ANNEXES

Annex I.A

ITU RADIO REGULATIONS

RESOLUTION No. 10

Relating to the Use of Radiotelegraph and Radiotelephone Links by the Red Cross, Red Crescent, and Red-Lion and Sun Organizations

The World Administrative Radio Conference, Geneva 1979,

considering

(a) that the worldwide relief work of the Red Cross, Red Crescent, and Red Lion and Sun Organizations is of increasing importance and often indispensable;

(b) that in such circumstances normal communication facilities are frequently overloaded, damaged, completely interrupted or not available;

(c) that it is necessary to facilitate by all possible measures the reliable intervention of these national and international organizations;

(d) that rapid and independent contact is essential to the intervention of these organizations;

(e) that for international relief work of the Red Cross, it is necessary that the national Red Cross, Red Crescent, and Red Lion and Sun Organizations be able to communicate with each other as well as with the International Committee of the Red Cross and the League of Red Cross Societies;

decides to urge administrations

1. to take account of the possible needs of the Red Cross, Red Crescent, and Red Lion and Sun Organizations for communication by radio when normal communication facilities are interrupted or not available;

2. to assign to these organizations the minimum number of necessary working frequencies in accordance with the Table of Frequency Allocations; in the case of fixed circuits between 3 MHz and 30 MHz, the frequencies shall be selected, as far as possible, adjacent to the amateur bands;

3. to take all practicable steps to protect such links from harmful interference.

Annex I.B

ITU RADIO REGULATIONS

RESOLUTION No.640

Relating to the International Use of Radiocommunications, in the Event of Natural Disasters, in Frequency Bands Allocated to the Amateur Service

The World Administrative Radio Conference, Geneva, 1979,

considering

(a) that in the event of natural disaster normal communication systems are frequently overloaded, damaged, or completely disrupted;

(b) that rapid establishment of communication is essential to facilitate worldwide relief actions;

(c) that the amateur bands are not bound by international plans or notification procedures, and are therefore well adapted for short-term use in emergency cases;

(d) that international disaster communications would be facilitated by temporary use of certain frequency bands allocated to the amateur service;

(e) that under those circumstances the stations of the amateur service, because of their widespread distribution and their demonstrated capacity in such cases, can assist in meeting essential communication needs;

(f) the existence of national and regional amateur emergency networks using frequencies throughout the bands allocated to the amateur service;

(g) that in the event of a natural disaster, direct communication between amateur stations and other stations might enable vital communications to be carried out until normal communications are restored;

recognizing

that the rights and responsibilities for communications in the event of a natural disaster rest with the administrations involved;

resolves

1. that the bands allocated to the amateur service which are specified in No. 510 may be used by administrations to meet the needs of international disaster communications;

2. that such use of these bands shall be only for communications in relation to relief operations in connection with natural disasters;

3. that the use of specified bands allocated to the amateur service by non-amateur stations for disaster communications shall be limited to the duration of the emergency and to the specific geographical areas as defined by the responsible authority of the affected country;

4. that disaster communications shall take place within the disaster area and between the disaster area and the permanent headquarters of the organization providing relief;

5. that such communications shall be carried out only with the consent of the administration of the country in which the disaster has occurred;

6. that relief communications provided from outside the country in which the disaster has occurred shall not replace existing national or international amateur emergency networks;

7. that close co-operation is desirable between amateur stations and the stations of other radio services which may find it necessary to use amateur frequencies in disaster communications;

8. that such international relief communications shall avoid, as far as practicable, interference to the amateur service networks;

invites administrations

1. to provide for the needs of international disaster communications;

2. to provide for the needs of emergency communications within their national regulations.

Annex I.C

ITU RADIO REGULATIONS

RECOMMENDATION No. 1

Relating to the Use of Space Radiocommunication Systems in the Event of Natural Disasters, Epidemics, Famines and Similar Emergencies [1)]

The World Administrative Radio Conference, Geneva, 1979,

considering

(a) that, in the case of natural disasters, epidemics, famines and similar emergencies, lives can be saved by prompt and effective relief;

(b) that rapid and reliable telecommunications are essential for relief operations;

(c) that, through damage or from other causes, the normal telecommunications facilities in disaster areas are often inadequate for relief operations and cannot be restored or supplemented quickly through local resources;

(d) that use of space radiocommunication system is one of the means by which rapid and reliable telecommunications could be provided for relief operations;

noting

(a) that known planning of space radiocommunication systems makes no provision for specific frequencies or channels for emergency communications;

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1) Replaces Recommendation No. Spa 2-13 of the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971.

(b) that in the absence of such planning it is not feasible to proceed with specifications for rapidly transportable, universally operable earth stations;

(c) that CCIR Report 554-1 gives current results of studies of transportable earth stations for relief operations;

recommends

1. that administrations, individually or in collaboration, provide for the needs of possible relief operations in planning their space radiocommunication system and identify for this purpose preferred radio-frequency channels and facilities which could quickly be made available for relief operations;

2. that administrations concerned waive the coordination procedures provided for in the Radio Regulations in the case of transportable earth stations used for relief operations;

invites the CCIR

to continue its study of the standard specifications and preferred frequencies for transportable earth stations and for compatible mobile and transportable fixed radio-communications equipment for relief operations.

Annex II

SUGGESTED INDICATORS FOR DISASTER ASSESSMENT

Identifying factor	*Background data (to be updated regularly)*	*Initial rapid assessment*	*Detailed assessment*	*Surveillance*
1. Climate temperature/water pests	Rainfall variations; temperature variations; flood-drought cycles; crop-livestock diseases; history of past disasters.	Extent of damage by floods, pests, earthquakes; river level; pest identification.	Estimate of water resources/estimate of crops, pests; livestock diseases; pasture availability.	Water level/table at selected sites; number of wells repaired; number of new wells; effects of pest control measures.
2. Land tenure systems	Ownership and rental pattern		Land use; indebtedness, eviction; land sales.	Land sales, price, interest rates.
3. Labour, employment, wages, migrations	Wage pattern for different types of work; employment patterns; normal migrations.	Spot check on migrations; wage patterns, unemployment.	Unemployment; recent migration patterns.	Migration; wage rates; employment.
4. Crop pattern and inputs, crop production	Acreage by crops and yield; agricultural seasons; livestock census; source/price/availability of various agricultural inputs; normal import or export levels.	Rough estimate of crop losses; livestock losses; inputs available in stock.	Estimate of losses: crops livestock; Livestock productivity and number; availability of inputs; harvested output, price differential of grain to cattle.	Crop propects, inputs available; any ongoing losses.
5. Transport facilities for movement of produce and commodities	Types, density, routes, alternatives, total tonnage moved outward/inward.	Description of transport system; estimates of condition/availability.	Details of disruption; scope for alternatives, including traditional systems.	Selected transport monitoring.
6. Wholesale markets	Normal prices; volumes sold; seasonal variations.	Estimate of stocks and storage areas.	Price, volume, sales; black market; storage facilities.	
7. Retail markets	Price and availability.	Stocks of staples; prices.	Price (cost of adequate quantity of staple); cost of adequate diet both expressed as ratio of minimum-wage rate or as ratio of informal-sector incomes.	Sample retail prices; black market prices; buying surges/hoarding.
8. Family food stocks	Amounts commonly stored at homes; season, area, and socioeconomic group.	Estimate of gross home losses; home storage facilities.	Home stocks, in a few selected areas.	Periodic inspection in randomly-selected homes.
9. Family food habits	Common customs/habits; breast-feeding practices.		Qualitative and quantitative changes.	Spot checks on consumption pattern; if possible, consumption survey on sample at semi-annual intervals.
10. Nutrition status: young/old	On small samples: wt/age; wt/height; arm circumference/height.	Inspection of vulnerable groups for wasting; if possible, anthropometry on small samples.	Sample surveys for anthorpometric measurements; œdema rate.	Monthly weight of children receiving food, also in sample of others; in general population, once every six months.
11. Hygiene and sanitation	Normal practices.	Estimate of damage to systems.	Estimate of need for facilities; availability of water, fitness for use.	To monitor use; safety testing; maintenance condition.
12. Mortality/morbidity	Infant mortality, 1-4 year mortality; disease pattern; historical epidemics.	Gross estimates of lives lost, and of wounded/sick.	Estimate of sickness, types; immunization status; age, specific illness, and death—by survey; reports from hospitals.	Deaths by age/cause; reported illness; epidemics; vaccine/drug use.
13. Pattern of medical care	Existing facilities; personnel; patient load; supply stocks; replenishment; use of traditional systems, all as reported.	Functioning health units, including personnel and supplies.	Detailed work-load; supply and manpower requirements.	Utilization pattern.

Source: "A Guide to Food and Health Relief Operations for Disasters", published by United Nations, New York, 1977.

Annex III.A
CALCULATION OF FOOD REQUIREMENTS

Average daily ration (g)	*Feeding days*	*Total intake (g) in period per beneficiary*	*Total intake (kg) in period per beneficiary*	*Average beneficiaries[a] per metric ton*						
				10 metric tons	*30 metric tons*	*50 metric tons*	*100 metric tons*	*200 metric tons*	*500 metric tons*	*1,000 metric tons*
10	90	900	0.9	11 111	33 333	55 555	111 111	222 222	555 555	1 111 111
10	120	1 200	1.2	8 333	25 000	41 666	83 333	166 666	416 666	833 333
10	180	1 800	1.8	5 555	16 666	27 777	55 555	111 111	277 777	555 555
10	360	3 600	3.6	2 777	8 333	13 888	27 777	55 555	138 888	277 777
20	90	1 800	1.8	5 555	16 666	27 777	55 555	111 111	277 777	555 555
20	120	2 400	2.4	4 166	12 500	20 833	41 666	83 333	208 333	416 666
20	180	3 600	3.6	2 777	8 333	13 888	27 777	55 555	138 888	277 777
20	360	7 200	7.2	1 388	4 166	6 944	13 888	27 777	69 444	138 888
30	90	2 700	2.7	3 703	11 111	18 518	37 037	74 074	185 185	370 370
30	120	3 600	3.6	2 777	8 333	13 888	27 777	55 555	138 888	277 777
30	180	5 400	5.4	1 851	5 555	9 259	18 518	37 037	92 592	185 185
30	360	10 800	10.8	925	2 777	4 629	9 259	18 518	46 296	92 592
40	90	3 600	3.6	2 777	8 333	13 888	27 777	55 555	138 888	277 777
40	120	4 800	4.8	2 083	6 250	10 416	20 833	41 666	104 166	208 333
40	180	7 200	7.2	1 388	4 166	6 944	13 888	27 777	69 444	138 888
40	360	14 400	14.4	694	2 083	3 472	6 944	13 888	34 722	69 444
50	90	4 500	4.5	2 222	6 666	11 111	22 222	44 444	111 111	222 222
50	120	6 000	6.0	1 666	5 000	8 333	16 666	33 333	83 333	166 666
50	180	9 000	9.0	1 111	3 333	5 555	11 111	22 222	55 555	111 111
50	360	18 000	18.0	555	1 666	2 777	5 555	11 111	27 777	55 555
60	90	5 400	5.4	1 851	5 555	9 259	18 518	37 037	92 592	185 185
60	120	7 200	7.2	1 388	4 166	7 142	13 888	27 777	69 444	138 888
60	180	10 800	10.8	925	2 777	4 629	9 259	18 518	46 296	92 592
60	360	21 600	21.6	462	1 388	2 314	4 629	9 259	23 148	46 296
80	90	7 200	7.2	1 388	4 166	6 944	13 888	27 777	69 444	138 888
80	120	9 600	9.6	1 041	3 125	5 208	10 416	20 833	52 083	104 166
80	180	14 400	14.4	694	1 083	3 472	6 944	13 888	34 722	69 444
80	360	28 000	28.0	347	1 041	1 736	3 472	6 944	17 361	34 722
100	90	9 000	9.0	1 111	3 333	5 555	11 111	22 222	55 555	111 111
100	120	12 000	12.0	833	2 500	4 166	8 333	16 666	41 666	83 333
100	180	18 000	18.0	555	1 666	2 777	5 555	11 111	27 777	55 555
100	360	36 000	36.0	277	833	1 388	2 777	5 555	13 888	27 777
125	90	11 250	11.25	888	2 666	4 444	8 888	17 777	44 444	88 888
125	120	15 000	15.0	666	2 000	3 333	6 666	13 333	33 333	66 666
125	180	22 500	22.5	444	1 333	2 222	4 444	8 888	22 222	44 444
125	360	45 000	45.0	222	666	1 111	2 222	4 444	11 111	22 222
150	90	13 500	13.5	740	2 222	3 703	7 407	14 814	37 037	74 074
150	120	18 000	18.0	555	1 666	2 777	5 555	11 111	27 777	55 555
150	180	27 000	27.0	370	1 111	1 851	3 703	7 407	18 518	37 037
150	360	54 000	54.0	185	555	925	1 851	3 703	9 259	18 518

For convenience, final figures may be rounded upward or downward within the nearest 5 per cent.

NOTES: To determine the metric tonnage of food required for a specific number of intended beneficiaries:

(i) Find the appropriate combination of daily ration and feeding days (in columns 1 and 2);

(ii) Multiply beneficiaries by total intake in kg (column 4 on same line);

(iii) Divide by 1000, then round within nearest 5%

[a] From book F, Chapter 1, "Emergency Situations," UNICEF Field Manual, vol. I, December 1975.

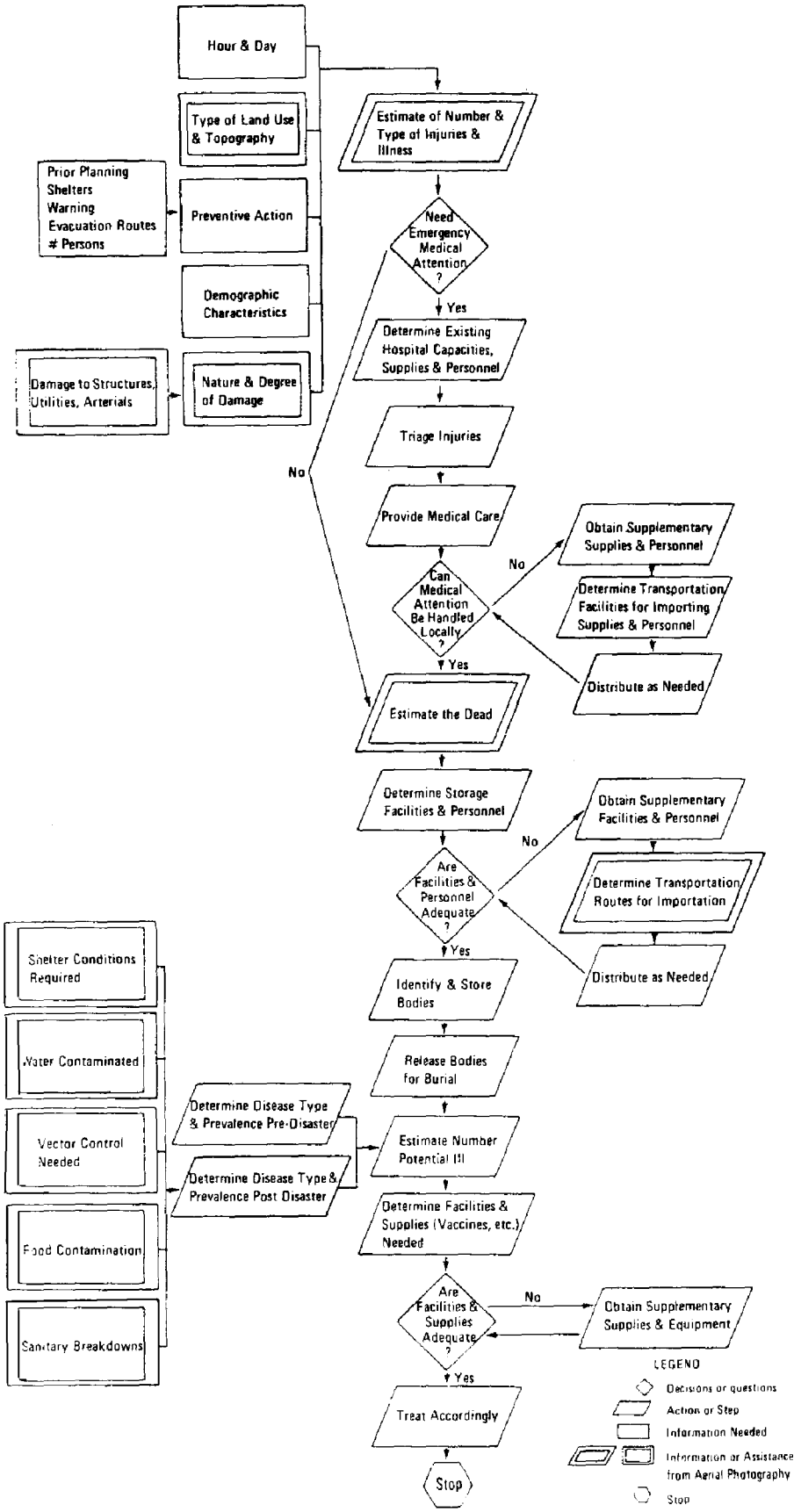
Annex III.B

INFORMATION TO BE INCLUDED IN A REQUEST FOR EMERGENCY ASSISTANCE WITH FOOD SUPPLIES

1. Date and nature of emergency (e.g., due to natural disaster, movements of refugees, malnutrition, etc.).
2. Area affected (give geographic names, limits, surface in square kilometers).
3. Number of people normally living in the area.
4. Number of people affected by the emergency.
5. Number of children, by age, i.e., 0-1, 1-6, 6-15 years.
6. Extent to which the emergency affects the nutritional situation of the population, e.g., slight incidence of malnutrition, serious nutritional deficiencies, isolated cases of starvation, widespread famine, etc. If possible, indicate numbers.
7. Estimated duration of the emergency (date).
8. Estimated deficit in food and feed supplies.
9. Measures which have already been taken or are being taken by the local authorities to meet the emergency need by using their own available resources.
10. Amounts requested or expected from other international or bilateral aid (give list, indicating name of organization or country and kinds and quantities of each commodity).
11. Whether borrowing food/feed commodities locally is possible until the arrival of the requested commodities (if so, specify the sources from which the commodities can be borrowed).
12. Expected date of arrival of supplies mentioned above.
13. Port of entry and/or frontier station for landlocked countries.
14. Existing storage facilities, their capacity in metric tons and their location.
15. Transport facilities from port or ports of entry or from frontier stations where applicable, indicating number of trucks, rail freight cars, and their capacity.
16. Information concerning the availability and capacity of distribution agencies which will carry out emergency relief operations.

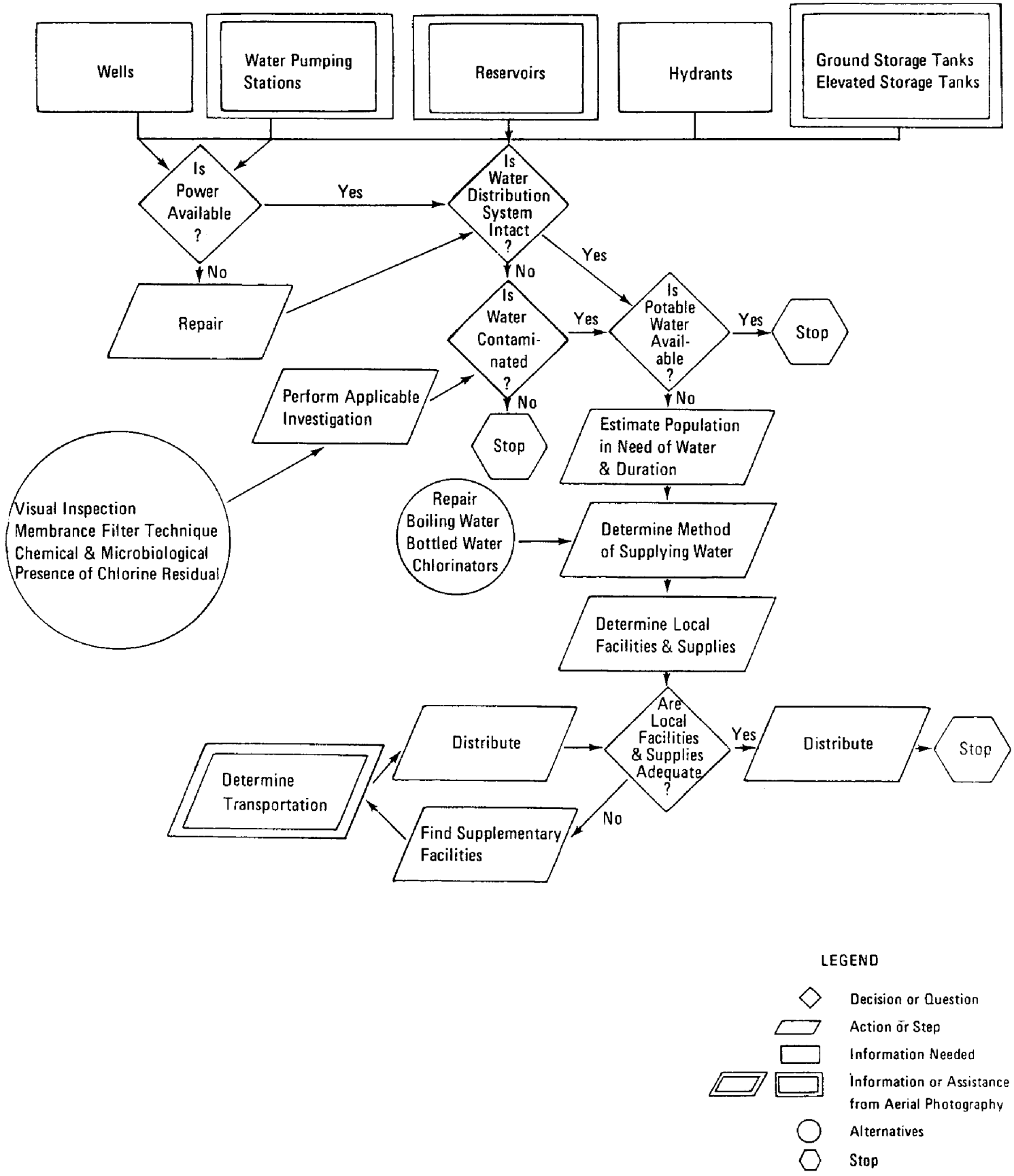
Annex IV.A

MEDICAL SERVICES

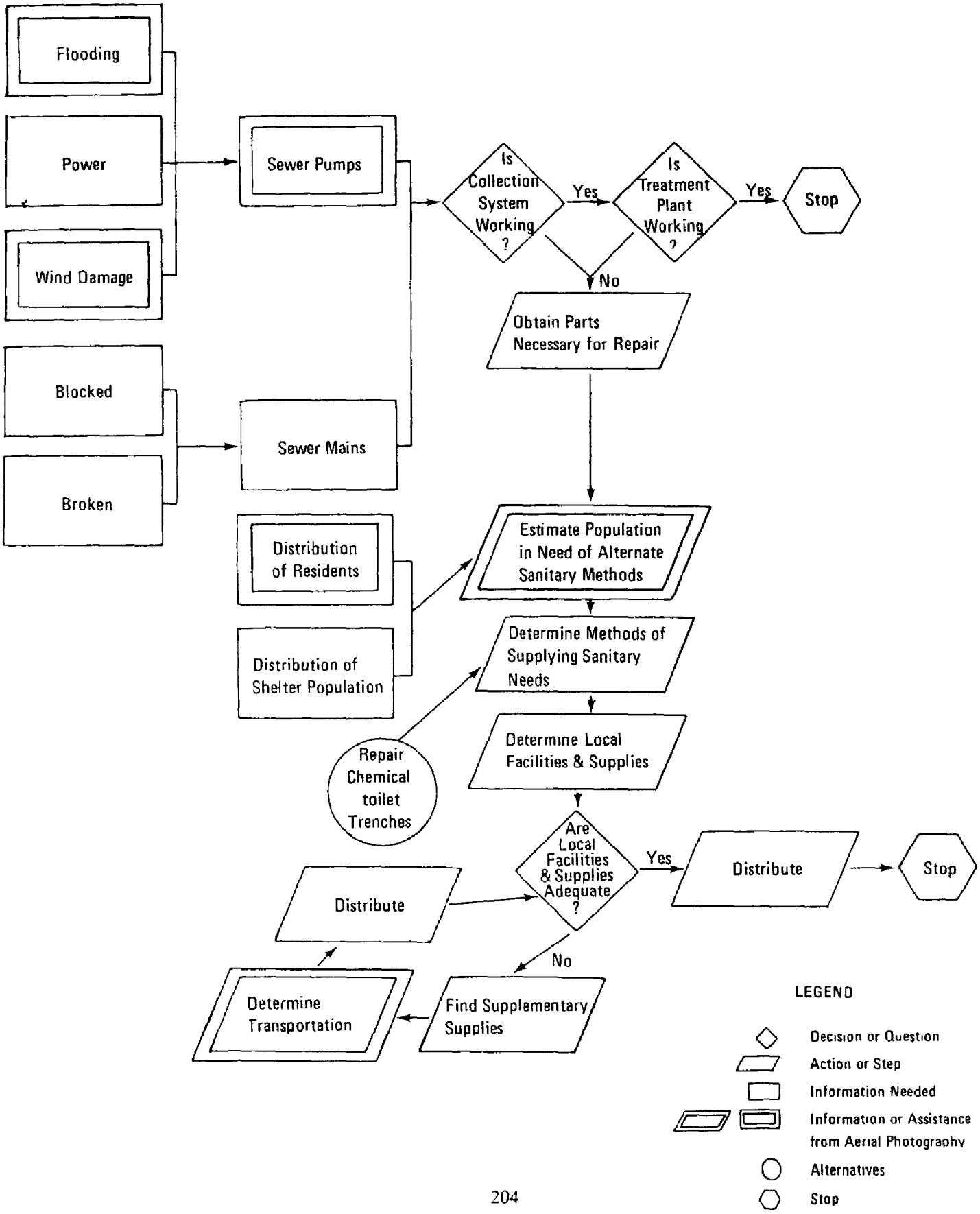


Annex IV.B

WATER

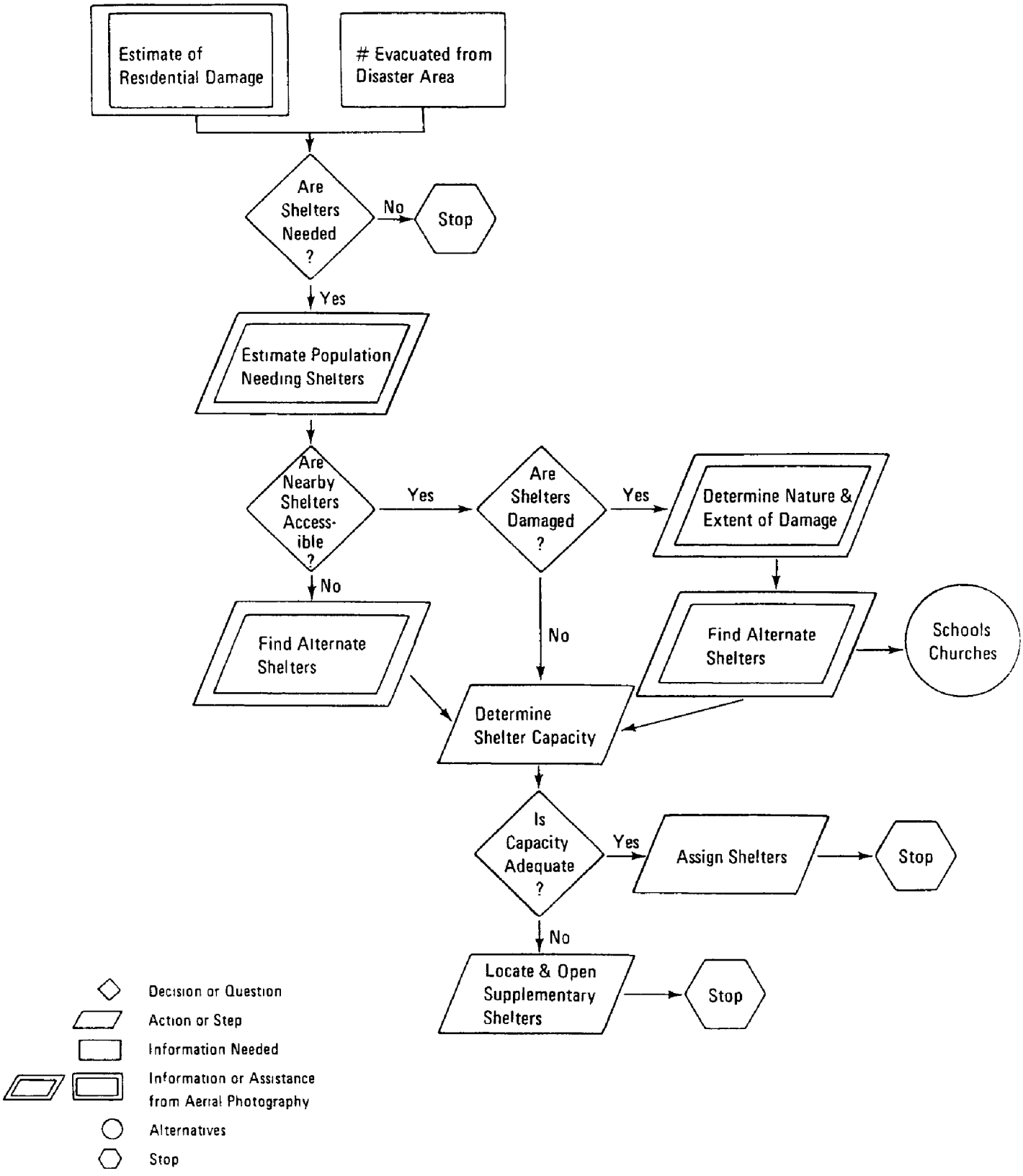


LIQUID WASTE DISPOSAL



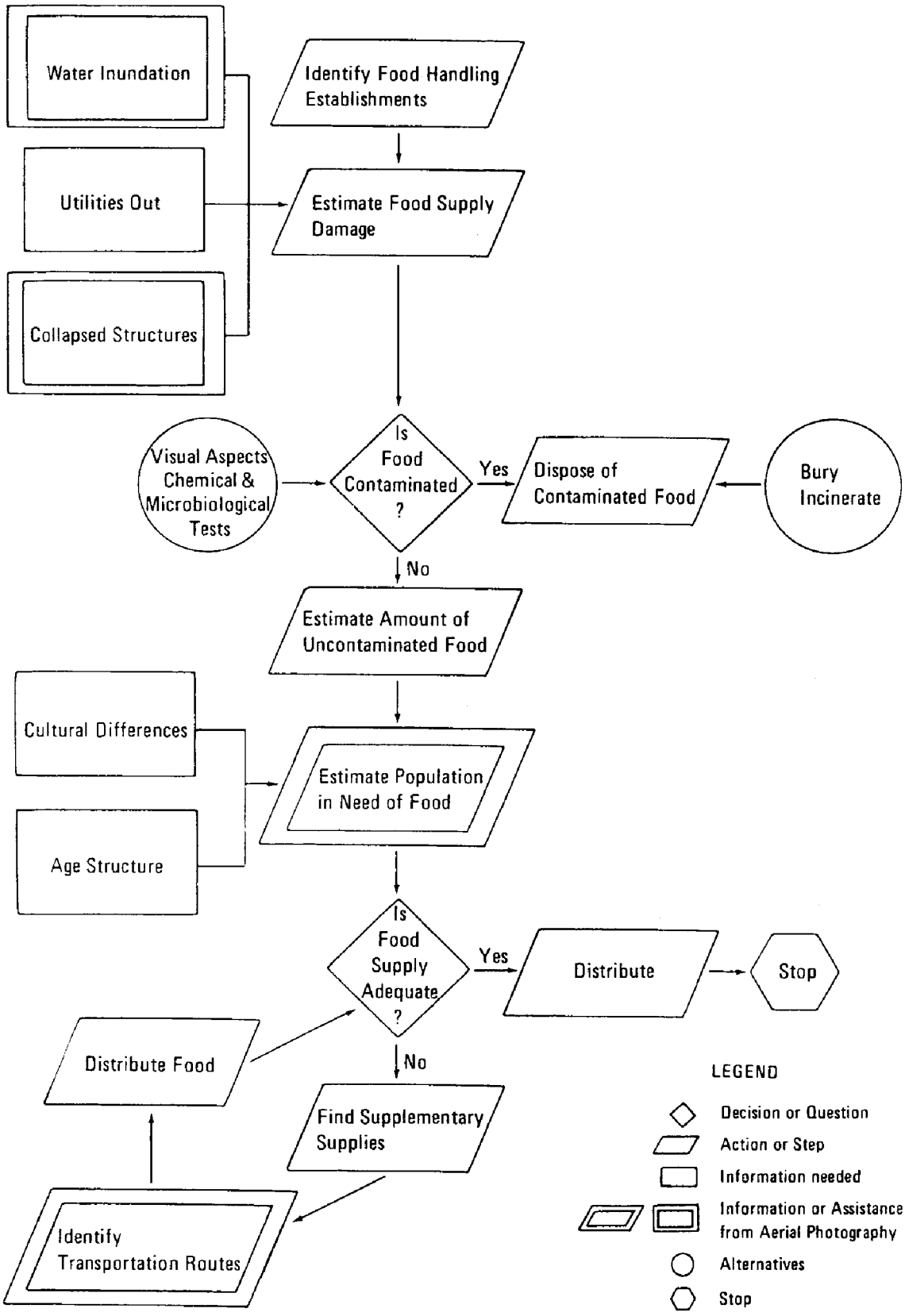
Annex IV.D

SHELTER



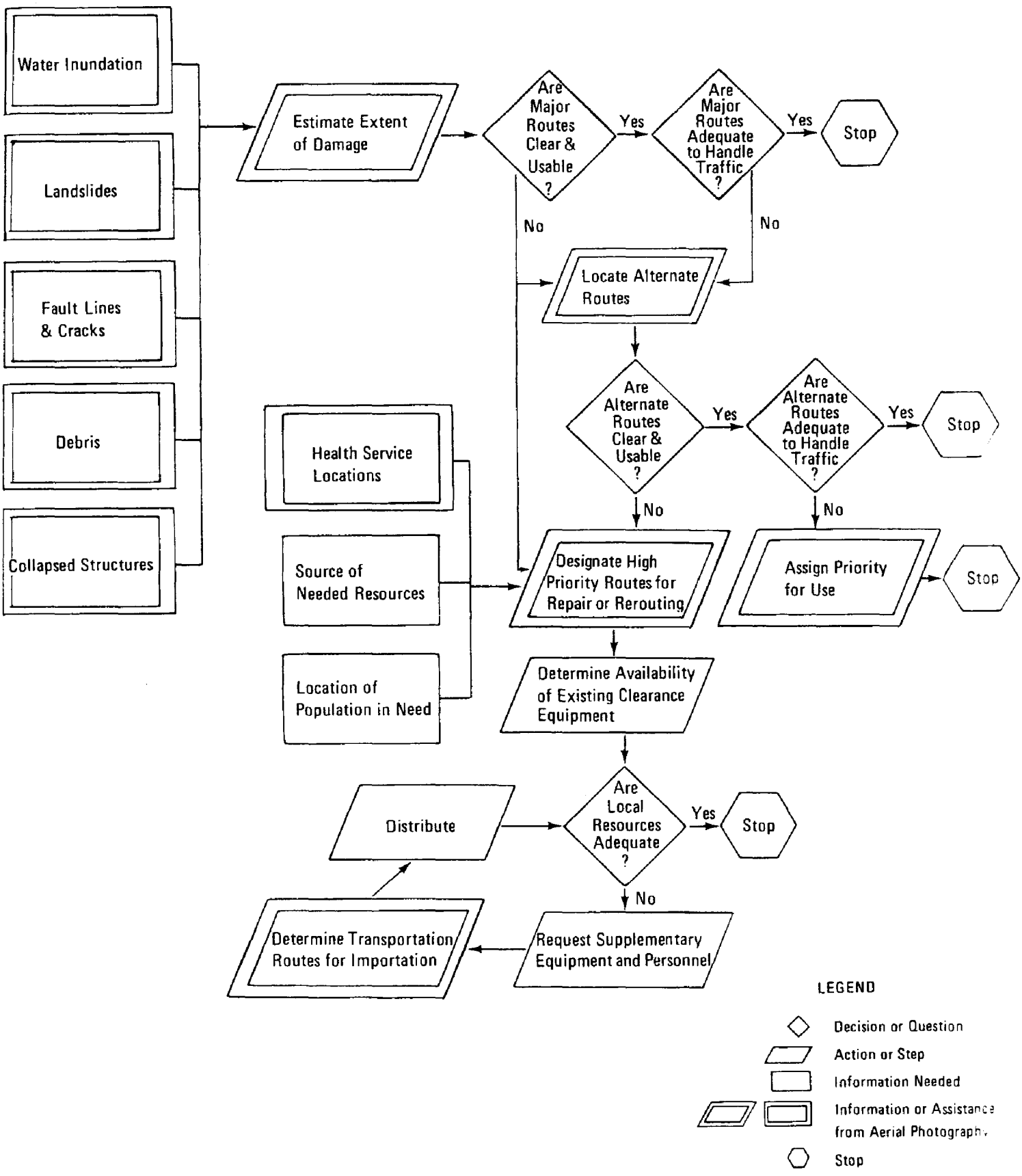
Annex IV.E

FOOD



Annex IV.F

TRANSPORT



AUSTRALIAN COUNTER DISASTER COLLEGE

DISASTER SERVICES ADMINISTRATION CERTIFICATE

INFORMATION PAPER

The aim of the Disaster Services Administration Certificate is to provide a specialist qualification for officers of counter-disaster organisations.

2. This Information Paper sets out the requirements and procedures for the award of the Disaster Services Administration Certificate.

REQUIREMENTS FOR AWARD OF THE CERTIFICATE

3. To qualify for the award of the Disaster Services Administration Certificate, an officer must have:

a. satisfactorily completed the following courses at the Australian Counter Disaster College (preferably in the order stated, but not necessarily concurrently):

(1) Disaster Planning - Counter-Disaster Executives, and

(2) Disaster Control;

b. completed six months' practical experience in a relevant organisation, and

c. passed an examination to be set by the Australian Counter Disaster College.

4. On successful completion of the above requirements, officers will be awarded a Disaster Services Administration Certificate from the Australian Counter Disaster College.

PROCEDURES FOR AWARD OF THE CERTIFICATE

Application

5. An officer may apply at any time to sit for the examination requirement for the award of the Disaster Services Administration Certificate, although it is preferable that he should have completed at least the course attendance requirement at the Australian Counter Disaster College before doing so.

6. An officer who believes he has satisfied all the requirements for the award of the Certificate (as listed in Paragraph 3 above) may apply for this award.

.../2.

7. All applications are to be made in writing, quoting all relevant information, to the Director, Australian Counter Disaster College, Macedon, Victoria, 3440, with an information copy of their application to the Headquarters of their State/Territory Emergency Services(s). (See also para 10. below). Applications are to be headed:

a. DSAC - APPLICATION FOR EXAMINATION, or

b. DSAC - APPLICATION FOR AWARD OF CERTIFICATE.

Examination

8. Details of the examination requirement for award of the Certificate are at Annex A. Two examinations will be conducted each year for candidates in all States and Territories, commencing at 2000 hours (local time) on the first Thursday in April and October. Applications to sit for this examination should be lodged prior to the second Thursday in February and August for the April and October examinations respectively. The examination papers will be returned to the Australian Counter Disaster College for assessment.

Verification of Qualifications

9. On application by an officer for the award of the Certificate, the following are responsible for verification of the qualifications claimed:

a. course attendance and examination requirements - Director, Australian Counter Disaster College, and

b. practical experience requirement - an officer at appropriate supervisory level, from the organisation to which the applicant belongs.

10. All applicants are responsible for stating in their applications the information claimed in relation to 9.a. above and for offering the statement of practical experience referred to in 9.b.

Annex: A. Examination Requirement.

DISASTER SERVICES ADMINISTRATION CERTIFICATE

EXAMINATION REQUIREMENT

Nature of the Examination

The examination for the Disaster Services Administration Certificate, which is set and marked by the Australian Counter Disaster College, is a two-hour, 'closed-book', essay-type examination covering the syllabus detailed below. The examination paper consists of four parts, and candidates are required to attempt one question from each part. The question in Part A is compulsory; candidates have a choice of questions in Parts B, C and D. All questions carry equal marks.

2. The examination is conducted under normal examination conditions, supervised by a nominated officer in the relevant State or Territory and undertaken at a time mutually suitable to the candidate and the supervising officer. Stationery, envelopes, etc. are to be provided by the Australian Counter Disaster College; candidates are required to provide their own pens, pencils, rulers, etc. Biro or similar pens may be used, but handwriting must be legible.

Syllabus

3. Candidates will be required to show evidence of a broad understanding of the principles of planning, training and operating to combat disasters, both natural and man-made, in the Australian setting, together with a detailed knowledge of the organisation, role and functions of their own counter-disaster organisation.

4. The detailed syllabus for the examination is as follows:

a. PART A (One compulsory question is to be set on this Part).

The nature of disaster - definitions and phases.

The pattern of disaster in Australia.

The division of responsibility between Federal, State and Local Government in planning and training to combat disasters.

The organisation, role and function of the candidate's counter-disaster organisation, especially in relation to the above.

.../2.

4. (continued)

b. PART B - PLANNING (Candidates must select ONE question from this Part).

Defining the problem.

Analysing the requirement.

Assessing resources.

Establishing co-ordination and liaison.

Designing a counter-disaster organisation.

Planning requirements and types of plans.

c. PART C - TRAINING (Candidates must select ONE question from this Part).

Establishing training policy.

Developing training capability.

Producing training programs.

Joint training programs.

Exercises.

d. PART D - OPERATIONS (Candidates must select ONE question from this Part).

Activating the counter-disaster organisation, and warning/alerting the endangered population.

Communication and information requirements and systems.

Headquarters organisation and functions.

Co-ordination and co-operation in operations.

Organising support for combat organisations.

Special aspects - welfare co-ordination, evacuation administration and supply.

De-activating the counter-disaster organisation.

References

5. No specific references are set. Candidates will be required to show evidence of general study and reading in this field, with particular reference to the following where relevant:

Natural Disasters Organisation publications.

Australian Counter Disaster College precis and notes.

State legislation, disaster plans, etc. where applicable to their own States.

Legislation, disaster plans, standing operating procedures, etc. as applicable to their own organisations.

Annex VI

NATIONAL CIVIL DEFENCE COLLEGE, NAGPUR

SYLLABUS FOR A COURSE IN DISASTER MANAGEMENT FOR CIVIL DEFENCE INSTRUCTORS

Aim To train Junior Officers of the Central/State Governments and Public Sector Undertakings, members of the Civil Defence, Home Guard and other similar statutory organizations, Voluntary Social Welfare Organization in Disaster Relief Work so as to enable them to work as Instructors/Officers in Charge of Disaster Relief Services

Duration Thirty days, 6 periods of 40 minutes each on each working day Training films, demonstrations and exercises in addition

SYLLABUS

Sr No (1)	*Subject* (2)	*Lecture (L) Demonstration (D), Practice (P)* (3)	*No of periods* (4)
	I Disaster relief measures		
1	General features of natural disasters, salient features of disaster relief and grouping of relief measures	L	1
2	Dovetailing of D R functions with the existing agencies at Central State and local level	L	1
3	Role of Home Guards and Civil Defence Volunteers in Disaster Relief operations	L	1
4	How earthquakes are caused Problems created, and the role of the local administration in relief work Earthquakes safety rules	L	3
5	How floods are caused Different causes of failures of embankments Importance of vigilance and watch. Patrolling of embankments. Problems created and role of local administration in relief work.	L	3
8	Methods of protection and emergency repairs to embankments	L/D	2
7	Planning and preparations against an impending flood Forecasting and issue of warning Planning of flood rescue measures, evacuation and communication arrangements.	L/D	2
8	Cyclones, tornadoes, hurricanes etc , how are they caused? Planning of precautionary and protective measures for the same	L/D	3
9	Landslides and avalanches, how are they caused? What precautionary and protective measures should be taken?	L/D	1
10	Special rescue problems in case of earthquakes and floods Organization to deal with the same	L/D	1
11	Warning system against an impending disaster, communication system in the disaster-affected areas, reports to be sent	L/D	2
12	Control of relief operations Duties of a relief Co-ordinator	L	1
13	Emergency Control Room Control and co-ordination of relief operations Working/management of Control Room	L/D/P	4
14	(a) Sending and receiving messages on wireless R T procedure (b) Sending and receiving messages on telephone	L/D/P D/P	6 4
	II Rescue		
15	Duties and responsibilities of a rescue party Demonstration of rescue party and equipment	L/D	2
16	Types of survey and importance of survey, precautions on entering damaged buildings Debris tunnelling and extrication of casualties from inside the debris	L/D/P	3
17	Rescue of casualties from buildings damaged by earthquakes, floods, and cyclones Five stages of rescue, debris clearance	L/D	3
18	Use of ropes in rescue work Knots and lashings etc	D/P	8
19	Use of ladders in rescue work Ladder hinge, leaning ladder method Bridging, sliding stretcher down the ladder	D/P	4
20	Derrick, sheers and gyn	D/P	3
21	Use of levers and jacks in rescue work.	D/P	2
22	Shoring—different types	D/P	4
23	Flood rescue—types of boats—parts of a boat, rowing of boats	L/D/P	10
24	Outboard motor, acquaintance with parts and its working Using outboard motors on boats	D/P	4
25	Use of life jackets and life lines	D/P	2

Sr No (1)	Subject (2)	Lecture (L), Demonstration (D), Practice (P) (3)	No of periods (4)
26	Preparation of improvised flood rescue and swimming aids	D/P	10
27	Preparation of various types of rope bridges	D/P	6
28	Crawling down a mono line Walking over a commando bridge	D/P	2
29	Sending lines across rivers/obstacles by rocket pistol	D/P	2
	III Medical and health		
30	General outline of a medical and health organization to handle disaster situations Organization of casualty services, F A posts, F.A. parties and ambulances etc	L/D	2
31	Epidemics, their spread and control Preventive medical and public health measures Process of planning and implementation	L	1
32	Enforcement of environmental sanitation during a disaster and in evacuee camps	L	1
33	Emergency purification of water, disinfection of wells, conduct of Horrocks test	L	1
34	Emergency preservation of food in a camp	L	1
35	Emergency disposal of waste garbage, night soil etc Deep, shallow trench and bore hole latrines, soakage pit, incinerator etc	L/D/P	1
36	Corpse disposal organization Its necessity, equipment, manpower and procedure for disposal of dead.	L/D	2
	IV First aid		
37	Human body—nine basic systems	L/D	2
38	Circulatory system Bleeding and its control	L/D/P	2
39	Shock, signs and symptoms Tension, anxiety, panic and depression.	L	1
40	Respiratory system—artificial respiration	L/D/P	2
41	Unconsciousness, causes, F A treatment Heat exhaustion	L/D	1
42	Burns and their F A treatment	L/D	1
43	Fractures—types and treatment Methods of splinting	L/D	2
44	Wounds and their F A treatment	L/D	2
45	Use and practice with triangular and roller bandages	L/D/P	4
46	Poisons and their F A treatment	L	1
47	Snake bite and its F A treatment	L	1
48	Bite by rabid animals and its F A treatment	L	1
49	Transportation of casualties, blanketing of casualties, stretcher drill, crossing hurdles and loading and unloading of casualties in an ambulance	D/P	5
	V Welfare		
50	General outline of the welfare services Various problems and the organization to deal with the same	L	1
51	Control of evacuation Chain of evacuation Planning of assembly points, reception points, traffic arrangements etc	L	1
52	Evacuation exercise	L	2
53	General outline of emergency feeding services, meal centres, mobile canteens, organization and staff requirements	L	1
54	Types of camps—reception, dispersal and settlement Administration of a settlement camp		
55	Psychological first aid Panic, its causes and prevention Self-control and self-preservation in a disaster	L/Discussion	2
56	Leadership—need for leadership, attributes of leadership, qualities, selection and training of leaders Duties of a leader and leadership in action foresight, planning and execution Leadership at place of damage and leadership in welfare work	L	1

Sr No (1)	*Subject* (2)	*Lecture (L), Demonstration (D) Practice (P)* (3)	*No of periods* (4)
	VI General		
57	Disaster management preparedness (syndicate assignment) (i) Planning of the physical infrastructure to handle a disaster (ii) Organizational structure—disaster management. (iii) Role of social welfare/economic institutions in disaster management (iv) Planning of training/research for disaster preparedness at primary and secondary level.	Syndicate papers to be prepared and discussed/presented on the last day	6
58	Combined outdoor exercise or flood rescue operation with improvised rafts.		6
59	Rowing competition.		4
60	F A competition		4
61	Exams , opening, closing addresses, lecturettes etc		17
		TOTAL	180

Annex VII

PREDICTION OF THE HAICHENG EARTHQUAKE AND PREPAREDNESS FOR THE DISASTER[a]

On 4 February 1975, an earthquake of magnitude 7 3 occurred in Haicheng region, Liaoning Province. It was the largest on historic record in this area since 294 A D The epicentre was located in Chagou Commune, Haicheng County (40° 39' N , 122° 48' E), and the intensity of meizoseismal area was over nine degrees

Because it took place in an area which was intensely cultivated, industrialised and densely populated, this earthquake caused damage to six cities, ten county towns and many villages in the Province. A floor space of about 22,000,000 square metres was destroyed in urban and rural areas About 2,000 bridges, big and small, were damaged and nearly 184 sq.km. of farmland were covered by sand which spouted out of the ground in the earthquake Much industrial equipment and machinery, as well as means of production, was damaged by collapse of factory buildings. Although severe damage occurred to structures and equipment, loss of life was greatly reduced in the earthquake thanks to the timely prediction made by the Seismological Departments and the precautionary measures taken. 1,328 persons died in the earthquake, representing 1.6 in 10,000 in the earthquake area

In a Province like Liaoning with so large a population and so concentrated an industry, the precautionary measures adopted must be *either* suitable for minimizing casualties in case of an earthquake *or* adequate for reducing the disruption to the life of the local inhabitants and avoiding heavy economic losses if the predicted earthquake does not occur To achieve this requires not only a proper precautionary method adapted to local conditions, but also a powerful authority and a well-knit organization In the Haicheng earthquake the Government at different levels directly led and organized the prevention work so that all kinds of measures could be implemented rapidly and efficiently

The precautionary measures taken included.

(a) *Establishment of organizations in preparation for the disaster*

After the medium-term prediction had been made, organizational structures were set up one after another in cities and countryside in Liaoning Province in order to further strengthen observations and precautions for the coming earthquake As the time predicted for its occurrence came nearer, some large factories, mines and communes in the area also set up their own organizations Even in brigades, people were specially nominated to be on duty day and night, in order to pass relevant messages without delay. By the time of the event, there were about 1,100 different organizations.

They all disseminated knowledge about an earthquake among the people, and educated them, and at the same time mobilized and organized them to make observations and to work out plans for precautionary measures according to local conditions For example, special teams organized by the Earthquake Prediction Headquarters of Yingkou came from many departments in Yingkou City, including the power industry, post and telecommunications, the traffic and transport agency, supply units, the public security agency, hospitals and others. They had stored materials like food, medicine, matches, candles, etc., and gathered some trucks and automobiles in preparation for the disaster They also carried out manœuvres and training practice before the main shock In the Dingjiagou Brigade, Haicheng County, a protection group was set up to communicate knowledge about an earthquake to everyone On 3 February, the residents were organized to build, 10 metres away from their old buildings, emergency shelters against an earthquake They examined the households of the old, the weak, the sick and the disabled and moved them to safe places. As a result of this work, none of the 878 villagers died in the earthquake The responsible departments had set up protection structures and put the preparatory plans into effect, so a better foundation was laid for the work of substantial protection from the event

(b) *Wide propagation of earthquake knowledge*

Organized by the Seismological Departments at different levels, a mass educational and propaganda programme was developed in all parts of Liaoning Province six months before the main shock Channels for doing this work were many, books, pictures, slides, broadcasting, local newspapers and meetings being used During that period, 1,290,000 books and pictures about earthquakes were distributed, films and slides were shown about 5,900 times; 4,374 broadcast lectures were given, and 2,077 training courses of various kinds were run Adding elements of knowledge about earthquake science to the publicity enabled people to increase their vigilance against an earthquake and become much less frightened, although some people at the beginning did show signs of panic about the coming disaster Most, however, took the initiative in the observations and found a great number of anomalies As the people had some basic knowledge about the subject, they better understood the guidance they received and actively raised their ability to protect themselves In a word, they played an important role in the observation and prediction of the Haicheng earthquake

(c) *Laying down precautionary measures according to local conditions*

From December 1974 onwards, earthquake offices at various levels, authorized by the Provincial Government, organized people in urban and rural areas to work out their own measures in accordance with local conditions To assess progress and encourage further effort, the Provincial authorities called a meeting attended by the leading cadres from five cities and the large enterprises (railway, water conservancy, electric power, iron and steel, coal, building, and oilfield systems) to make specific plans and further research

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[a] Abridged and edited version of a paper prepared by the Seismological Bureau of Liaoning Province, China, for the UNDRO/UNESCO Seminar On Earthquake Prediction Case Histories, which was held in Geneva in October 1982

Given the early stage of the prediction, production had to continue hand in hand with preparations. Thus each department took their own effective measures. For example a "safety island" was set up in industrial enterprises like those of water supply and power supply Safety tunnels were selected in some mines and reinforced against possible collapse. Emergency signalling was installed on the railway. Escape routes and evacuation routines were determined in the areas with more residents. Moreover, the places where secondary disasters could be expected to occur were examined thoroughly. The production of some dangerous products which would easily burn or explode had to be specially controlled, and these products were allowed to be stored in only limited quantities All the buildings in the cities had to be examined and a decision made as to whether they were earthquake-proof (This work, however, was not completed when the earthquake occurred.) Buildings were divided into several categories and areas to be evacuated were determined. For the more important industrial facilities, emergency measures had to be taken on a basis of checking and judgement. For example, some small cracks were found on the cemented bank of a reservoir located near the epicentre, and which contained several hundred million tons of water. These cracks were filled immediately with epoxide resin. An emergency rescue team was also set up in case of danger.

In the countryside, some temporary shelters were erected, and barns were also used, but people could not live in these emergency houses for long because of the cold weather in winter Therefore, after the short-term prediction, people moved to some solid and well-constructed housing each night. But at the imminent stage, most people left their houses and stayed in the shelters until the occurrence of the earthquake Those few people who disbelieved the predictions and refused to leave their homes were injured or killed when the earthquake occurred

In general, these measures were just suitable for the specific conditions in the southern part of Liaoning Province Although the short-term prediction lasted about one month, not much disturbance was caused to production and the life of the people In the imminent stage, even as big an enterprise as the Anshan Iron and Steel Company did not stop production until the evening before the event. A train running between Dalian and Shenyang continued until the "earthquake lights"[b] were seen by the driver There were however some problems. For instance, in January 1975 a few regions ventured to make a prediction by relying on only a modicum of information so that some difficulties were found. In the countryside, temporary houses were not in good fire- and frost- proof condition at the beginning, and some people died or were injured by fire. Clearly, however, these problems could be solved in future protection against earthquakes.

[b] A natural phenomenon similar to a discharge of static electricity

EMERGENCY ASSISTANCE FOR REHABILITATION OF AGRICULTURE/LIVESTOCK PRODUCTION

Information to be included in a request for International Assistance Through FAO

1. Date of event leading to emergency.

2. Nature of emergency (drought, flooding, earthquake, volcanic eruptions, pests, diseases, civil disturbances, etc.).

3. Immediate and expected long-term effects on country's agriculture, forestry or fisheries situation (extent to which agricultural production has suffered or is likely to suffer, number of farmers, producers, animals affected)

4. Estimated consequences of diminished agricultural, forestry or fisheries production capacity for (a) food supply situation and (b) country's economic prospects, in relation to production targets, forecasts, national development plans, etc.

5. Kinds and quantities of aid required to assist in recovery of agricultural productivity or to control or limit effects of emergency on food production capacity, pending full assistance from other sources or government's arrangements to control situation and/or prevent recurrence (agricultural production inputs, veterinary and feed supplies; crop protection chemicals; pest control campaigns; small tools and specialized equipment for crop production and protection; repair or replacement of small structures; prefabricated premises; transport and storage facilities; breeding animals for livestock rehabilitation; consultant services, training, etc.)

   Enumerate as follows:

   a) total estimated requirements

   b) uncovered requirements, subject to availability with clear definition of immediate objective of assistance requested (name acceptable substitites whenever possible; give required dates of delivery and period during which the emergency project will operate).

   c) requested and/or expected assistance from other international or bilateral sources (give list, indicating name of organization or country, quantities of each type of aid expected or requested, dates of arrival).

6. Measures undertaken, or proposed, by government, local authorities, etc. to meet agricultural emergency aid requirements, as specified under 5 a) above, out of nationally available resources, with particular reference to adequate and clearly defined follow-up arrangements for the aid requested under 5 b) above.

7. Procurement facilities - locally or in neighbouring countries - for supplies or equipment requested (indicate prices, dates of delivery and, where possible, provide at least three pro forma invoices from appropriate firms, ensuring that no commitments with these firms are entered into or implied).

8. Port of entry -(or frontier station, for land-locked countries) for supplies from outside the country.

9. Existing sources, if any, for borrowing supplies locally pending arrival of shipments.

10. Existing facilities, if required, for obtaining (a) temporary consultant or expert services from local or neighbouring projects, and (b) storage space, prior to utilization, for aid (specify under (a) the project name and consultant/expert, and under (b) the capacity in metric tons and the location).