agency.

[Handbook Note: Some countries prefer to nominate the holders of specific appointments as members of the National Disaster Council. However, the method shown above allows for considerable flexibility. Therefore, if changes to the Council become necessary, there is no need to alter the Act].

9. The National Disaster Council is to establish a Central Operations Group to assist it during emergency operations carried out in response to a disaster event. The role of this Group is to ensure on behalf of the Council that resources are allocated to operational tasks in the most effective way and in the correct priorities.

10. The procedures of the National Disaster Council are to be as determined by the Chairman.

National Disaster Management Office

11. There is also established under this Act a National Disaster Management Office to carry out disaster management and other responsibilities as determined by the Minister responsible and/or the National Disaster Council; to advise the Minister and the Council, and to deal with routine disaster-related affairs at national level.

Local Government Disaster Committees

12. Under this Act, each Local Government Council is required to establish a Disaster Committee.

Area Disaster Committees

13. Each Area Council is also required to establish a Disaster Committee. These Area Disaster Committees are responsible for co-ordinating disaster-related measures in their own areas with those of Local Government Disaster Committees and the National Disaster Council.

Committees Established by the Minister Responsible

14. In addition to the organisational arrangements outlined in paragraphs 7-13, the Minister responsible may establish such additional committees as are necessary to ensure comprehensive and integrated disaster management.

[Handbook Note: The amount of organisational detail to be included in legislation is a matter of individual country choice. In the example above, only the bare outline has been included, on the assumption that additional details can be given in the National Disaster Plan and associated plans.]

PART 3 - PLANS AND PROCEDURES

National Disaster Plan

15. There shall be a National Disaster Plan, approved by the Council of Ministers. The plan is to define the action to be taken to deal with disasters in Exland, covering all national land and sea areas. The plan is to cover requirements for disaster mitigation, preparedness, response and recovery.

16. The Chairman of the National Disaster Council is to be responsible for ensuring that the plan is periodically reviewed and updated as necessary.

17. Government agencies and non-government agencies which are formally allocated roles under this plan are responsible for making their own plans and other arrangements necessary to fulfil such roles.

- *Ministerial authority*
Ministerial authority is vested in the Minister [for Home Affairs] who is directly responsible to Cabinet for ensuring that adequate disaster management measures exist at all times.
In some cases this Ministerial authority is vested in a small Ministerial Committee of, say, three members.
- *National Disaster Council (NDC)*
Responsible to the Minister (or Ministerial Committee) for the co-ordination and direction of all disaster-related matters which are concerned with planning, organisation, prevention, mitigation, preparedness, response, recovery, training, public awareness and other appropriate aspects. (The precise responsibilities can vary with circumstances; for instance, the NDC may have limited responsibilities for recovery, which may be dealt with by a separate committee).
The Council usually consists of a number of heads of departments (e.g. those departments most directly concerned with dealing with disaster, such as Public Works, Police, Transport, Communications, Medical and Health, Foreign Affairs), with wide power to co-opt other members as necessary.
The NDC can also appoint special bodies, such as Task Forces. Whilst it is desirable, especially in the interests of timely decision making, that the Council should be kept small, it is usually found that in the initial stages of a disaster, it is necessary to call upon co-opted members from a fairly wide range of departments and agencies.
- *Operations Control Group (or Central Control Group)*
Responsible to the NDC for co-ordination and direction of response operations, including the tasking of resource organisations. The Group usually consists of three or four members, for instance:
 - Assistant Commissioner of Police (Operations),
 - Chief Marine Officer,
 - Controller of Civil Aviation.
 Apart from their Group responsibilities, these officials carry out the duties of Controller, National Emergency Operations Center.
- *National Disaster Management Office (NDMO)*
Responsible to the NDC for carrying out day-to-day disaster management responsibilities, as directed by the Chairman of the NDC.

The NDMO is usually required to undertake a wide range of responsibilities and it is convenient to include these in an annexure to the National Disaster Plan, so that they are available for reference by all concerned.

- *Provincial Disaster Committee*
Usually, these Committees will mirror the NDC in both membership and role. However, where the province constitutes the key government level the Committee would probably be under the chairmanship of the Governor or Chief Minister of the province.
- *Government Departments*
Government departments and agencies play key roles in coping with disaster. Therefore, it is important that their responsibilities are clearly laid down. This is best done in Department Operations Procedures.

GOVERNMENT DEPARTMENTS, SECTIONS AND AGENCIES

Ministry Responsible for Disaster Affairs

- Responsible for overall planning, organisation, training, public awareness and administration in relation to disaster affairs.
- Provides Permanent Secretary as Chairman of National Disaster Council (NDC).
- Administers National Disaster Management Office.
- Maintains liaison with provincial authorities on day-to-day disaster management matters.
- Provides administrative services necessary for functioning of NDC.

The Permanent Secretary:

- Responsible to Minister for all disaster-related matters.
- Acts as Chairman of NDC.
- Directs activities of National Disaster Management Office.

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Annex IV

**FUNCTIONS/TASKS OF KEY CO-ORDINATING AND ADVISORY BODIES
IN DISASTER MANAGEMENT**

- | | | |
|----|--|--------|
| 1. | National Disaster Management Council (NMDC) | page 2 |
| 2. | National Disaster Management Advisory Committee (NDMAC) | 4 |
| 3. | Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC) | 5 |

National Disaster Management Council (NDMC)

Chair: Prime Minister

Members: 5-6 key ministers: Relief, Finance, Local Government, Home, Roads, Communications, Shipping, Food, Health?

5-6 key secretaries: as above?

Principal Secretary;

PSO; 3 Chiefs of Staff.

Member-Secretary: Cabinet Secretary

Frequency of meetings: Twice a year to review prevention/mitigation and preparedness aspects.

As required during an emergency: probably daily during first few days, weekly later.

Functions: (a) general

1a.1 Establishing policies and providing overall direction for all aspects of disaster management, including defining priorities and criteria for the allocation of resources.

1a.2 Reviewing and initiating follow up action, as and when required, on recommendations of the National Disaster Management Advisory Committee (NDMAC), and on reports of the Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC) concerning the implementation of policies and programmes in relation to prevention/mitigation, preparedness, emergency response, rehabilitation and reconstruction.

Functions: (b) in relation to disaster prevention/mitigation

1b.1 Establish overall policies and priorities for the consideration of disaster risks and the incorporation of disaster prevention/mitigation measures in general development planning. Review reports on the implementation of policies, and any related recommendations submitted by the IMDMCC, and initiate follow-up action as required.

Functions: (c) in relation to disaster preparedness

1c.1 Establish national policies in respect of disaster preparedness, and promote appropriate action by all sections of society. Review reports on the implementation of policies, and any related recommendations submitted by the IMDMCC, and initiate follow-up action as required.

1c.2 Approve and endorse up-dated Emergency Standing Orders and a National Disaster Plan, when formulated, including general policies and standards for the provision of relief following disasters.

1c.3 Ensure the integration of all relevant national capabilities in an overall National Disaster Plan, and monitor the overall state of preparedness and that of individual departments, agencies, and services. Ensure the complementarity and the adequacy of arrangements within and between the civil administration, Armed Forces, and NGOs.

1c.4 Ensure collaboration between the civil authorities and the Armed Forces in training for disaster preparedness and emergency response.

1c.5 Consider the need for legislation in relation to disaster prevention/mitigation and preparedness.

1c.6 Report to Parliament on the overall state of emergency preparedness.

Functions: (d) in relation to emergency response

1d.1 *In the event of a warning (an imminent disaster threat):* Review the overall state of preparedness and decide on any additional measures to be taken.

In the event of a disaster:

1d.2 Review/establish priorities and criteria for the allocation of available relief materials, funds, and transport units. Ensure that these are observed in actual allocations.

1d.3 Release funds from national resources for specified purposes, and authorize special, emergency procedures where appropriate.

1d.4 Monitor the progress of relief and rehabilitation operations, and the planning for reconstruction, and take action whenever necessary to ensure efficient and effective operations within the framework of defined policies and priorities.

1d.5 Review the findings of the final evaluation, or "post mortem," of the emergency response, and take action on the associated recommendations of the IMDMCC.

Functions: (e) in relation to rehabilitation and reconstruction

1e.1 Monitor the process of damage assessment, review the consolidated reports and proposals for reconstruction, and approve the overall reconstruction programme with specified priorities.

National Disaster Management Advisory Committee (NDMAC)

(This Committee replaces the National Disaster Prevention Council, established in 1988, and serves as the National IDNDR Committee)

Chair: An eminent person with relevant experience to be nominated by the President/Prime Minister.
Members: Representatives of the Parliamentary Committee on Disaster Management (maximum 8)?

Eminent professionals from government service, universities, other institutions, NGOs, and aid organizations, nominated by having recognized experience in specific technical and/or management aspects relating to disaster prevention/mitigation, preparedness, or response -- including experts in water resources, meteorology, earthquake engineering, physical planning, social anthropology, education, etc. (maximum 30)?

Chairman, BDRCS

President, Federation of Chambers of Commerce and Industries

President, Institution of Engineers

Chairmen: Insurance Companies' Association; Krishi Bank; Grameen Bank

.....

Member-Secretary: Secretary MDMR / Additional Secretary DMB

Frequency of meetings: Twice a year, with *ad hoc* meetings when considered necessary by the Chairman.

Sub-Committees: The Committee may form such technical sub-committees as it finds appropriate, and designate the Chairmen for such committees. Additional specialists may be co-opted to those sub-committees at the discretion of the chairmen. [Sub-Committees may be formed in relation to: cyclone warnings; flood forecasting; earthquake risks; social aspects and people's participation; etc..]

Functions: (a) general

2a.1 Provide advice to the NDMC, and directly to MDMR and DMB, on specific technical, management, and socio-economic aspects relating to disaster prevention/mitigation, preparedness, emergency response, rehabilitation and reconstruction.

2a.2 Promote awareness of disaster risks and mitigation possibilities among all professional and other groups represented in the Committee, and encourage such groups to arrange workshops, training, and research, as appropriate, by and among their constituent members.

2a.3 Provide a forum for inter-disciplinary exchanges of ideas and experience relating to disaster risks, and promote inter-disciplinary collaboration in addressing the issues involved.

Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC)

Chair: Minister of Disaster Management and Relief (DMR)

Vice-Chair: Cabinet Secretary

Members: Member Programming/SEI, Planning Commission

All concerned secretaries:

PSO;

D-G NGO Affairs Bureau

S-G BDRCS

Member-Secretary: Secretary DMR

Frequency of meetings: Twice a year to review prevention/mitigation and preparedness aspects (prior to NDMC meetings).

During an emergency: daily during the initial stages; twice weekly later
(An Executive Relief Management Sub-committee may be formed.)

Functions: (a) general

3a.1 Implementation of NDMC policies and decisions on an inter-ministerial basis. Monitoring and reporting to the NDMC the status of activities in relation to disaster prevention/mitigation, preparedness, emergency response, rehabilitation and reconstruction.

3a.2 Co-ordination of action by all government agencies, and overall direction of the activities of the DMB.

Functions: (b) in relation to disaster prevention/mitigation

3b.1 Make recommendations to the NDMC concerning policies and priorities for the incorporation of disaster prevention/mitigation measures in general development planning. Ensure and co-ordinate the provision of corresponding guidelines to sectoral planners and local-level officials. Review the effectiveness of policies and priorities, and report to NDMC with recommendations for any modifications considered necessary. Review the adequacy of guidelines, and arrange for improved guidelines to be prepared and issued, when necessary.

3b.2 Establish procedures and criteria for the appraisal of development projects in terms of (i) the vulnerability of the project and its outputs to known risks, and (ii) the likely effects of the project on the vulnerability of the people and other assets in the locality. Review the effectiveness of arrangements (the adequacy and application of procedures and criteria) for the appraisal of development projects, and make any needed improvements.

3b.3 Co-ordinate the preparation, and monitor the implementation, of specific disaster prevention/mitigation projects, relevant regulations, and other risk reduction measures. Establish priorities and co-ordinate the mobilization/allocation of the necessary resources. Ensure the necessary technical supervision, and arrangements for the long-term maintenance of structures and other measures.

3b.4 Monitor arrangements to increase national expertise and up-to-date knowledge of disaster risks and mitigation possibilities among sectoral planners, local-level officials, and others including NGOs and other aid agencies. In liaison with the NDMAC and its technical sub-committees, promote the inclusion of relevant material in the training provided for technical and professional personnel, and co-ordinate inter-sectoral research, where required.

3b.5 Monitor and report to the NDMC on the implementation of national policies and priorities in relation to disaster risks and mitigation.

Functions: (c) in relation to preparedness

3c.1 Review the efficiency of national forecasting and warning systems, and ensure effective co-ordination between the various bodies involved.

3c.2 Approve refined/up-dated Emergency Standing Orders and the National Disaster Plan, including general policies and standards for the provision of assistance following disasters.

3c.3 Make recommendations to the NDMC for legislation in relation to disaster prevention/mitigation and preparedness.

3c.4 Ensure the preparation of action plans by all relevant agencies, in conformity with the agreed responsibilities of each agency. Ensure that all plans and guidelines are properly co-ordinated with each other, and lines of communication between agencies at all levels are appropriately defined.

3c.5 Monitor, and report annually to the NDMC on the overall state of emergency preparedness.

3c.6 Review and co-ordinate the provision of guidelines and practical support to local-level warning dissemination systems.

3c.7 Ensure co-ordination between all agencies involved in public information and awareness activities in relation to disasters.

3c.8 Ensure co-ordination between all concerned government agencies, and with NGOs, in the organization of training in disaster preparedness and emergency response.

3c.9 Ensure the establishment of facilities for a national Emergency Operations Centre (central control room) in an appropriate location, and the provision of necessary equipment for use during an emergency. Ensure arrangements for specified personnel from concerned line agencies, the Armed Forces, and any other appropriate bodies, to be assigned temporarily, at short notice, to reinforce the core staff at times of emergency.

3c.10 Ensure adequate arrangements to deploy additional radio communications equipment (and operators) rapidly into areas where normal telecommunications are disrupted; and establish arrangements whereby operational agencies (governmental and NGOs) can establish/operate/have access to radio networks, where needed, under proper authority.

3c.11 Establish arrangements by which trained and experienced senior civil service officers can be promptly sent on temporary assignments to reinforce the district, thana, and union-level administrations in disaster-affected areas, and other experienced personnel be mobilized through professional associations, etc.

3c.12 Ensure the establishment of arrangements for rapid but thorough (independent) technical assessments of physical damage and specification of reconstruction requirements. (This to be done in consultation with the major donors in order to ensure their acceptance of and prompt response to the findings.)

Functions: (d) in relation to emergency response

3d.1 *In the event of a warning (an imminent disaster threat):* Ensure that warning information is passed to all concerned officers, agencies, and public dissemination channels, and that all concerned bodies are on stand-by.

In the event of a disaster:

3d.2 Arrange the assignment of additional civil service officers to support the responsible authorities in the affected areas, if required.

3d.3 Co-ordinate action by various line agencies to restore communications and essential services, and the mobilization and assignment of Armed Forces units and personnel for specified operational support functions.

3d.4 Review/establish priorities and criteria for the allocation of available relief materials, funds, and transport units. Review actual allocations.

3d.5 Recommend releases of funds for specified purposes. Authorize special, emergency procedures, where appropriate, including delegating additional authority to the operational level (if not already adequately provided for in the Standing Orders).

3d.6 Co-ordinate the issuing of information (to donors, NGOs and the news media) and requests to donors/the international community for additional aid, if needed.

3d.7 Ensure the maximum sharing of information between all concerned bodies, and the co-ordination of the activities of all operational agencies (governmental and NGO).

3d.8 Monitor the progress of operations in all areas; take action to resolve problems notified by the DMB or other agencies; ensure that operations are being effectively carried out within the general framework of established policies and guidelines.

3d.9 Co-ordinate the preparation of detailed damage assessments and proposals/projects for reconstruction/long-term rehabilitation of the affected areas.

3d.10 Report to the NDMC and, through ERD, to donors on the progress of operations and the use of resources. Provide information to the news media through the Ministry of Information.

3d.11 Review the findings of the final evaluation, or "post mortem," of the emergency response arranged by the DMB, and approve publication. Submit the report to the NDMC with recommendations for action.

Functions: (e) in relation to rehabilitation and reconstruction

3e.1 Co-ordinate the detailed assessment of damage to major infrastructure, economic assets, and public service facilities/utilities, and the consolidation of data from district-level authorities concerning other damage. Ensure the rapid but thorough (independent) specification of requirements for reconstruction in consultation with potential donors, including arranging joint assessments, where required.

WORKING PAPER No.10 (rev.1)
FUNCTIONS AND STRUCTURE OF
A DISASTER MANAGEMENT UNIT/ORGANIZATION
IN BANGLADESH

This paper complements Working Paper No.9 and discusses the specific role and responsibilities of the proposed disaster management "unit", or organization, and proposes a structure and staffing plan for that organization. Detailed terms of reference (job descriptions) for the senior staff are suggested in the annex. This version, rev.1, takes account of the suggestions received from the Professional Panel and others on the original version dated 25 Oct 92.

The specific topics covered are:

- 10A Purpose and objectives
- 10B Definition of overall policies and responsibilities
- 10C Functions and possible structure of the specialist unit/organization
- 10D Notes on the proposed staffing and operations of the specialist unit

Annex I Suggested job descriptions, or duties, for the senior staff of the specialist unit.

Ron Ockwell
Disaster Management Specialist
04 Nov. 1992



DEFINITIONS AND SCOPE

"Disaster Management" includes all aspects of planning for and responding to disasters. It refers to the management of both the risks and the consequences of disasters, and includes:

- (i) *the incorporation of preventive/mitigation measures into overall development plans and activities at all levels in disaster-prone areas: this may include structural and non-structural measures to reduce the risks of disaster occurring and the consequences of those that cannot be prevented;*
- (ii) *preparedness plans and related measures in disaster-prone areas to warn people of imminent threats and organize appropriate emergency responses, when necessary: this includes forecasting, warning dissemination systems, and standing arrangements for evacuation and the organization of rescue, relief and short-term rehabilitation activities;*
- (iii) *emergency response to disasters when they occur, including rescue, relief, short-term rehabilitation (including repairs); and*
- (iv) *post-disaster reconstruction/long-term rehabilitation.*

It is proposed that, during the first phase, the focus of the unit/organization's work (in particular its activities in the field) will be on preparedness for, and preventive/mitigation measures in relation to, cyclones, floods (including flash floods) and river bank erosion. Considerations of other hazards, including tornadoes, landslides, earthquakes, fires, etc., would be incorporated later.

ABBREVIATIONS

ADAB	Association of Development Agencies in Bangladesh
BDRCS	Bangladesh Red Crescent Society
BMD	Bangladesh Meteorological Department
BWDB	Bangladesh Water Development Board
CPP	Cyclone Preparedness Programme (of BDRCS jointly with MOR)
DC	Deputy Commissioner
DMB	Disaster Management Bureau (proposed)
DRR	Directorate of Relief and Rehabilitation
DRRO	District Relief and Rehabilitation Officer
ERD	External Resources Division
EOC	Emergency Operations Centre
FFW	Food-For-Work (food provided as remuneration for work in the context of public works programmes supported by WFP and other donors)
FPOCG	Focal Points Operational Co-ordination Group (proposed)
IMDMCC	Inter-Ministerial Disaster Management Co-ordination Committee (proposed)
MDMR	Ministry of Disaster Management and Relief (proposed redesignation of MOR)
MOR	Ministry of Relief
NGO	Non-Governmental Organization
PIO	Project Implementation Officer (thana-level officer of the DRR)
TA	Technical Assistance
TNO	Thana Nirbahi Officer
UN-DMT	United Nations Disaster Management Team (co-ordinating group of the representatives of the UN agencies in Bangladesh)
UP	Union Parishad

10A Purpose and objectives

[Reviewers' Comments]

10A.1 The need in Bangladesh, and the purposes for which it is proposed to establish a new, specialist unit (or organization) for disaster management, are:

- (a) To strengthen the capacities of households and village communities in the highly disaster-prone areas to cope, individually and collectively, with the both risks and the effects of cyclones (and associated storm surges), floods, and river bank erosion -- to cope before, during, and after, the impact of such events.
- (b) To enhance the capacity of the Government and local-level authorities to:
 - warn people of imminent threats of cyclones or floods;
 - organize evacuations and other precautionary measures when necessary and possible;
 - assess damage and needs in the immediate aftermath of a sudden disaster, and during an extensive flood;
 - organize rescue, relief and short-term rehabilitation activities effectively and efficiently, when needed, and to co-ordinate the activities of all involved (government and non-government);
 - plan integrated post-disaster reconstruction programmes.
- (c) To ensure that natural hazards and other risks are properly considered during the formulation and implementation of development programmes and projects. To ensure that measures to reduce risks are implemented whenever possible, and that development projects in all sectors are neither unduly vulnerable to known hazards nor increase the vulnerability of people in the areas concerned.

10A.2 To achieve these objectives, it is presently envisaged that a variety of things will have to be done by the new unit/organization, including:

- (i) *During "peace time":*
 - Developing a National Disaster Plan, and associated practical guidelines for those responsible for its implementation;
 - Helping line ministries and agencies to develop and test their own contingency/action plans;
 - Helping district- and thana-level authorities to develop and test their own disaster preparedness plans;
 - Working with local authorities, BDRCS/CPP, NGOs and others to help union councils and village communities in high-risk areas to develop their own contingency plans and increase their own coping capacity;
 - Collaborating with existing training institutes, training materials development units, and NGOs already engaged in relevant training activities, to co-ordinate and promote the production of curricula and relevant training materials for various target groups;
 - Collaborating with line agencies, local authorities, existing training institutes, and relevant NGOs, in planning and organizing training for a wide variety of government personnel, elected officials and others;
 - Establishing facilities, information systems, operating procedures, and telecommunications systems, for a national

- emergency operations centre (EOC/control room), for immediate use when an emergency arises;
- Establishing arrangements for the mobilization of additional personnel for the EOC and to assist local authorities in the field, when required;
 - Providing a documentation and information service on disaster management for line agencies and others;
 - Working with the Planning Commission and concerned line agencies to increase awareness of disaster risks and ensure that such risks, and possibilities to reduce them, are considered and appropriate measures incorporated in development planning;
 - Monitoring and reporting to the Government/Parliament on the risks faced; the vulnerability of people and economic assets to known hazards; the status of preparedness in the country; and any delays/bottlenecks in the implementation of disaster prevention/preparedness programmes and projects.
- (ii) *During an emergency:*
- Ensuring the effective dissemination of appropriate warnings, of floods and cyclones (through collaboration with BMD, BWDB, CPP, Radio, TV, and local authorities in particular);
 - Activating and operating the national EOC (control room); receiving, analysing and storing incoming information; arranging rapid reconnaissance and assessment missions, where needed; providing advice and guidance to local authorities in relation to damage and needs assessment, and relief and rehabilitation assistance operations; etc.
 - Providing secretariat services and expert advice to the IMDMCC, and helping to ensure co-ordination between line agencies and between Government and NGOs in relation to relief and short-term rehabilitation activities;
 - Monitoring the progress of rescue, relief and short-term rehabilitation activities, identifying problems and unmet needs, and taking action to resolve/meet them or bring them to the attention of the IMDMCC for resolution;
 - Providing information to and liaising with ERD concerning requirements for international assistance, and with MoInfo.
- (iii) *During post-disaster recovery:*
- Co-operating with the Planning Commission and line agencies, as required, in compiling data on reconstruction requirements and in co-ordinating the preparation of an integrated reconstruction programme;
 - Ensuring that risk reduction measures are built into all reconstruction programmes as much as possible;
 - Undertaking a final evaluation, or at least a "post mortem", on the emergency operation, drawing lessons and feeding them back to the IMDMCC and into training activities and up-dated guidelines.

10A.3 These tasks are significantly different from those of a normal government department or line agency. They require extensive collaboration with a number of existing ministries and line agencies, and with a variety of training institutions, professional bodies, NGOs and voluntary organizations at all levels. A non-bureaucratic approach is essential. Particularly in respect of the tasks at union and village levels, the need is to facilitate and act as a

catalyst, helping diverse groups to work together, within a mutually agreed framework.

10B Definition of overall policies and responsibilities

10B.1 The precise role of the specialist disaster management unit/organization is dependent on overall government policy concerning who is to be responsible for promoting preventive measures and preparedness at local level, and for organizing and providing assistance to threatened and disaster-affected people and establishments. These responsibilities are dependent in turn on policy concerning the type and level of relief and rehabilitation assistance that should normally be provided to whom, in what circumstances, from national (public) resources.

10B.2 If disaster management, including prevention/mitigation, preparedness, and the organization and provision of relief and short-term rehabilitation services, is considered to entirely the responsibility of the national Government, then the Government must equip itself accordingly. If, however, representative local bodies are to be responsible for such matters, then arrangements must be made to support those bodies rather than to supersede them.

10B.3 In recent years, it appears that the national Government, through the MOR, has undertaken to provide whatever assistance it could to any disaster-affected individuals (with priority to the poorest). However, operational guidelines, including criteria and recommended standards for provision, have yet to be prepared for those responsible in the field.¹

10B.4 Responsibility for final distribution of relief has rested with the Union Parishads (UPs), which have also been responsible for reporting their assessment of damage and needs to the thana and district administrations. The same UPs are also responsible, according to the Standing Orders for Cyclone (MOR 1985), for preparing local preparedness plans, but have not until now been given any specific guidelines or help in this connection.

10B.5 In between the national Government and the UPs, responsibility has rested with the district and upazila/thana administrations (DCs and UNO/TNOs) although *ad hoc* disaster relief co-ordination committees have also been constituted at times of major disaster.²

10B.6 New arrangements for local government are presently being considered in Parliament. It is understood that current proposals envisage that:

- the role of the UPs will be consolidated;
- Thana Development and Co-ordination Councils would be formed of elected representatives with the TNO as member-secretary (and other thana officers as non-voting members);

¹ In May 1991, efforts were made by the Zonal Relief Co-ordinator in Chittagong to suggest some basic standards for rehabilitation assistance to reduce the otherwise large disparities that were emerging in the provisions made by different agencies.

² However, in some cases the Ministry itself apparently makes allocations (issues sanctions) for the delivery of relief supplies directly to specific thanas, unions, or even individuals.

- Zila Parishads would be formed of elected members: these parishads would have specific responsibilities, and some resources, for development activities.

10B.7 If such arrangements are approved and implemented, those bodies should also have overall responsibility for planning and co-ordinating disaster management activities (prevention, preparedness, and response) at their respective levels, within the framework of the resources available to them. Executive sub-committees for disaster management should be formed as standing bodies. These might be chaired by the DC/TNO with, as members, some members of the parishad, all district/thana officers, and representatives of NGOs and voluntary organizations (e.g. the teachers' associations) which are actively involved in disaster management activities in the locality.

10B.8 The specialist disaster management unit/organization should then provide guidelines (including model plans) for use by these local committees, and arrange training for committee members -- the elected members, district and thana officers, and others. Staff of the unit/organization should be available to advise and assist these local committees -- through the DCs and TNOs -- in preparing and testing their own local plans and, later, in reviewing them and ensuring that they are kept up-to-date.

10B.9 NGOs and voluntary organizations have, in recent years, mobilized and delivered large amounts of assistance for relief and local-level post-disaster rehabilitation. Several are already well-advanced in the development of training materials and organizing disaster preparedness training for NGO personnel and local communities. They are making, and will continue to make, an important contribution to the overall process of improving disaster management in terms of local-level preparedness and response in particular.

10B.10 Overall arrangements must explicitly provide for co-operation and co-ordination between government, local authorities, NGOs, and voluntary organizations. The specialist unit/organization must be constituted and must operate to facilitate that essential co-operation and co-ordination.

10C Functions and possible structure of the specialist unit/organization

- 10C.1 The tasks to be performed at *national* level relate particularly to:
- developing the National Disaster Plan, including refined and up-dated definitions of responsibilities (Standing Orders), specification of lines of communication, etc.;
 - preparing guidelines (including model plans) for district, thana and union authorities;
 - proposing drafts for national policy statements and related legislation;
 - working with line ministries and agencies to ensure the establishment of suitable contingency/action plans within those agencies;
 - working with BMD, BWDB, CPP and others to refine and enhance warning systems;
 - preparing or arranging for the preparation of training curricula and materials;
 - planning and co-ordinating training at national and divisional/zonal levels;

- establishing and maintaining the facilities for a national Emergency Operations Centre (control room);
- establishing and maintaining information systems and telecommunications systems;
- liaison with the NGO Affairs Bureau and ADAB;
- etc.

10c.2 For these purposes, it is proposed that a small, highly professional (non-bureaucratic) team be formed along the lines indicated in figure 10.1, which shows the proposed core staff posts. These posts would be financed out of the Development budget if they cannot be established under the Revenue budget in time (within the next two months). The team would be reinforced by temporary secondments from other agencies (including the Armed Forces) when necessary to deal with a major disaster. During an initial period (at least 3 years) technical assistance, in the form of international and national consultants, would be provided under the proposed project *Comprehensive Disaster Management* (FAP:11).

10c.3 Each member of the team would have specific functional responsibilities during "peace time" and during an emergency. Careful attention will have to be given to the selection of individuals who have the right personal qualities as well as professional experience.

10c.4 Assuming that emphasis is to be on strengthening local coping capacities, and encouraging local bodies to take responsibility for disaster management at the local level as indicated in 10B.7 and 10B.8 above, the role of the specialist unit/organization in relation to the *field* level includes:

- helping to organize training at district and thana levels for elected representatives, officers, and others;
- helping the authorities at district and thana levels to prepare, review and up-date, district and thana disaster plans;
- collaborating with the local authorities, and other concerned agencies and organizations, to promote public awareness and the development of union and village/community-level disaster plans;
- ensuring the co-ordination and integration of government and non-government capabilities at all local levels;
- advising local disaster management committees on all aspects/phases of disaster management, and monitoring their activities.

10c.5 It is generally agreed that the existing field structure and staff of the MOR/DRR (with a DRRO in each district and one PIO, or in a few cases two PIOs, in each thana) is, in itself, not adequate for the additional, specialist tasks that are envisaged.

10c.6 Various organizational arrangements have been suggested to support the required field operations:

- (a) Establish the new unit/organization as a fully-fledged Directorate of Disaster Management, under MOR, with its own field staff at district level (in parallel with the DRR);
- (b) Rely on the existing DRROs (and PIOs) for routine follow-up of preparedness matters in addition to their responsibilities in relation to VGD, FFW, etc. (as at present), but provide technical support in the form of regular visits from staff of the specialist unit and technical assistance (TA) personnel assigned at national level.

Core Structure for the Disaster Management Bureau (operational structure during "peace time")

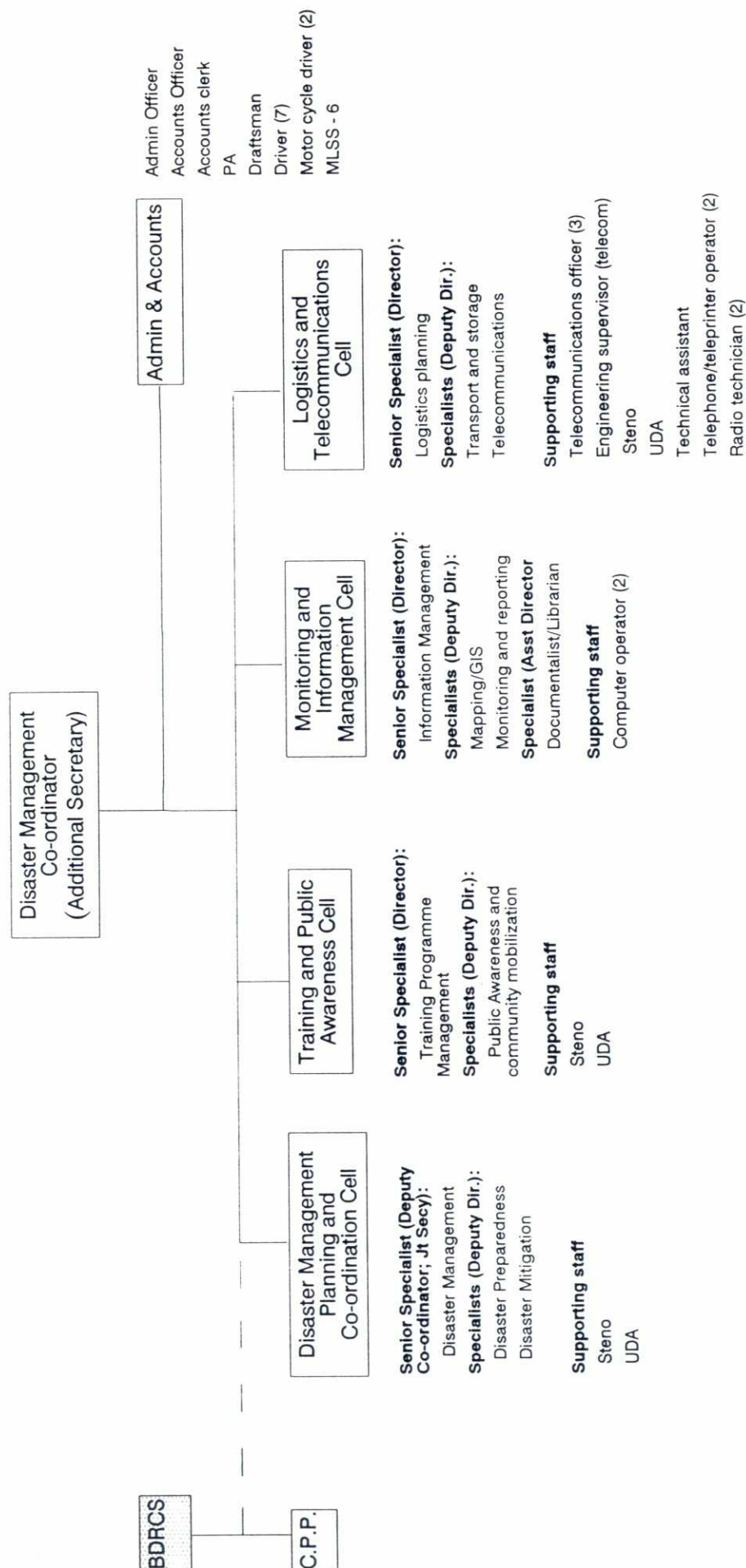


Figure 10.1

- (c) Provide for a small number of field-based Zonal Disaster Management Co-ordinators -- probably at Specialist/Deputy Director level -- to supervise groups of districts, working with the DCs and DRROs, with additional support from national-level specialists and TA personnel. This would be a compromise between the "extremes" of *a* and *b*. The zonal co-ordinators might be appointed either as regular staff of the unit/Bureau or as TA project personnel for a defined period.

10c.7 It is the considered view of the Project Team and Professional Panel that a version of *c* would be the best arrangement for the immediate future (the next few years). It is proposed that:

- The unit, called the Disaster Management Bureau (DMB), should be established as a part of the MDMR (formerly MOR), headed by a Disaster Management Co-ordinator with the rank of Additional Secretary.
- The DMB should be organized and staffed as indicated in Figure 10.1 during "peace time"; the same staff would reorganize themselves as the national Emergency Operations Centre (EOC), as indicated in Figure 10.2, during an emergency, when reinforcements would also be brought in.
- The Co-ordinator and Senior Specialists of the DMB would be recruited and appointed against job descriptions and qualification requirements along the lines of those specified in annex I.
- The DMB would work through existing organizations and agencies: in the field, the DMB would work with DCs and TNOs with the assistance of the DRROs who would receive additional training.
- The DMB would be supported, for an initial 3-year period, by technical assistance (under a project funded by UNDP and other donors corresponding to component 11 of the Flood Action Plan).
- The TA project would provide international and national consultancy services (at the national level), and a number of zonal disaster management co-ordinators to work with the DCs and DRROs in disaster-prone districts.
- The DMB, with TA support, would arrange training for large numbers of government officers (and others), including DCs and ADCs, in addition to DRROs (and PIOs).

10c.8 This is considered to be more appropriate than envisaging a new directorate at this stage for a number of reasons:

- There is a clear need for a specialist unit to spearhead initiatives in disaster management at all levels and in all sectors, but the need is to advise, mobilize (galvanize) and assist the line agencies, district administrations and others to fulfill their responsibilities, not to take over those responsibilities.
- Committees and officials at district and thana levels, and communities themselves, need to be mobilized to take disaster prevention/mitigation and preparedness seriously, and to develop their own plans. The creation of a Directorate of Disaster Management, with its own field staff, could be interpreted as an indication that disaster management is the responsibility of that new directorate (and that neither the people themselves nor other line agencies have responsibility). It would risk further bureaucratizing the process.

Disaster Management Bureau organized as National Emergency Operations Centre (EOC)
(operational structure during an emergency or post-disaster relief/rehabilitation operation)

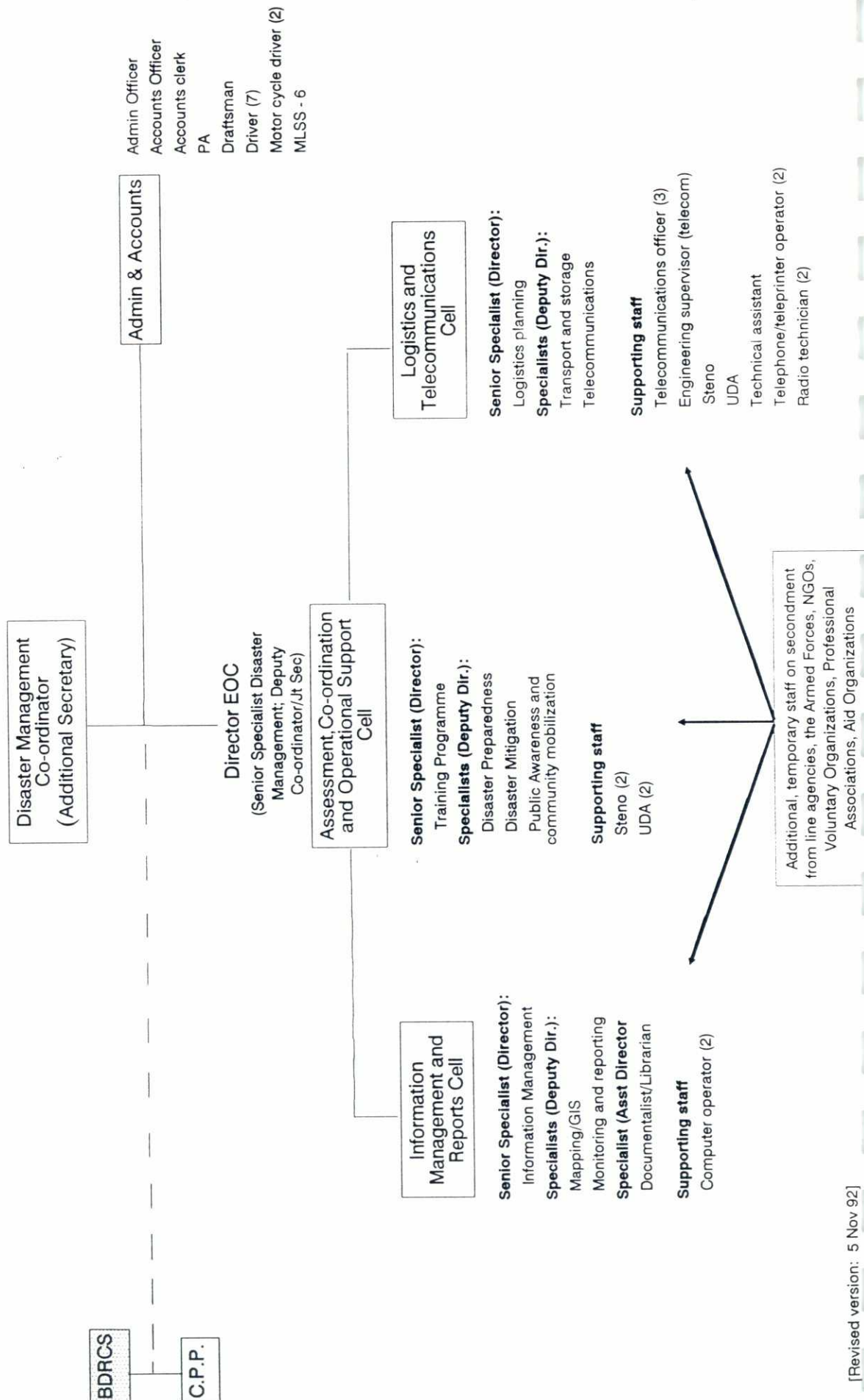


Figure 10.2

- There is the possibility to provide an initial impetus to field activities through project personnel. The possible need to establish field posts can be reviewed in the light of experience towards the end of the initial project period.

10C.9 Establishment of the Bureau as a part of the Ministry, rather than as a subordinate body should:

- give the unit a higher status and profile that would facilitate contacts and collaboration with other line ministries and agencies, and with the Armed Forces;
- minimize the number of additional posts and the extent of bureaucratic processes required (by avoiding duplication between the ministry and a dependent agency); and
- facilitate co-operation with the DRROs and PIOs, who are administratively under the DRR.

10C.10 Both major preventive/mitigation measures and post-disaster reconstruction projects need to be planned, and their implementation monitored, in the context of up-dated development plans and programmes. The co-ordination of these efforts should be undertaken by the special cell being created within the Planning Commission. The specialist unit/Bureau should collaborate closely with the PC Cell.

10D Notes on the proposed staffing and operations of the specialist unit

10D.1 **Role of Regular Staff:** Each staff member of the unit/Bureau will have specified functions during "peace time", during an emergency (including warning and initial response periods), and during the initial recovery stage following a major disaster. Within that framework, the Disaster Management Co-ordinator (Additional Secretary DMB) will define the functions of each staff member at any time, after consultation with the Senior Specialists.

10D.2 **Recruitment and appointment of staff:** The success of the Bureau will depend largely on the individuals appointed to it. Arrangements must ensure the recruitment and appointment of the best people available for the various posts as specified in the job descriptions. The posts of DM Co-ordinator/AddSec-DMB, the Senior Specialists, and Specialists, may be filled either by serving Government Officers or by individuals recruited from outside on Contract Service. The posts should be advertised inviting applications from serving Officers and others. The best available candidates should be appointed, regardless of service status:

- an eminently capable and suitable individual from Government Service, would be appointed either at his/her own pay scale or on contract basis, if he/she so chooses;
- an individual selected from outside Government Service would be contracted at a rate appropriate to his/her experience.

In either case, appointments would normally be for a period of 3-5 years.

10D.3 **Temporary Staff Reinforcements:** Additional personnel will be seconded to the unit/Bureau for short periods, during emergency, from line ministries, line agencies, or the Armed Forces. In some cases, personnel may be seconded from professional associations, NGOs, or aid organizations.

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Secondments may be requested/arranged by the DM Co-ordinator/AddSec-DM directly with the other bodies concerned. Secondments may also be agreed and co-ordinated by the IMDMCC. In such cases, the unit/Bureau will bear all travel and other expenses directly related to work on behalf of the unit/Bureau. Salaries and basic allowances will continue to be paid by the regular employer.

10D.4 **Focal Points Operational Co-ordination Group (FPOCG):** meeting convened by DM Co-ordinator/AddSec-DM including:

- disaster management focal points of all concerned line ministries, line agencies, and the Planning Commission;
- D-G R&R + 4 Directors
- S-G BDRCS + Directors CPP, DPP
- D-G NGO Bureau
- Senior Specialists of the unit/Bureau (4);
- representatives of ADAB, UN-DMT

During "peace time", the Group should normally meet every 2 months, with additional *ad hoc* meetings if and when required for specific purposes. During an emergency, the Group should meet once or twice each week.

10D.5 **Taskforces** will be constituted on specific topics at the initiative of the DM Co-ordinator/AddSec-DM or agreement within the FPOCG. Taskforces will normally include the focal points (or other representatives) of the concerned line agencies and other bodies, as well as relevant staff of the DMB. They will have specific terms of reference and normally be established with the aim of completing the specified tasks within a predetermined period, which should normally not exceed 4 months. The DMB would provide secretariat services for taskforces unless it is specifically agreed that another member agency should do so in a particular case.

10D.5 **Location:** As noted in Working paper No.9 (rev.1), the DMB must be established in a location that is suitable for both its routine functions and when it is called on to serve as the national Emergency Operations Centre (EOC) during an emergency. One suggestion that has been made, and has considerable merit, is to locate the DMB in the present MOR supplies facility at the old airport (or elsewhere in the old airport site). This site would be readily accessible to all concerned, including government and non-government personnel, and parking should not be a problem. Its proximity to the Prime Minister's Office and the Cantonment would facilitate high-level co-ordination, particularly during an emergency. Good telecommunications should be easy to assure, and the unit would be well-placed to co-ordinate, and benefit from, helicopter (and other air services) during an emergency.

Annex I

**Proposed Duties/Job Descriptions for
Senior Staff of the Disaster Management Bureau**

1.	Disaster Management Co-ordinator / Additional Secretary DMB	page 2
2.	Senior Specialist, Disaster Management	4
3.	Senior Specialist, Training and Public Awareness	8
4.	Senior Specialist, Monitoring and Information Management	11
5.	Senior Specialist, Logistics and Telecommunications	13

Duties 1:

Disaster Management Co-ordinator (Additional Secretary, Disaster Management Bureau)

(a) General

1a.1 Responsible to the Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC), through the Secretary, Ministry of Disaster Management and Relief (MDMR), for:

- (i) Advising the Government on all matters relating to disaster management;
- (ii) Administering the Disaster Management Bureau; directing and supervising the work of the staff of the Bureau;
- (iii) Liaising with all concerned government bodies, aid agencies, NGOs, and voluntary organizations, and ensuring maximum co-operation and co-ordination in relation to all aspects of disaster management;
- (iv) Fulfilling the specific duties listed below, and performing other related tasks as and when requested by the Secretary MDMR.

(b) In "Peace Time": in relation to disaster prevention/mitigation and preparedness

1b.1 Promoting awareness of disaster risks, and the practical possibilities for reducing risks (vulnerability), among the populations of disaster-prone areas, all government staff assigned in such areas, and relevant professional groups.

1b.2 Liaising with the technical sub-committees of the National Disaster Advisory Committee.

1b.3 Promoting community level initiatives and action to reduce disaster risks and increase local coping capacities.

1b.4 Proposing policies for disaster mitigation (risk reduction), and collaborating with the Planning Commission, concerned line agencies and other bodies to establish relevant guidelines and procedures to ensure that measures to reduce risks are implemented wherever possible.

1b.5 Developing, in consultation with all concerned bodies, a National Disaster Plan, incorporating Standing Orders, and associated practical guidelines. Arranging widespread dissemination, regular reviews and updating of the Plan.

1b.6 Proposing legislation and regulations that may be required in relation to disaster prevention/mitigation and preparedness.

1b.7 Providing guidelines and practical assistance to other ministries and line agencies, and to district, thana and union authorities, for establishing contingency/action plans for their own organizations/areas, and in organizing regular exercises to test the refine those plans.

1b.8 Arranging, in collaboration with line agencies, local authorities, existing training institutes, and relevant NGOs, for training in disaster management to be organized for a wide variety of government personnel, elected representatives, and others.

1b.9 Establishing and maintaining facilities, information systems, operating procedures, and telecommunications systems, for a national emergency operations centre (EOC/control room), for immediate use when an emergency arises.

1b.10 Establishing and maintaining arrangements for the mobilization of additional personnel for the EOC and to assist local authorities in the field, when required, including skilled volunteers from professional associations.

1b.11 Providing a documentation and information service on all aspects of disaster management for line agencies and others.

1b.12 Monitoring and reporting to the Secretary MDMR and the NDMC on the the vulnerability of people and economic assets to known hazards; the status of preparedness in the country; and any delays/bottlenecks in the implementation of disaster prevention/preparedness programmes and projects.

1b.13 Preparation of overall plans and budgets for the various activities to be supported by the DMB.

(c) During an Emergency: in relation to emergency response

1c.1 In the event of a warning (an imminent disaster threat):

- Ensuring that warning information is passed to all concerned officers, agencies, and public dissemination channels.
- Advising MDMR concerning instructions to be issued to agencies and personnel in the threatened areas.
- Activating the EOC, and liaising with concerned line agencies to ensure that they too activate their contingency plans.

In the event of a disaster:

1c.2 Ensuring the efficient, continuous functioning of the EOC.

1c.3 Arranging rapid reconnaissance and inter-sectoral assessment missions, where needed.

1c.4 Providing advice and guidance to local authorities in relation to damage and needs assessment, and relief and rehabilitation assistance operations; etc.

1c.5 Providing secretariat services and expert advice to the IMDMCC, and helping to ensure co-ordination between line agencies and between Government and NGOs in relation to relief and short-term rehabilitation activities.

1c.6 Advising the MDMR and IMDMCC of any specific requirements for additional personnel to be deputed to support the responsible authorities in the affected areas, and for any specific operational support required from the Armed Forces.

1c.7 Monitoring the progress of rescue, relief and short-term rehabilitation activities; identifying problems and unmet needs, and taking action to resolve/meet them or bring them to the attention of the IMDMCC for resolution.

1c.8 Making recommendations to MDMR and IMDMCC for allocations of available relief materials, funds, and transport units to district authorities (or, occasionally, direct to thana level).

1c.9 Making recommendations to MDMR and IMDMCC concerning the institution of special emergency procedures or delegations of authority, if judged necessary.

1c.10 Providing information to ERD concerning requirements for international assistance, and to Molinfo concerning the overall operational situation.

1c.11 Promoting the maximum sharing of information between all concerned bodies, and the co-ordination of the activities of all operational agencies (governmental and NGO). Liaising donors, UN agencies, NGOs and professional associations directly involved in relief and rehabilitation activities, and assisting MDMR in organizing informal information exchange meetings ("Disaster Forums") between Government and representatives of those bodies.

1c.12 Organizing regular (weekly?) sessions/workshops with all concerned to review progress and lessons learned, and to agree priorities and directions for continuing/new activities.

1c.13 Submitting reports to the IMDMCC on the progress of operations and the use of resources.

(d) Post-disaster: in relation to rehabilitation and reconstruction

1d.1 Co-operating with the Planning Commission and line agencies, as required, in compiling data on reconstruction requirements and in co-ordinating the preparation of an integrated reconstruction programme.

1d.2 Ensuring that risk reduction measures are built into all reconstruction programmes as much as possible.

1d.3 Undertaking a final evaluation, or at least a "post mortem", on the emergency response (including warning, relief and short-term rehabilitation operations), drawing lessons and preparing a report to the IMDMCC. Publishing the report and ensuring that the lessons are fed back into training activities and up-dated guidelines.

QUALIFICATIONS

Formal qualifications and at least ten years relevant work experience in management, public administration, development planning, or physical planning. A background in social anthropology and previous training in disaster management an advantage.

At least five years experience in field posts at divisional/district/thana level.

Personal experience in the organization of rescue, relief, and rehabilitation operations, and in collaboration between Government, NGOs, and voluntary organizations.

Demonstrated leadership qualities; flexibility, initiative and a willingness to take responsibility; an ability to work under pressure; a keen interest in disaster management; willingness to travel extensively throughout the country.

Duties 2: Senior Specialist (Director), Disaster Management

(a) General

- 2a.1 Responsible to the Disaster Management Co-ordinator (Additional Secretary, DMB), for:
- (i) Directing and co-ordinating the work of the staff of the Disaster Management Planning and Co-ordination Cell of the DMB;
 - (ii) Fulfilling the specific duties listed below, and performing other related tasks as and when requested by the Disaster Management Co-ordinator/Additional Secretary DMB.

(b) In "Peace Time": in relation to disaster prevention/mitigation and preparedness

- 2b.1 Proposing policies and priorities, and associated procedures and criteria, for the consideration of disaster risks and the incorporation of disaster prevention/mitigation measures in general development planning.
- 2b.2 Monitoring, in collaboration with the Planning Commission and IMED, the effectiveness of the established policies, priorities, and procedures, and making recommendations for changes in policies or guidelines when found necessary.
- 2b.3 Collaborating with the concerned line agencies, undertaking risk assessments, and proposing specific disaster prevention/mitigation projects and other measures (including regulations), as required.
- 2b.4 Collaborating with the responsible authorities to mobilize resources for prevention/mitigation measures, and to ensure necessary technical supervision and the maintenance of structures.
- 2b.5 Reporting to the MDMR and IMDMCC on the implementation of national policies and programmes in relation to disaster risks and mitigation.
- 2b.6 Arranging independent evaluations of the effectiveness of specific disaster prevention/mitigation measures.
- 2b.7 Collaborating with the responsible technical forecasting bodies (BMD and BWDB), related technical assistance projects, and those involved in the dissemination of messages (including TV, Radio and CPP) to ensure that cyclone and flood warnings from the national level are as timely and effective as possible.
- 2b.8 Collaborating with BWDB, CPP, district administrations, local authorities, NGOs, professional associations, voluntary organizations, and related technical assistance projects, to develop local-level warning dissemination systems. Providing (or arranging the provision of) guidelines, equipment and training in support of such local-level systems.
- 2b.9 Monitoring and reporting to the MDMR and IMDMCC on the effectiveness of warning systems.
- 2b.10 Preparing refined/up-dated Emergency Standing Orders in collaboration with the concerned line ministries and agencies, and incorporating them in a National Disaster Preparedness Plan for approval by IMDMCC.

2b.11 Collaborating with line agencies, as required, in the preparation of agency action/contingency plans, and in defining lines of communication between agencies at all levels.

2b.12 Proposing, in consultation with concerned line agencies and NGOs, general policies and standards for the provision of relief following disasters. Preparing and distributing practical guidelines (for use at various levels) on the organization of rescue and relief assistance operations.

2b.13 Preparing detailed guidelines, including model preparedness plans, for the district, thana, and union-level authorities. In co-ordination and collaboration with the Senior Specialist, Training, assisting those authorities in the most disaster-prone areas in preparing their own plans.

2b.14 Preparing a GOB Disaster Management Handbook incorporating: the up-dated standing orders; policies and standards of provision; practical guidelines and model plans.

2b.15 Monitoring and reporting to the MDMR and IMDMCC on the state of emergency preparedness in the disaster-prone districts and within the concerned line agencies.

2b.16 Collaborating with the Senior Specialist, Training, and other interested bodies including experienced research organizations and NGOs, to:

- prepare and distribute practical guidelines, for use at district, thana, union and village levels; [These guidelines on "how to be prepared" (for cyclones and floods) and "how to minimize damage and losses", etc., to be compiled on the basis of proven experience.]
- define training needs and review related curricula and materials.

2b.17 Establishing operating procedures for an effective Emergency Operations Centre (EOC), and ensuring that necessary facilities, services, and systems, are available and functional at all times. Establishing arrangements for the core staff of the DMB to be supplemented, when necessary (immediately a disaster threatens or occurs), by the secondment of pre-identified personnel from key line agencies, the Armed Forces and, possibly, NGOs, professional associations and international aid agencies.

2b.18 Organizing exercises of the EOC at least once a year, including personnel from line agencies and the Armed Forces.

2b.19 Establishing and maintaining a roster of individuals experienced in the management of emergency operations, and relevant technical specialists (government personnel and others), who would be available, at short notice, to: (a) undertake preliminary reconnaissance and assessment missions following a disaster, and (b) help to direct and co-ordinate operations (at national, zonal, or district levels) during the initial emergency relief phase. Co-ordinating with the Senior Specialist, Training to ensure the periodic group training for those on the roster.

2b.20 Collaborating with Establishment Division in maintaining arrangements by which trained and experienced senior civil service officers can be promptly sent on temporary assignments to reinforce the district, thana, and union-level administrations in disaster-affected areas. Ensuring these officers have up-to-date guidelines, and co-ordinating with the Senior Specialist, Training, to ensure the periodic group training for those on the roster.

2b.21 In collaboration with the NGO Affairs Bureau and the Senior Specialist, Information Management, keeping an up-to-date roster of NGOs having relevant experience and capabilities.

(c) During an Emergency: in relation to emergency response

2c.1 In the event of a warning (an imminent disaster threat):

- Mobilizing the staff of the DMB for their emergency (EOC) roles, establishing a duty roster (24-hour senior staff coverage) for the EOC, and instituting emergency operating procedures.
- Establishing and maintaining contacts with the disaster management focal points in concerned ministries, agencies, and the Armed Forces.

In the event of a disaster:

2c.2 Serving as Director of the EOC: managing the operations of the EOC on a day-to-day basis, ensuring the effective use of all available personnel (both DMB core staff and additional temporary personnel), and the efficient performance of all EOC tasks.

2c.3 Arranging immediate reconnaissance (e.g. overflights) of the affected area, and initiating action through the relevant operational agencies on the basis of the initial findings and past experience.

2c.4 Maintaining contact with the district administrations in the affected areas, and with all concerned line agencies. Ensuring that information on the situation, damage and needs is systematically received, analysed, and disseminated, as appropriate, by the Information Management Cell.

2c.5 Working with the Senior Specialist, Information Management, to propose priorities on the basis of available information, and to identify gaps in information and propose specific action to fill those gaps.

2c.6 Identifying needs for general staff support, or specific technical expertise, to assist local administrations and field personnel in specific areas: informing the DM Co-ordinator/Additional Secretary DMB and assisting in mobilizing the required personnel.

2c.7 Making recommendations for the allocation of available rescue, relief and other relevant resources.

2c.8 Working with the Senior Specialist, Logistics and Telecommunications, to identify needs and define priorities for mobilizing and providing special resources and assistance in particular aspects of logistics, or in (re-)establishing telecommunications, in specific areas.

2c.9 Monitoring the progress of operations, including the release and delivery of resources against agreed allocations. Identifying any particular problems or bottlenecks and initiating action to resolve them, or immediately informing the DM Co-ordinator/Additional Secretary DMB for his action.

2c.10 Providing advice and generally back-stopping the local authorities, officials, and operational agencies in the field. Arranging special mission to check information and solve problems on-the-spot, when necessary.

(d) Post-disaster: in relation to rehabilitation and reconstruction

2d.1 Reviewing proposed reconstruction programmes and projects, making recommendations concerning priorities, and ensuring that risk reduction measures are built into all such programmes and projects as much as possible.

2d.2 Reviewing the performance of the EOC, and co-operating with the DM Co-ordinator/Additional Secretary DMB and any others designated to undertake a *post-facto* evaluation, or post-mortem, of the emergency operation:

- making any required improvements in EOC operating procedures, and agreeing with all concerned on any required modifications to existing Plans, including Standing Orders;
- arranging with the Senior Specialist, Training, for any required modifications to existing training curricula and materials, and for special training activities, if needed.

QUALIFICATIONS

Formal qualifications and at least eight years relevant work experience in management or physical planning; previous training in disaster management an advantage.

At least four years experience in field posts at divisional/district/thana level.

Personal experience in the organization of rescue, relief, and rehabilitation operations; in disaster preparedness or other forms of contingency planning; and in collaboration between Government, NGOs, and voluntary organizations.

Demonstrated leadership qualities; flexibility, initiative and a willingness to take responsibility; an ability to work under pressure; keen interest in disaster management; willingness to travel extensively throughout the country.

Duties 3: Senior Specialist (Director), Training and Public Awareness

(a) General

- 3a.1 Responsible to the Disaster Management Co-ordinator (Additional Secretary, DMB), for:
- (i) Directing and co-ordinating the work of the staff of the Training and Public Awareness Cell of the DMB;
 - (ii) Fulfilling the specific duties listed below, and performing other related tasks as and when requested by the Disaster Management Co-ordinator/Additional Secretary DMB.

(b) In "Peace Time": in relation to disaster prevention/mitigation and preparedness

3b.1 Convening, on a regular basis, a broad-based Working Group on disaster management training, to agree an overall training strategy and to co-ordinate training activities and the preparation of training materials. [This working group to include representatives of concerned line agencies, the Armed Forces, training institutes, professional associations, BDRCS, ADAB and selected NGOs.]

3b.2 Defining, in consultation with the other Senior Specialists, the specific training and related activities to be arranged by the DMB, and obtaining the approval of IMDMCC through the DM Co-ordinator/Additional Secretary DMB.

3b.3 Arranging, in collaboration with other concerned agencies, training for district, thana and union-level officials, elected representatives, and other relevant persons, with specific reference to:

- the possibilities for local-level action to reduce risks and improve preparedness;
- the preparation of local-level disaster plans;
- the establishment of local-level warning dissemination arrangements.

3b.4 Promoting the regular testing of local-level disaster plans through drills, or exercises. Advising and, where necessary, assisting the local authorities in organizing such exercises.

3b.5 Arranging for the inclusion of relevant disaster management modules in the basic and refresher training of BCS officers, police, ansars, VDPs, all field level officers of line agencies. In collaboration with other concerned agencies, proposing curricula and providing corresponding training materials and trainers guides for the various target audiences. Mobilizing/ providing resource persons to assist the various training institutes in conducting the sessions, as required, and assessing the effectiveness of the training.

3b.6 Liaising with the disaster management focal point in the Military Staff College to ensure complementarity between the training provided to civil officers and to Armed Forces personnel, and to arrange joint training exercises whenever possible.

3b.8 Promoting broad-based public education concerning preparedness for and response to cyclones and floods, and the related training of extension workers, teachers, religious leaders, women's groups, and others. Producing (or arranging the production of) relevant educational and training materials, and providing support in the initial planning and organization of training activities and exercises at local level. Supervising and evaluating these activities on an ongoing basis.

3b.8 Arranging with the relevant education authorities for the incorporation of relevant disaster preparedness components in school syllabuses, and in teacher training courses (in PTIs and TTCs). Proposing material to be included in text books or reading books, and in teachers guides.

3b.9 Arranging, in collaboration with the Disaster Management Planning and Co-ordination Cell, for the initial and periodic refresher training of government officers and other professional persons who are placed on rosters for emergency service.

3b.10 Collaborating with the Disaster Management Planning and Co-ordination Cell in the compilation, design and production of the GOB Disaster Management Handbook.

3b.11 Proposing, in consultation with the relevant sub-committees of the National Disaster Management Advisory Committee, specific research studies on topics relevant to local-level prevention/mitigation measures or preparedness, and evaluating any research proposals made by other agencies or institutions. Arranging and supervising any studies that are approved and to be funded, wholly or in part, through the DMB.

(c) During an Emergency: in relation to emergency response

3c.1 Assisting the Director EOC (Senior Specialist Disaster Management) in the day-to-day operations of the EOC, with particular reference to the provision of advice and guidance to district administrations and operational staff in the field.

3c.2 Undertaking assessment and trouble-shooting missions to the field as directed by the DM Co-ordinator/Additional Secretary DMB.

(d) Post-disaster: in relation to rehabilitation and reconstruction

3d.1 Assessing needs for specific training of government, local authority, or other agency personnel for specific aspects of rehabilitation operations. Making recommendations to the DM Co-ordinator/Additional Secretary DMB, or other relevant authorities, and assisting in arranging the necessary training, where necessary.

QUALIFICATIONS

At least eight years experience in planning and organizing training and non-formal education programmes serving a variety of client groups.

Personal experience in collaboration between Government, NGOs, and voluntary organizations. Previous experience in the organization of rescue, relief, and rehabilitation operations, and in preparedness/contingency planning an advantage.

Previous formal training in disaster management, and in organizing disaster management training, an advantage.

Demonstrated leadership qualities; flexibility, initiative and a willingness to take responsibility; an ability to work under pressure; a keen interest in disaster management; willingness to travel extensively throughout the country.

Duties 4:
Senior Specialist (Director), Monitoring and Information Management

(a) General

- 4a.1 Responsible to the Disaster Management Co-ordinator (Additional Secretary, DMB), for:
- (i) Directing and co-ordinating the work of the staff of the Monitoring and Information Management Cell of the DMB;
 - (ii) Providing a full range of information management and computer services for the DMB as a whole;
 - (iii) Fulfilling the specific duties listed below, and performing other related tasks as and when requested by the Disaster Management Co-ordinator/Additional Secretary DMB.

(b) In "Peace Time": in relation to disaster prevention/mitigation and preparedness

- 4b.1 Ensuring the correct installation, use, maintenance and security of all computers and related equipment and software, purchased for or otherwise provided to the DMB. Specifying any additional requirements.
- 4b.2 In close collaboration with the other Senior Specialists, developing and maintaining management information systems, both manual and computerized, to support all disaster management activities and operations of the DMB.
- 4b.3 Arranging necessary training for all levels of staff of the DMB in the use of the management information systems and, when required, in basic computing skills.
- 4b.4 Developing and maintaining a data base of basic "baseline" information likely to be relevant for any aspect or phase of disaster management: establishing co-operative arrangements with line agencies and other relevant bodies to receive data from them, cross-check against data from other sources, and share DMB data with all those collaborating.
- 4b.5 Collaborating with the Senior Specialist, Disaster Management, in developing management information systems (manual and computerized), including forms and worksheets, for use by district, thana, and union-level authorities in all phases of disaster management. Collaborating with the Senior Specialist, Training, in designing and arranging training for personnel at those levels in the use of the proposed systems, forms and worksheets.
- 4b.6 Specifying, in consultation with the Senior Specialist, Disaster Management, user requirements for a Disaster Management GIS system, and co-operating with the Geographic Information Systems project (FAP:19) in the development and testing of such a system.
- 4b.7 Maintaining, in collaboration with the NGO Affairs Bureau, ADAB, and VHSS, a data base of NGOs having particular experience and capabilities in disaster management.
- 4b.8 Maintaining, in collaboration with the other Senior Specialists, Establishment Division, and relevant professional associations, rosters (data bases) of government officers and other personnel having relevant experience who are available at short notice for emergency management duties.

4b.9 Collecting data on the progress of programmes and projects that affect disaster risks, and preparing reports on the status of disaster prevention/ mitigation and preparedness in the country.

4b.10 If required, and on request of the DM Co-ordinator/Additional Secretary DMB, developing management information systems to support the operations of the DRR, and assisting in arranging relevant training for DRR personnel.

(c) During an Emergency: in relation to emergency response

4c.1 Ensuring the efficient operation of all management information systems, and the prompt entry of all incoming data from district administrations and other sources.

4c.2 Cross-checking all incoming data for plausibility (against baseline data) and consistency (against other reports). Informing the Director EOC (Senior Specialist, Disaster Management) of any uncertainties regarding particular reports, and proposing/initiating action to verify the data, when necessary.

4c.3 Reviewing available information on a regular, daily basis: bringing particular features to the attention of the Director EOC (Senior Specialist, Disaster Management) and identifying any significant gaps in information which may require follow-up action.

4c.4 Preparing regular (daily) analyses of: reports on damage and needs; allocations of resources (supplies, equipment, personnel); specific relief/ rehabilitation activities underway; contributions (pledged and delivered); unmet needs. Presenting information in ways that facilitate rapid understanding and decision-making.

4c.5 Preparing regular summary narrative reports on the situation, the progress of rescue, relief and rehabilitation operations, and problems/constraints.

4c.6 Providing advice and assistance to district administrations, and any zonal offices that may be established by the Government, in setting up and operating management information systems at their level to assist in the management of local-level relief and rehabilitation operations.

(d) Post-disaster: in relation to rehabilitation and reconstruction

4d.1 Co-operating with the Planning Commission and line agencies, as required, in compiling data on reconstruction requirements and planned programmes and projects.

QUALIFICATIONS

At least eight years experience in information management including both manual and computer-based systems.

Formal qualifications and at least five years relevant work experience in systems analysis and in the design, installation and operation of management information systems, with particular emphasis on defining users' information needs and the potential uses of information.

Personal experience in the organization of rescue, relief, and rehabilitation operations, and in collaboration between Government, NGOs, and voluntary organizations, an advantage.



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Demonstrated leadership qualities; flexibility, initiative and a willingness to take responsibility; an ability to work under pressure; a keen interest in disaster management; willingness to travel extensively throughout the country.

Duties 5:
Senior Specialist (Director), Logistics and Telecommunications

(a) General

- 5a.1 Responsible to the Disaster Management Co-ordinator (Additional Secretary, DMB), for:
- (i) Directing and co-ordinating the work of the staff of the Logistics and Telecommunications Cell of the DMB;
 - (ii) Fulfilling the specific duties listed below, and performing other related tasks as and when requested by the Disaster Management Co-ordinator/Additional Secretary DMB.

(b) In "Peace Time": in relation to disaster prevention/mitigation and preparedness

5b.1 Assessing, and keeping under constant review the logistic facilities in the disaster-prone areas, including: transport capacities; storage facilities (including at union level); supplies of motor fuel and lubricants ("POL"). Preparing regular reports on the situation, including recommendations for feasible, cost-effective short- and long-term action to increase capacity, where required.

5b.2 Collaborating with line agencies having responsibility for transport (including Roads and Highways, BIWTA/TC, Biman, etc.), users of transport (such as the Directorate of Health and the DRR), and the Armed Forces, in preparing contingency logistic plans for different emergency scenarios.

5b.3 Preparing logistic-related elements of the National Disaster Plan, and specific, practical guidelines for both national and local levels on: the transportation, handling and storage of supplies; the evacuation of people from threatened or disaster-affected areas; planning reconnaissance missions and the movement of field personnel; assuring POL supplies. Collaborating with the Senior Specialist, Disaster Management, to incorporate these in both the national Plan and the GOB Disaster Management Handbook.

5b.4 Establishing agreements with private transport associations concerning the mobilization of road and river transport at times of emergency.

5b.5 Collaborating with responsible line agencies to establish arrangements to ensure the prompt availability of specific items commonly required for rescue, relief and initial rehabilitation operations, through stockpiling and/or standing arrangements with suppliers. Defining desirable minimum stock levels of critical items in strategic locations, and monitoring stock levels.

5b.6 Assisting the district authorities in the most disaster-prone areas to prepare their own contingency logistic plans as part of their overall disaster preparedness planning.

5b.7 Ensuring that the telecommunications equipment and facilities of the DMB are adequate and fully functional at all times, both for normal use and to support the operations of the EOC at times of emergency.

5b.8 Ensuring that the telecommunications equipment and facilities of the district administrations (notably that provided by or through the MOR or DMB) are fully functional at all times, both for normal use and to support the operations of the district EOC/control room at times of emergency.

5b.9 Assessing needs and the possibilities of assuring telecommunications links between district headquarters and thanas, and with certain isolated unions, in the most disaster-prone areas. Making proposals and following-up with concerned agencies and authorities.

5b.10 Collaborating with T&T, the Police and other line agencies having HF/VHF radio networks, the CPP, and the Armed Forces, to establish arrangements for collaboration in the use of available telecommunications facilities during emergencies, and for the rapid (re-)establishment of links in isolated localities, when required.

5b.11 Working with the responsible authorities to ensure that recognized NGOs making important contributions to relief and rehabilitation operations have access to adequate telecommunications facilities, including HF/VHF radio communications where needed.

5b.12 Ensuring that telecommunications facilities are up-dated in line with improvements in T&T and related systems (e.g. the use of fax machines and electronic mail/bulletin boards).

(c) During an Emergency: in relation to emergency response

5c.1 Arranging transport for initial reconnaissance missions to/over the affected areas, including all necessary clearances and advice to authorities in those areas.

5c.2 Arranging transport, including fuel, for other assessment and operational support missions by DMB/EOC staff and others.

5c.3 Mobilizing transport from all sources to assist the local authorities in evacuation or rescue operations, where required.

5c.4 Assessing, and keeping under constant review, the overall logistic situation in the affected areas, and the capacities and constraints on transport and storage facilities. Making recommendations and, where possible, taking direct action to restore or increase capacity in the short-term.

5c.5 Collaborating with relevant line agencies (both those with responsibility for transport, and users of transport) and the Armed Forces, in co-ordinating the deployment and the use/tasking of available transport and related facilities, including ensuring fuel supplies.

5c.6 Providing advice and assistance, as required, to the district authorities in the worst-affected areas, in mobilizing and planning the most effective use of the transport capacities and storage facilities available to them. Identifying priority requirements for additional capacity and taking action to mobilize the required resources.

5c.7 Keeping the EOC telecommunications service functioning efficiently 24-hours-a-day.

5c.8 Liaising with T&T, the Police, other line agencies, the CPP, and the Armed Forces, to keep an up-to-date overview of all functioning telecommunications services, and helping to establish co-operation in areas where communications are a problem for certain agencies having important disaster-related functions.

5c.9 Advising the DM Co-ordinator/Additional Secretary DMB, concerning any requirements for urgent action to (re-)establish telecommunications links with isolated areas, possibly including the deployment of military signals units.

(d) Post-disaster: in relation to rehabilitation and reconstruction

5d.1 Collaborating with the responsible line agencies in defining priority requirements for rehabilitation and reconstruction of transport, storage and telecommunications facilities, and in monitoring the progress of such operations.

5d.2 Proposing, to the DM Co-ordinator/Additional Secretary DMB and concerned line agencies, the measures that could be taken in the context of the overall reconstruction programme, and in ongoing development programmes, to reduce the vulnerability to future disasters of transport, storage and telecommunications facilities, and to improve services as an aid to preparedness.

QUALIFICATIONS

At least eight years experience the planning and management of logistic operations. Experience in field posts at divisional/district level an advantage.

Broad experience in transport (all modes) essential; knowledge and experience of storage and telecommunications an advantage.

Personal experience in the organization of rescue, relief, and rehabilitation operations, and in collaboration between Government, NGOs, and voluntary organizations, an advantage.

Demonstrated leadership qualities; flexibility, initiative and a willingness to take responsibility; an ability to work under pressure; a keen interest in disaster management; willingness to travel extensively throughout the country.

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ANNEX D

DISASTER MANAGEMENT BASIC CONCEPTS AND DEFINITIONS

WORKING PAPER No.6 (rev.1)**DISASTER MANAGEMENT:
BASIC CONCEPTS AND DEFINITIONS**

This paper presents suggested definitions, with explanatory notes and examples, for a number of key terms and concepts relevant to "disaster management". The present paper (rev.1) provides a revised and slightly expanded version of the definitions presented in the Inception Report of the present project, and in the original version of this working paper (dated September 1992).

There are significant differences in the definitions and usage of terms by various organizations, institutions, and individual experts concerned with disasters, both in Bangladesh at internationally. The definitions presented here represent a compromise between those proposed by UNDRO and other international authorities, and the present usage of terms in Bangladesh. They are presented in a logical, more-or-less chronological sequence, not in alphabetical order.

This paper, and the definitions presented, are intended as a basis for further review and the development of a bilingual (English/Bangla) glossary.

The specific topics covered in the present paper are:

- 6A Overall Framework: Phases and Related Activities
- 6B Disaster and Disaster Management
- 6C "Peace Time" Activities (normal time)
- 6D Alert (or Warning) Phase and Activities
- 6E Relief (Survival and Basic Needs) Phase and Activities
- 6F Recovery Phase and Activities

Ron Ockwell
Disaster Management Specialist
13 November 1992

6A Overall Framework: Phases and Related Activities

[Reviewers' Comments]

6A.1 Many people in Bangladesh (and elsewhere) tend to think in terms of three phases, or stages: "pre-disaster", "disaster", and "post-disaster". However, there is an important sub-division to be made within the "pre-disaster" phase, between normal times (or "peace time") and the period when a warning has been given and a number of emergency measures may have to be taken, possibly including evacuations. There are also questions concerning the ending of the "disaster" phase, and the start of the "post-disaster" phase.

6A.2 It is suggested that the most useful (helpful) categorization is:

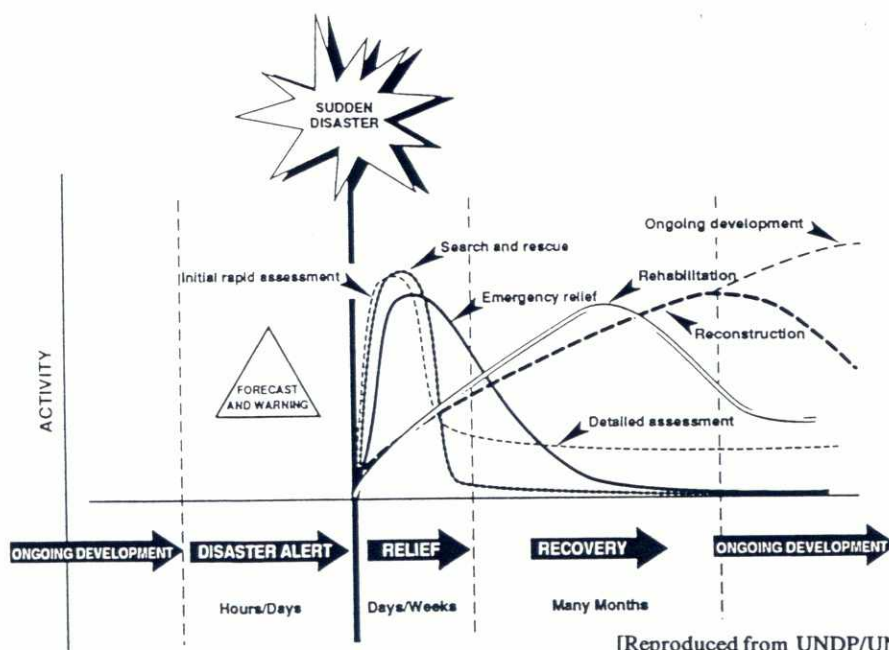
- 1 "Peace time" (normal times)
- 2 Emergency phase
 - 2a Alert (or Warning) phase
 - 2b Relief (or Survival and Basic Needs) phase
- 3 Recovery phase.

6A.3 In practice, the transitions from one phase to the next are not necessarily clear cut -- particular activities phase in and phase out progressively, and overlap with each other. For example, certain relief activities will continue, declining progressively, while rehabilitation (recovery) activities build up. Similarly, the recovery phase gradually merges into normal, ongoing development, as illustrated in Figure 6.1.

6A.4 However, the main focus of activities is significantly different during each of the four phases listed above, and they are therefore useful for conceptualizing the process, and for defining who does what, when.

6A.5 Figure 6.2 provides a schematic outline of the phases and associated major activities as defined and described in the remainder of this paper.

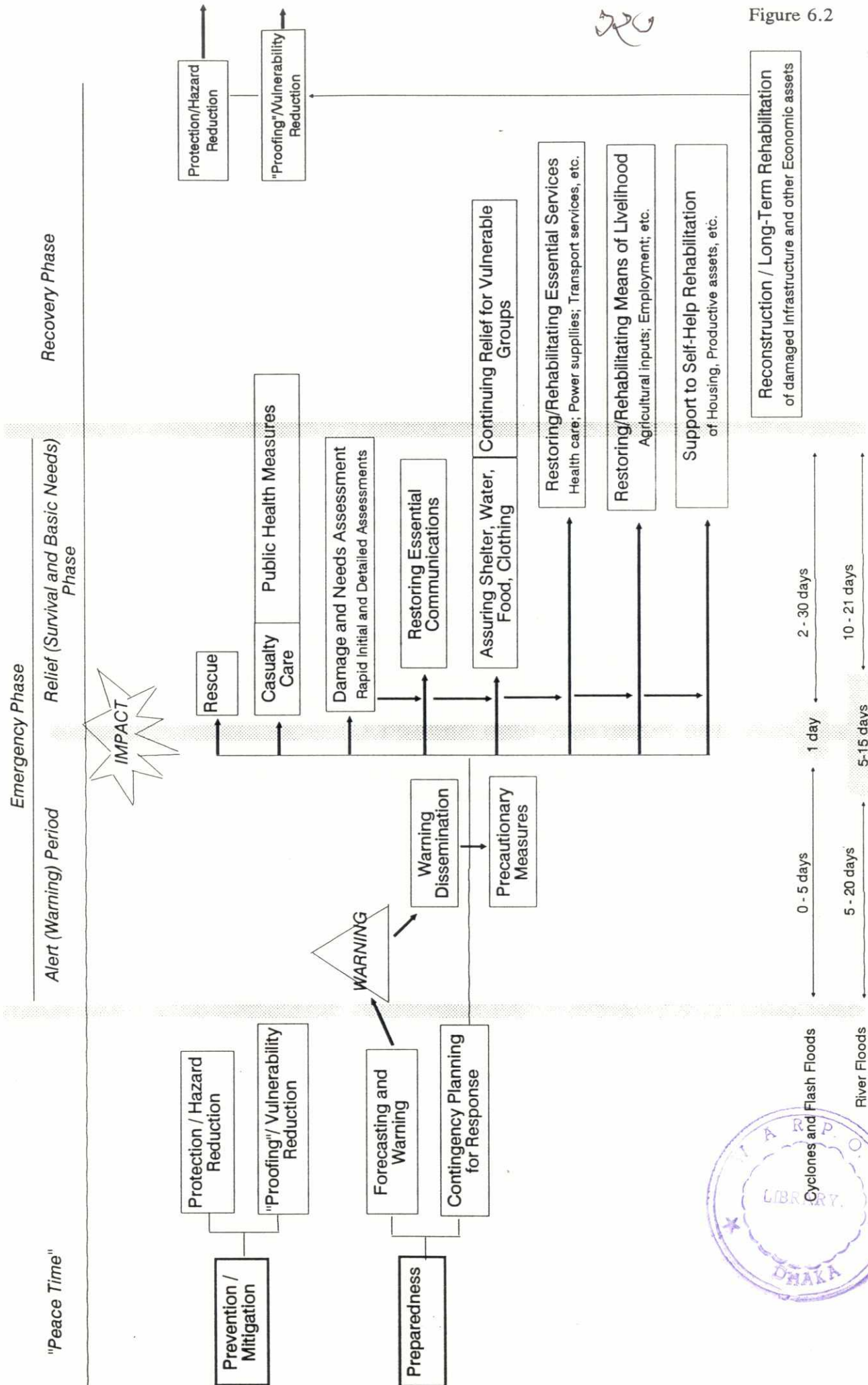
Figure 6.1



[Reproduced from UNDP/UNDRO Disaster Management Manual]

Figure 6.2

Main Phases and Activities in Disaster Management



6B Disasters and Disaster Management

6B.1 Disaster

An event, natural or man-made, sudden or progressive, that seriously disrupts the functioning of a society, causing human, material, or environmental losses of such severity that the affected community has to respond by taking exceptional measures. The disruption (including to essential services and means of livelihood) is on a scale that exceeds the ability of the affected society to cope using only its own resources.

6B.2 Disaster Management

"Disaster Management" includes all aspects of planning for and responding to disasters. It refers to the management of both the risks and the consequences of disasters, and includes:

- (i) the incorporation of preventive/mitigation measures into overall development plans and activities at all levels in disaster-prone areas: this may include structural and non-structural measures to reduce the likelihood (probability) of disaster occurring and the consequences of those that cannot be prevented;
- (ii) preparedness plans and related measures in disaster-prone areas to warn people of imminent threats and organize appropriate emergency responses, when necessary: this includes forecasting, warning dissemination systems, and standing arrangements for evacuation and the organization of rescue, relief and short-term rehabilitation activities;
- (iii) emergency response to disasters when they occur, including rescue, relief, short-term rehabilitation/repairs; and
- (iv) post-disaster reconstruction/long-term rehabilitation.

6C "Peace Time" Activities (Normal times)

6C.1 "Peace Time"

This refers to a period when there is no current emergency, nor any immediate threat of a disaster, but long-term measures are taken in anticipation of the impact, at some unknown time in the future, of known hazards.

The measures to be taken during "peace time" fall into two main categories:

- (i) *preventive/mitigation* measures to reduce vulnerability and risks on a long-term, permanent basis;
- (ii) *preparedness* arrangements to provide warnings (when possible) and establish contingency plans and capacity for emergency response (when required).

6C.2 Disaster Prevention/Mitigation

Measures designed to reduce, on a permanent basis, the adverse impact of floods, cyclones (including storm surges), and other hazards (potentially damaging events). The measures may be aimed at reducing the probability or intensity of particular hazards, or the vulnerability of the society and its assets to the impact of those that do occur.

Specific measures can include:

- (a) **"Protection", or Hazard Reduction:** Embankments, drainage channels, afforestation, and other "structural" or "physical" measures to reduce the impact of floods or cyclones (including storm surges), or the likelihood and impact of floods. Adequate maintenance must be assured.
- (b) **"Proofing", or Vulnerability Reduction:** This can take several forms:
 - Land use planning (or "zoning") which seeks to ensure that people and economic assets are not located in hazardous areas, and that new developments do not create new risks -- sometimes referred to as *hazard avoidance*. Can be attempted through regulations or incentives.
 - Improvements in designs and construction standards for new buildings and other structures, and strengthening existing ones, to better withstand high winds, floods, earthquakes or other phenomena which are likely to occur in the locality -- sometimes referred to as *hazard resistance*. Can apply to engineered and non-engineered structures, and be attempted through regulations, incentives, and/or training.
 - Adoption by individual households and local communities of various measures to reduce the likelihood of losses of valuable assets (through improved storage arrangements, for example). Can be encouraged through public education and community mobilization.

6C.3 Disaster Preparedness

Measures to ensure the readiness and ability of the society -- Government, other organizations, communities, and individuals -- to take precautionary measures in advance of an imminent threat, in cases where advance warnings are possible, and to organize timely response in the event of a disaster.

Preparedness involves:

- (a) Forecasting and warning dissemination systems for cyclones and floods (including potential breaches of embankments); and
- (b) Operational capability (plans, procedures, resources) to ensure timely action at all levels -- by communities, Government, major institutions, NGOs, and other organizations -- when a warning is issued and following a disaster impact.

The latter includes arrangements (at local level) for the evacuation of people, livestock, and movable property, from threatened localities, and the implementation of other temporary, precautionary measures to protect lives and property when a warning is issued; and arrangements at all levels to organise search and rescue, provide relief, and make emergency repairs to restore essential services, when needed. Education, training, and practice drills, are essential at all levels.

6C.4 **Warning systems**

Arrangements to rapidly disseminate information concerning an imminent disaster threat to officials, institutions, and the population at large, in the areas at immediate risk.

Warnings normally concern cyclones or floods. A warning system involves links to forecasting systems; the organizational and decision-making processes to decide on the issuing of particular warnings; arrangements to broadcast the warnings by radio and through other mass media; and arrangements for the local dissemination of warnings and instructions within the communities at risk.

The effectiveness of any system depends on the prior education and training of officials and the population to the meaning of the warnings and the actions to be taken.

6C.5 **Vulnerability; Vulnerability analysis**

Vulnerability is the extent to which a community, structure, service, economic activity, or geographic area is likely to be damaged or disrupted by the impact of a particular hazardous phenomenon.

Vulnerability analysis is the process of estimating the vulnerability to particular hazardous phenomena of specified elements (structures, services, or whole communities) at risk. Combined with an analysis and mapping of the hazards to which an area is prone, it provides a basis for planning relevant preventive and preparedness measures.

For engineering purposes, vulnerability analysis involves the analysis of theoretical and empirical data concerning the effects of particular phenomena on particular types of structures.

For more general socio-economic purposes it involves consideration of all significant elements in society, including physical, social and economic considerations (both short- and long-term), and the extent to which essential services (and local coping mechanisms) will be able to continue functioning.

6D **Alert (or Warning) Phase and Activities**

6D.1 **Alert (or Warning) phase**

The period from the issuing of an alert or public warning of an imminent disaster threat to its actual impact, or the passage of the threat and the lifting of the warning. The period during which pre-impact precautionary, or disaster containment, measures are taken.

6D.2 Precautionary (Emergency Risk Reduction) Measures

Actions taken in response to a disaster warning to minimize or contain the eventual negative effects. This includes, as and where needed, evacuation and other precautionary measures, flood-fighting and similar measures. These precautionary (pre-impact) measures are pre-planned, and practised, as a part of preparedness, and put into effect when specified conditions arise.

6D.3 Emergency Phase

The period during which exceptional (emergency) measures have to be taken to save lives and property, and to meet the basic needs of the survivors in respect of shelter, drinking water, food, and medical care.

An emergency phase begins when a warning is issued requiring immediate action to be taken to protect lives and property, it extends through the actual impact/occurrence of a disaster and the period immediately following when special measures are required to ensure the survival and meet the basic needs of the victims.

6E Relief (Survival and Basic Needs) Phase and Activities**6E.1 Emergency relief**

Assistance provided to save and preserve lives, and meet the basic subsistence needs of disaster victims.

Relief includes material aid to enable affected families to meet their basic needs for shelter, clothing, water, and food (including the means to prepare food), and emergency medical care. Relief supplies and services are provided free of charge -- on a humanitarian basis -- in the days and weeks immediately following a sudden disaster. They may need to be provided for extended periods in the case of severe drought and population displacements (refugees or internally displaced people).

Emergency relief measures are planned and implemented on the basis of the (post-impact) assessment, but may be initiated on the basis of past experience and preparedness plans until sufficiently comprehensive assessment data are available.

6E.2 Damage and Needs Assessment (post-impact)

The process of determining the impact of a disaster on a society; the needs for immediate, emergency measures to save and sustain the lives of survivors; and the possibilities for facilitating and expediting recovery.

Assessment is an interdisciplinary process undertaken in phases and involving on-the-spot surveys and the collation, evaluation and interpretation of information from various sources concerning both direct and indirect losses, short- and long-term effects. It involves not only determining what has happened, what resources are available to the affected communities, and what assistance might be needed, but also defining objectives and how relevant assistance can actually be

provided to the victims, considering both short-term needs and long-term implications.

6E.3 **Damage assessment**

The preparation of specific, quantified estimates of physical damage resulting from a disaster, and recommendations concerning the repair, reconstruction or replacement of structures and equipment, and the restoration of economic (including agricultural) activities.

6F **Recovery Phase and Activities**

6F.1 **Recovery Phase**

The period, following the emergency phase, during which actions are taken to enable victims to resume normal lives and means of livelihood, and to restore infrastructure, services and the economy in a manner appropriate to long-term needs and defined development objectives.

Recovery encompasses both rehabilitation and reconstruction, and may include the continuation of certain relief (welfare) measures in favour of particular disadvantaged, vulnerable groups.

6F.2 **Short-term rehabilitation and repairs**

Actions taken in the aftermath of a disaster to enable basic services to resume functioning, to assist victims' self-help efforts to repair dwellings and community facilities, and to revive economic activities, including agriculture.

Rehabilitation focuses on enabling the affected populations (families and local communities) to resume more-or-less normal (pre-disaster) patterns of life.

6F.3 **Reconstruction / Long-term rehabilitation**

The permanent reconstruction or replacement of severely damaged physical structures, the full restoration of all services and local infrastructure, and the revitalization of the economy (including agriculture).

Reconstruction must be fully integrated into ongoing long-term development plans taking account of future disaster risks and possibilities to reduce those risks by the incorporation of appropriate mitigation measures. Damaged structures and services may not necessarily be restored in their previous form or locations. Reconstruction may include the replacement of any temporary arrangements established as a part of emergency response or short-term rehabilitation.

ANNEX E

JOB DESCRIPTIONS FOR
TECHNICAL ASSISTANCE TEAM
CORE CONSULTANTS

**Comprehensive Disaster Management (FAP:11)
Proposed Job Descriptions for Core Consultants**

International experts/consultants

- | | | |
|----|---|--------|
| 1. | Programme Management Adviser (3 years) | page 2 |
| 2. | Disaster Management Specialist(s) (30 months) | 4 |

National experts/consultants

- | | | |
|-----|--|----|
| 3. | Disaster Preparedness Specialist (3 years) | 5 |
| 4. | Engineering (Water Resources) Specialist (3 years) | 6 |
| 5. | Finance and Accounting Specialist (3 years) | 7 |
| 6. | Social Anthropology Specialist (18 months) | 8 |
| 7. | Training and Public Awareness Specialist (18 months) | 9 |
| 8. | Management Information Specialist (18 months) | 10 |
| 9. | Logistics Specialist (18 months) | 11 |
| 10. | Zonal Disaster Preparedness Specialists (30 months) | 13 |
-

Note regarding Visiting Consultants

In addition to the above experts/core consultants, who would provide extended inputs (18-months to 3 years), provision is to be made for a number of short-term consultancies on specific topics to be arranged as and when required, but probably mainly within the first two years. Details of requirements, including job descriptions and lengths of assignments, would be specified and agreed by the Programme Management in the course of implementation, within the framework of agreed annual work plans. The following are general indications of the fields in which such short-term technical assistance may be required:

- (a) *International:* training; public awareness/education and community mobilization; telecommunications; management information systems; geographic information systems.
- (b) *National:* institutional arrangements and procedures; local-level planning; local-level warning dissemination systems; training materials development; mass communications; folk media; data base management; library science/documentation systems; community mobilization; water transportsystems; storage and commodity management.

1: Programme Management Adviser (International)

(a) General

To advise and assist the Programme Manager (Disaster Management Co-ordinator/Additional Secretary DMB) in the overall management of the Project/Programme Intervention, and in the planning and co-ordination of other aspects of the broader Comprehensive Disaster Management programme.

To act as Team Leader for the technical assistance team, and supervise the work of the consultants.

(b) Specific

To arrange and co-ordinate the inputs of consultancy services by the consulting organization (including both international and national consultants), and the procurement of supplies and equipment, as agreed with the Programme Manager within the framework of (a) the contract between the Government and the consulting organization, and (b) the work plan approved by the Programme Management Committee.¹

To advise and assist the Disaster Management Co-ordinator in:

- establishing the Disaster Management Bureau (DMB) as an effective unit for both "peace time" activities and to serve as an Emergency Operations Centre (EOC) during an emergency;
- developing effective collaboration between the all concerned line ministries and agencies, the Armed Forces, NGOs, professional associations, teaching and research institutions, and other relevant bodies, in relation to all aspects of disaster management;
- co-ordinating the development and implementation of public information activities, and seminars for high-level officials and people's representatives, to raise awareness and understanding of what can be done to reduce risks and increase coping capacities;
- co-ordinating the development and implementation of specific training activities for personnel at all levels who have specific responsibilities relevant to disaster : prevention/mitigation, preparedness or response;
- promoting and monitoring the development of disaster preparedness planning activities at district and thana levels, and providing overall direction to the Zonal Disaster Preparedness Specialists and concerned DRROs.

To advise and assist in:

- the refinement of Standing Orders;
- the preparation of the National Disaster Plan;
- the compilation of a Disaster Management Handbook;
- the identification and selection of the priority districts and thanas to be targeted initially for training and assistance in developing local-level preparedness plans;
- the improvement of cyclone and flood warning systems in collaboration with the technical agencies responsible for

¹ This assumes that the Government engages a consulting organization to provide the consultancy services envisaged under the project/programme intervention, and that the same organization undertakes, or assists the Government in arranging, the procurement of the non-expendable equipment funded by UNDP.

- forecasting -- BMD and BWDB, and associated technical assistance projects;
- the refinement of the "distress/deprivation" factor system as it relates to the allocation of resources for local-level preparedness measures, and for relief and rehabilitation;
- the establishment of rosters and other arrangements by which experienced officials and professionals can be mobilized, when needed.

In the event of a disaster:

- to advise the Disaster Management Co-ordinator in matters relating to overall co-ordination of response and the provision of operational support to district administrations and other agencies; and
- to assist the Senior Specialist, Disaster Management, in his capacity as Director of the national Emergency Operations Centre (EOC), in ensuring the effective functioning of the EOC.

2: Disaster Management Specialist(s) (International)

(a) General

To advise and assist the Disaster Management Co-ordinator, the Senior Specialist, Disaster Management, and other staff of the Disaster Management Bureau (DMB), in relation to the planning and implementation of disaster prevention/mitigation and preparedness measures.

(b) Specific

To advise and assist the Senior Specialist, Disaster Management, in:

- the development of improved procedures for the assessment of damage and needs following a disaster, and in the development of related guidelines and criteria;
- the establishment of policy guidelines and criteria for the provision of relief and rehabilitation assistance to various disaster-affected population groups;
- the development of guidelines and decision aids for resource allocations;
- the preparation of model preparedness plans for district, thana, and union-level authorities;
- the drafting of legislation relevant to disaster prevention/mitigation, preparedness and response.

To contribute to:

- the identification of training needs and the specification of curricula, the content of training modules, and the review of training materials;
- the specification of the focus and content of public awareness activities and materials;
- seminars on disaster management for opinion leaders and senior officials, and specific disaster management training for mid-level officials and district-level officers (preparing and presenting material on general disaster management issues and techniques).

To advise and assist the Zonal Disaster Preparedness Specialists, and the District authorities (Disaster Management Committees), in:

- undertaking district-level vulnerability analyses;
- preparing district-level Disaster Action Plans;
- arranging the preparation of thana-level Disaster Action Plans.

Exchanging information with, and providing advice to, NGOs, concerned professional associations, and other relevant bodies, in relation to all aspects of disaster management.

In the event of a disaster, to assist the Assessment and Operational Support Cell of the national Emergency Operations Centre (EOC) in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment missions; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.

3: Disaster Preparedness Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialist, Disaster Management, in all aspects and activities relating to disaster preparedness, and the general planning of both prevention/mitigation and preparedness measures.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the members of the Disaster Management Planning and Co-ordination Cell.

(b) Specific

To assist in:

- finalizing the review and refinement of existing Standing Orders, and establishing arrangements for effective co-operation between all concerned agencies, including government bodies, NGOs, and other relevant organizations;
- obtaining, reviewing, and evaluating reports and research findings relevant to the planning and implementation of disaster preparedness and non-structural prevention/mitigation measures in Bangladesh;
- incorporating the findings of research and the lessons of experience into the development and implementation of policies, guidelines, field programmes, and training activities, relating to disaster management;
- the ongoing process of reviewing and refining the forecasting and warning systems for cyclones and floods;
- preparing the National Disaster Plan and related guidelines;
- drafting national policy documents and legislation, as required;
- preparing model Disaster Action Plans for district, thana and union levels;
- the training of personnel at district and thana levels, and the development of Disaster Action Plans at those levels;
- the organization of practise exercises/drills at national and local levels.

In the event of a disaster, to assist the Assessment and Operational Support Cell of the national Emergency Operations Centre (EOC) in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment missions; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.

4: Engineering (Water Resources) Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialist, Disaster Management, in all aspects and activities relating to the planning of prevention/mitigation and preparedness measures, including arrangements for post-disaster damage assessments, the organization of prompt repairs and rehabilitation measures, and the preparation of detailed proposals for reconstruction.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the members of the Disaster Management Planning and Co-ordination Cell.

(b) Specific

To assist in:

- finalizing the review and refinement of existing Standing Orders as they relate to bodies having specific technical (engineering) functions, and establishing arrangements for effective co-operation between the concerned agencies/organizations;
- obtaining, reviewing, and evaluating reports and research findings relevant to the planning and implementation of structural disaster prevention/mitigation measures in Bangladesh;
- incorporating the findings of research and the lessons of experience into the development and implementation of policies, guidelines, field programmes, and training activities, relating to disaster mitigation measures at all levels;
- drafting national policy documents and legislation, as required;
- the training of personnel at district and thana levels, and the inclusion of appropriate mitigation measures in the local-level development planning and co-ordination activities at those levels;
- liaising with the disaster management focal points in relevant technical line agencies regarding progress in implementation of preventive/mitigation measures and preparedness within those agencies;
- liaising with the relevant technical sub-committees of the National Disaster Management Advisory Committee;
- liaising with relevant professional associations and training institutions with a view to ensuring the inclusion of relevant material in their training programmes, and the establishment of arrangements for the mobilization of trained technical personnel at short notice at times of disaster.

In the event of a disaster, to assist the Assessment and Operational Support Cell of the national Emergency Operations Centre (EOC) in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment missions; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.

5: Finance and Accounting Specialist (National)

(a) General

To co-operate with the international consultants and assist the Disaster Management Co-ordinator in the administration of the Programme Intervention and other activities of the Bureau, with special reference to financial management and accounting.

To help develop the capacity of the Disaster Management Bureau (DMB) through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the Administrative and Accounting staff.

(b) Specific

To assist in:

- establishing and implementing suitable office management procedures, administrative systems, financial management and accounting systems, within the DMB to cater for both "peace time" operations and the requirements when operating as the national Emergency Operations Centre (EOC) during an emergency;
- planning and controlling the calling-forward and the disbursement of resources available to the DMB (or EOC), including those related to the Project/Programme Intervention and any other resources for which the DMB (or EOC) has responsibility;
- establishing and implementing administrative and financial arrangements to support the operations of the outposted zonal Disaster Management Specialists (consultants), and activities in the field for which the DMB is providing financial support;
- training and, where necessary, arranging additional task-oriented training for the administrative and accounting staff of the DMB and for zonal and district level staff.

In the event of a disaster, to assist the Disaster Management Co-ordinator in all aspects of financial management, control and accounting within the DMB/EOC and, as required, at district level. The specialist may also be called on to assist in the work of the Assessment and Operational Support Cell and/or the the Information Management and Reprting Cell in:

- gathering and analysing information on the overall situation, and on damage and needs; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.



6: Social Anthropology Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialists, Disaster Management and Training, in all aspects and activities relating to the general planning of both prevention/mitigation and preparedness measures, and the design and organization of training and public awareness activities.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the members of the Disaster Management Planning and Co-ordination Cell, and the Training and Public Awareness Cell.

(b) Specific

To assist in:

- developing and testing alternative approaches to community mobilization for disaster prevention/mitigation and preparedness activities at household, village and union level;
- designing and evaluating public awareness activities in support of community-level activities;
- finalizing the review and refinement of existing Standing Orders as they relate to actions at community level, and establishing arrangements for effective co-operation between all concerned agencies, including government bodies, NGOs, and other relevant organizations;
- obtaining, reviewing, and evaluating reports, and social and anthropological research findings relevant to the planning and implementation of disaster preparedness and non-structural prevention/mitigation measures in Bangladesh;
- incorporating the findings of social and anthropological research, and the lessons of field experience, into the development and implementation of policies, guidelines, field programmes, and training activities, relating to disaster management;
- the ongoing process of reviewing and refining the warning dissemination systems for cyclones and floods to enhance their effectiveness at community level;
- preparing the guidelines concerning social aspects and community-level organization for inclusion in the National Disaster Plan, the Disaster Management Handbook, and model plans for local levels;
- preparing model disaster plans for union level;
- the training of personnel at district, thana and union levels;
- the organization of practise exercises/drills at community level;
- liaising with relevant technical sub-committees of the National Disaster Management Advisory Committee.

In the event of a disaster, to assist the Assessment and Operational Support Cell of the national Emergency Operations Centre (EOC) in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment missions; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.

7: Training and Public Awareness Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialist, Training and Public Awareness, in all aspects and activities relating to the design and organization of training and public awareness activities.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the members of the Training and Public Awareness Cell.

(b) Specific

To assist in:

- the assessment and definition of disaster management training needs of personnel in various agencies and at all levels of government;
- specifying curricula and related training material requirements for different groups of personnel (training audiences), and arranging the development and production of the required materials;
- planning and organizing workshops and other training activities for officials of all levels (including workshops aimed at developing Disaster Action Plans at district and thana levels);
- arranging for the incorporation of suitable disaster management modules in the basic and refresher training of a wide range of government and other personnel, including the development of the required modules and teaching aids, the training of trainers from the institutions concerned, and providing or arranging resource persons services;
- the organization of practise exercises/drills at community level.
- designing, organizing, and evaluating, mass communications and other public awareness activities in support of disaster prevention/mitigation and preparedness activities at household level, and community mobilization for action at village and union levels;
- obtaining, reviewing, and evaluating reports and research findings relevant to the planning and implementation of training and community mobilization for disaster preparedness and non-structural prevention/mitigation measures in Bangladesh;
- incorporating the findings of multi-disciplinary research, and the lessons of field experience, into the development and implementation of public awareness and training activities relating to disaster management;
- preparing and designing the Disaster Management Handbook, including model plans for local levels.

In the event of a disaster, to assist the Assessment and Operational Support Cell of the national Emergency Operations Centre (EOC) in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment missions; and
- providing advice to, and arranging operational support for, district administrations and other agencies, as required, including participating in trouble-shooting missions, where needed.

8: Management Information Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialist, Information Management, in all aspects and activities relating to the establishment, maintenance and use of management information systems to meet disaster management requirements during "peace time", and those of the Emergency Operations Centre (EOC) during emergencies.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience in information management and the use of specific Management Information Systems to the regular staff of the Bureau, including but not limited to the members of the Monitoring and Information Management Cell.

(b) Specific

To assist in:

- the installation, use, and maintenance, of computer hardware and software of the DMB;
- specifying user requirements, and developing, operating and maintaining both manual and computerized information systems to meet the needs of the DMB during "peace time", and those of the Emergency Operations Centre (EOC) during emergencies;
- developing, and continuously refining and up-dating, data bases of information relevant for all aspects of disaster management, and establishing collaborative relationships with other agencies (government and non-government) to ensure the maximum sharing of information;
- specifying the information requirements of those responsible for disaster management at district, thana and union levels, and in developing mechanisms to meet those needs (and contributing to the development of model disaster plans for those levels);
- developing and testing work sheets and other decision aids for use by staff of the DMB, civil administration officers, and others, in relation disaster prevention, preparedness and reponse;
- monitoring the progress of implementation and effectiveness of approved prevention/mitigation measures and of preparedness at all levels and in all sectors (line agencies);
- co-ordinating with another project (FAP:19) in their development of a Geographic Information System to support disaster management applications;
- obtaining, reviewing, and evaluating reports and research findings relevant to the planning and implementation of information systems in support of disaster management.

In the event of a disaster, helping to ensure the efficient operation of all management information systems of the national Emergency Operations Centre (EOC), and assisting in:

- analysing and cross-checking information available on the overall situation, and on damage and needs, and identifying any gaps or uncertainties;
- preparing analyses and summary reports on the progress of operations, allocations, contributions, and unmet needs, and highlighting significant features for management attention; and
- providing advice and support, in relation to information management, to district administrations and other agencies, and participating in trouble-shooting missions, as required.

9: Logistics Specialist (National)

(a) General

To co-operate with the international consultants and assist the Senior Specialist, Logistics and Telecommunications, in all aspects and activities relating to disaster preparedness, and the general planning of both prevention/ mitigation and preparedness measures.

To help develop the capacity of the Disaster Management Bureau through the transfer of knowledge and experience to the regular staff of the Bureau, in particular the members of the Logistics and Telecommunications Cell.

(b) Specific

To assist in:

- assessing the specific logistic (transport, storage and supplies handling) and telecommunications requirements of particular disaster-prone localities, and making recommendation for cost-effective short- and long-term action to improve disaster management capabilities;
- liaising with line agencies having capabilities and requirements in the provision and/or use of transport, and with the Armed Forces, and preparing logistic-related aspect of the National Disaster Plan;
- preparing logistic guidelines for line agencies and district and thana level authorities, and providing assistance to them in preparing their own contingency action plans;
- working with private transport associations concerning the mobilization of road and river transport at times of emergency;
- establishing arrangements to ensure the prompt availability of critical supplies through stock-piling and/or standing arrangements with suppliers;
- ensuring reliable telecommunications services for the DMB both in "peace time" and when operating as the national Emergency Operations Centre (EOC) during an emergency;
- establishing arrangements for inter-agency co-operation in the use of available telecommunications facilities during emergencies, including access of operational non-government organizations to such facilities, when necessary;
- the training of personnel at district and thana levels in the planning and management of logistic and related operations, including evacuations;
- developing the use of maps and Geographic Information Systems technology for disaster management at all levels (in collaboration with the Information Management and Training Cells of the DMB);
- organizing practice exercises/drills at national and local levels;
- finalizing the review and refinement of existing Standing Orders, and establishing arrangements for effective co-operation between all agencies involved as either providers or users of logistic and telecommunications services, including government bodies, the Police, Armed Forces, NGOs, and other relevant organizations;
- obtaining, reviewing, and evaluating reports and research findings relevant to logistics and telecommunications operations in support of disaster management;
- incorporating the findings of research and the lessons of experience into the development and implementation of policies,

guidelines, field programmes, and training activities, relating to logistic and telecommunications aspects of disaster management.

In the event of a disaster, to assist the Logistics and Telecommunications Cell of the national Emergency Operations Centre (EOC) in:

- co-ordinating the deployment and use of available means of transport for the movement of both personnel and supplies;
- assessing and monitoring the overall logistic situation and making recommendations for actions to resolve problems and increase transport, storage and handling capacity, where required;
- advising and assisting district authorities in the mobilization and use of the logistic means available to them, and in specifying and making proposals to meet additional priority requirements;
- ensuring the maintenance and efficient use of available telecommunications services and making recommendations for actions to restore or upgrade facilities, where necessary.
- participating in assessment and trouble-shooting missions, where required.

10: Zonal Disaster Preparedness Specialists (National)

(a) General

Under the overall direction of the Senior Specialist, Disaster Management, and the Programme Management Adviser, to assist the District and Thana Administrations, and the Disaster Management Committees at those levels, in developing local Disaster Action Plans, in including disaster prevention/mitigation measures in local development plans, and in promoting preparedness and mitigation measures at union and village level.

(b) Specific

To work with the Deputy Commissioners, District Relief and Rehabilitation Officers, Thana Nirbahi Officers, and Project Implementation Officers, in forming the District- and Thana-level Disaster Management Committees (preferably as standing sub-committees of district and thana level development co-ordination committees).

To contribute to the development, by the DMB, of disaster management guidelines and model disaster plans for district, thana and union levels; to test these in the field and provide feedback to the DMB with recommendations for any improvements needed.

To work with the District and Thana Disaster Management Committees, and Union Committees, in:

- undertaking vulnerability analyses, and preparing hazard maps and disaster profiles of the areas concerned, identifying the localities, population groups, infrastructure elements, and community services that are exposed to particular hazards, and the resources that are available to respond to disasters;
- identifying minor structural and other preventive ("proofing") measures that can be taken to reduce the risks of loss of life or damage to property, economic assets, means of livelihood, and community services, and incorporating these measures into local development plans, to the extent feasible;
- preparing Disaster Action Plans and developing improved preparedness arrangements at district and thana levels;
- organizing public awareness (education) and community mobilization activities; encouraging and helping local communities (villages) to develop their own preparedness arrangements;
- organizing practice exercises/drills at local levels.

To assist the DMB and the relevant local authorities in organizing training workshops and related activities for district and thana level personnel, and to contribute to those training activities;

In the event of a disaster, to assist the Deputy Commissioners, District Relief and Rehabilitation Officers, Thana Nirbahi Officers, and Project Implementation Officers, (and the District- and Thana-level Disaster Management Committees), in:

- gathering and analysing information on the overall situation, and on damage and needs, and making recommendations for action;
- organizing and, where appropriate, participating in assessment visits; and
- helping to identify and find solutions to operational problems.

