CHAPTER FOUR

THE DEVELOPMENT OF COOPERATIVE INTER-ORGANISATIONAL RELATIONSHIPS AMONG EMERGENCY SERVICE ORGANISATIONS IN AUSTRALIA

- A CASE STUDY OF NEW SOUTH WALES AND QUEENSLAND -

Chapter One examines the nature of disaster;

Chapter Two reviews Australia's existing counter-disaster organisational structure and associated management arrangements;

Chapter Three searches for intelligent effective and efficient organisational structures, system designs, and associated management arrangements with a view to designing, developing, and implementing an IDMS;

Chapter Four assesses inter-organisational relationships among selected emergency service related personnel in New South Wales and Queensland with a view to designing, developing, and implementing an IDMS;

Chapter Five investigates political and bureaucratic impediments with a view to designing, developing, and implementing an IDMS;

Chapter Six investigates economic impediments with a view to designing, developing, and implementing an IDMS; and

Chapter Seven is the outline of an IDMS and conclusion to the research project.

INTRODUCTION

The first three Chapters of this thesis have underlined the need for the development of cooperative inter-organisational relationships among emergency service organisations, and that these relationships are critical for coordination and effective disaster management practice. This is the Holy-grail of disaster management. The thesis has so far recognised that there are major stumbling blocks to be overcome before cooperative inter-organisational relationships and coordination can be achieved between disaster-relevant organisations. Specifically, these problems are inherent in the socio-political-economic-organisational environment (discussed in Chapter Two) in which the disaster management system must operate.

Furthermore, *a priori* reasoning suggests the most tractable of these problems are inter-organisational relationships, cooperation, coordination, and leadership. Solutions to these problems are possible with the design and development of intelligent organisational structures

and management arrangements (discussed in Chapter Three). In order to test the proposition: **that the development of cooperative inter-organisational relationships among emergency service organisations is critical for effective disaster management practice,** a questionnaire was conducted to investigate and develop some understanding of inter-organisational coordination in two Australian States. The questionnaire focussed on official State disaster relevant response organisations; examined their understanding of inter-organisational cooperation and coordination problems; examined the various attempts at inter-organisational coordination; and their outcomes from two contrasting bureaucratic systems.

The reader will gain some appreciation of the practical difficulties of establishing inter-organisational coordination across emergency service organisations. Poor coordination is an impediment in the development of an Intelligent Disaster Management System (IDMS). Inter-organisational coordination is a key concern in the development of the author's preferred model of an IDMS.

A diagram showing the structure of discussion in Chapter Four is detailed below.

ORGANISATION OF CHAPTER FOUR

Questionnaire Results
Respondent Details
Counter-Disaster Training
Commonwealth Counter-Disaster Management Concepts
Working Relationships
Organisational Capacity
Financial Arrangements
Inter Organisational Liaison Personnel
Organisational Restructuring
Amalgamation of Services

The Introductory Chapter outlined the questionnaire methodology: the selection of States and organisations for surveying; the questionnaire design; administering of the questionnaire; piloting of the questionnaire; and the surveying time frame and questionnaire response. This Chapter specifically concerns itself with questionnaire results and implications. Where possible, key points made by Regional and District Officers have been clarified through informal phone interviews with senior management.

QUESTIONNAIRE RESULTS

Respondent Details

In New South Wales, 10 from 71 questionnaire forms were returned, and in Queensland, 23 from 89 questionnaire forms were returned. This represents a overall return rate of 21%. In both States the principal responding organisation was the State Emergency Service. Possible reasons for the poor return of questionnaires were highlighted in the Introductory Chapter. Clearly, the poor and disappointing return of questionnaires affects the level of possible analysis. It is for this reason that no use of inferential statistics has been made. When questioned on the disappointing return of questionnaires, senior management had the following to say:

"I would prefer not to comment on this matter (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"I wish I could say that I am surprised. But I am not. We have, and are continuing to counter a fair bit of resistance within the system towards organisational restructuring. Why you ask? Well, it represents change and in many peoples eyes, it is seen as unnecessary, and therefore provocative. I can only suggest that the personnel you surveyed were probably more on their guard than normal and thus very suspicious and cautious of anything that appeared to be an investigation of their organisation, or appeared to originate from Head Office or Government. Unfortunately, your research I think probably falls into this category (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"I don't think your questionnaire methodology, that is a mailed questionnaire was inappropriate. I would like to think I could be wrong, but I am not sure that personal interviewing would have yielded any better result for you. You have to remember you were seeking information, on what I think, is a very sensitive issue, that is inter-organisational relationships. I would be most surprised if personnel did not feel threatened. This would explain their cautious or tentative replies. Why you ask? Well, that is a loaded question and relates to the 'nature of the beast'. I mean by this, the culture of emergency service organisations (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"Surveying inter-organisational relationships was a mistake. I question your motive behind probing such sentiments? I doubt that any results you collected could possibly assist the development of inter-agency cooperation or coordination. In this regard, I question what is wrong with existing inter-agency cooperation or coordination? From my point of view, I see nothing wrong. I am sorry, but the poor response to your questionnaire seems justified (pers. comm., Anon.1., NSW Police Service, September 1995)."

An examination of highest qualifications attained by respondents revealed that a higher percentage of respondents in Queensland had completed a degree or post-graduate qualification. Nevertheless, it is important to recognise that for both States, a significant

percentage of respondents had undertaken some level of University and/or Technical and Further Education (TAFE) study. More Queensland respondents had completed 'in-house' emergency management training courses (Table 4.1). A higher percentage of respondents in New South Wales had completed emergency management training courses through the Australian Emergency Management Institute. In Queensland, the trend is one of greater 'in-house' training. Areas of chosen specialisation varied across degrees in accordance with the range of organisations surveyed. In addition, 35% of respondents from New South Wales, and 25% of respondents from Queensland cited previous military service experience.

Table 4.1
Qualifications Attained

Qualification	% NSW	% QLD	N=
None	0	9	2
Certificate/Diploma	20	13	5
Degree	10	26	7
Post-Graduate	10	13	4
In-House	20	26	7
AEMI	30	13	6
Other	10	0	2
Total	100	100	

Forty percent of respondents in New South Wales and Queensland had more than 15 years experience in the field of counter-disaster management (Table 4.2). Twenty-two percent of respondents in Queensland, had less than 12 months experience. Interestingly, no respondents from New South Wales indicated such a low level of experience. In fact, of the New South Wales respondents, the lowest level of experience was 6-10 years. This situation places into question the process of organisation renewal, particularly in terms of on-going recruitment practices.

Table 4.2

Experience in the Field of Counter-Disaster Management

Experience	% NSW	% QLD	N=
< than 12 months	0	22	5
1-3 years	0	9	2
3-6 years	0	0	0
6-10 years	30	17	7
10-15 years	30	13	6
> than 15 years	40	39	13
Total	100	100	

Noting the quantitative and qualitative differences separating accidents, emergencies, and disasters, 20% of respondents in New South Wales, and 39% of respondents in Queensland indicated that they had never participated in a 'disaster' event before (Table 4.3). Contrastingly, 40% of respondents in New South Wales, and 17% of respondents in Queensland had actively participated in more than four disaster events as a combat organisation. This is consistent with the percentage of people with recent counter-disaster involvement in Queensland. This limited experience of disaster events is a reason for concern in Queensland. In part, this circumstance appears to have been brought about through the recent restructuring of emergency services in Queensland.

Table 4.3

Part cipation in Disaster Events

Number	% NSW	% QLD	N=
None	20	39	11
1	10	22	6
2	10	17	5
3	20	0	2
4	0	5	1
> than 4	40	17	8
Total	100	100	

Questioning senior management on the quantitative and qualitative differences separating accidents, emergencies, and disasters prompted the following response:

"I would prefer not to comment (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"Adopting the definition of disaster you used in your questionnaire, it does not surprise me that a large percentage of responders in Queensland indicated that they had never participated in a 'disaster' event before. I would probably say, viewing a continuum of collective stress [as provided in the questionnaire], that the majority of major events we experience up here are of an 'emergency' type. This, however, does not preclude a declaration of a State of Disaster (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"I think it is confusing to use the continuum of collective stress you provided in the questionnaire. I am not sure that the personnel you surveyed would have been able to distinguish clearly using this "continuum" between accidents, emergencies, and disasters. Personally, I question the quantitative and qualitative differences separating emergencies and disasters (pers. comm., Anon., 1., NSW State Emergency Service, September 1995)."

"I am not conversant with the quantitative and qualitative differences separating accidents, emergencies and disasters. The scale of the event might vary, but from an operational standpoint the response will be much the same (pers. comm., Anon.1., NSW Police Service, September 1995)."

Counter-Disaster Training

Eighty percent of respondents in New South Wales, and 78% of respondents in Queensland were of the view that their organisation distinguished between accidents, emergencies, and disasters in its training programme(s).

While this finding was encouraging, it was of concern to find that respondents in both States could not clearly differentiate their changing roles and/or responsibilities for accidents, emergencies, and disasters. Quite simply, Regional and District Officers in both States expected to enact the same role and responsibilities in accidents, emergencies, and disasters (Table 4.4 and Table 4.5). Differentiating roles and responsibilities before, during, and after such events provided some contrasting insight into both States. For example, responsibilities in disaster for Queensland respondents was 70% planning before disaster; 50% coordination during disaster; and 40% plan (review) after disaster. This compares with New South Wales respondents, where 50% would engage in planning before disaster; 50% would engage in response/combat (only 20% would engage in coordination); and 40% would engage in plan (review).

Table 4.4

Queensland Respondent Identification of Role Differentiation for Accidents, Emergencies, and Disasters (responsibilities, before, during, and after such events also differentiated)

RESPONSIBILITIES IN ACCIDENTS					
Before	**%**	**During**	**%**	**After**	**%**
Planning	20	Response/Combat	30	Debrief	90
Training	70	Coordination	20	Other	10
Other	10	Support	30		
		Other	20		
Total	100		100		100
RESPONSIBILITIES IN EMERGENCIES					
Before	**%**	**During**	**%**	**After**	**%**
Planning	50	Response/Combat	40	Debrief	30
Training	30	Coordination	40	Other	20
Other	20	Support	20	Comm Edu	10
		Other	0	Plan (Rev)	40
Total	100		100		100
RESPONSIBILITIES IN DISASTERS					
Before	**%**	**During**	**%**	**After**	**%**
Planning	70	Response/Combat	20	Debrief	30
Training	20	Coordination	50	Other	20
Other	10	Support	30	Comm Edu	10
		Other	0	Plan (Rev)	40
Total	100		100		100

Table 4.5

New South Wales Responder t Identification of Role Differentiation for Accidents, Emergencies, and Disasters (re: ponsibilities, before, during, and after such events also differentiated)

RESPONSIBILITIES IN ACCIDI NTS					
Before	**%**	**During**	**%**	**After**	**%**
Planning	40	Resj onse/Combat	40	Debrief	70
Training	40	C ordination	10	Other	30
Other	20	Support	40		
		Other	10		
Total	100		100		100
RESPONSIBILITIES IN EMERG ENCIES					
Before	**%**	**During**	**%**	**After**	**%**
Planning	40	Resj onse/Combat	30	Debrief	20
Training	30	C ordination	20	Other	30
Other	30	Support	30	Comm Edu	20
		Other	20	Plan (Rev)	30
Total	100		100		100
RESPONSIBILITIES IN DISAST ERS					
Before	**%**	**During**	**%**	**After**	**%**
Planning	50	Resj onse/Combat	50	Debrief	20
Training	30	C ordination	20	Other	20
Other	20	Support	20	Comm Edu	20
		Other	10	Plan (Rev)	40
Total	100		100		100

Moreover, approximately 25% of respondents in New South Wales, and 15% of respondents in Queensland questioned the use and applicability of the term disaster and disaster management. This has been an on-going controversy among emergency service organisations in all Australian States and Territories for some years with regards to the fact that there is no widely accepted definition of the term disaster (Britton, 1986b). Indeed, some States have gone as far to renounce the use of the term. In Victoria for example, the term emergency management is used in preference to the more traditional term disaster management, and the word emergency is used on the understanding that it also includes any meaning of the word disaster (Steering Committee, Assessing Victoria's Emergency Management Arrangements, 1992). The on-going debate in States and Territories about the use and applicability of the term disaster threatens the process of developing an IDMS for the effective management of disaster events, as distinct from accidents and emergencies. Britton (1985b; 1986a; 1986b) underlined the need for this distinction to be understood by emergency service organisations, and the implications of failing to do so.

Respondents in New South Wales evaluating the extent of counter-disaster training that has occurred between organisations in the last 12 months, revealed that the norm is usually between three and four sessions a year (Table 4.6).

Table 4.6

The Extent of Counter-Disaste · Training That Has Occurred Between Six Types of Disaster-Related Organisation in New South Wales and Queensland in the Last 12 Months

	Never /Year %	1 to 2 /Year %	3 to 4 /Year %	5 to 6 /Year %	> 6 /Year %	Total	N=
NSW							
SES	10	0	50	10	30	100	10
FS(1)	22	0	67	0	11	100	9
FS(2)	25	0	50	25	0	100	8
FS(3)	100	0	0	0	0	100	6
AMB	25	0	37	13	25	100	8
POL	12	0	33	22	33	100	9
HEA	33	0	56	0	11	100	9
PU(1)	22	11	45	0	22	100	9
PU(2)	22	0	67	0	11	100	9
QLD							
SES	27	0	50	5	18	100	22
FS(1)	44	0	39	11	6	100	18
FS(2)	47	0	47	6	0	100	19
FS(3)	100	0	0	0	0	100	13
AMB	35	0	40	10	15	100	20
POL	40	0	35	15	10	100	20
HEA	57	0	32	0	11	100	19
PU(1)	83	0	17	0	0	100	18
PU(2)	83	0	17	0	0	100	18

SES	State Emergency Service
FS(1)	Fire Service (Urban)
FS(2)	Fire Service (Rural)
FS(3)	Fire Service (Forestry)
AMB	Ambulance Service
POL	Police Service
HEA	Health Service
PU(1)	Public Utility (Water)
PU(2)	Public Utility (Electricity)

Contrastingly, and of concern is the high percentage of respondents in both States across all relevant organisations who had not engaged in any inter-agency counter disaster training in the last 12-months. Questioning senior management on this finding prompted the following comments:

"I would prefer not to comment (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"Your results here are interesting. I am most surprised. I can perhaps accept and understand the results for say the Health Service and Public Utilities, but not for the others, especially the Fire Services and Police. We train with these agencies regularly. I can only suggest that perhaps respondents were getting confused differentiating the type and level of training for accidents, emergencies, and disasters (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"Training sessions with other organisations tend to vary in dimension and degree of difficulty. Different skills and abilities are often drawn upon. As to whether our training is not counter-disaster based, is a matter of opinion. I can't really comment any more than that (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"I am reluctant to make a judgement here (pers. comm., Anon.1., NSW Police Service, September 1995)."

Identifying and differentiating the type of skills training undertaken to combat the effects of accidents, emergencies, and disasters, revealed a predominant use of table-top and seminar based exercises in training for accidents and emergencies in both States (Table 4.7). For disasters, however, it was encouraging to note in both States the predominant use of field exercise training Respondents comments, however, for accident, emergencies, and more importantly disasters, in both States showed that field exercise training was being largely conducted in-house with the occasional inter-organisational training session. Surprisingly, mention of field exercises was minimal at the accident and emergency level, but increased substantially for both States at the disaster level. Interestingly, field exercises appeared to focus on intra-organisational, rather than inter-organisational counter-disaster training issues. Mention of Local Government in field exercises was also minimal. Overall, skills training, as outlined by respondents, reflects a poor understanding of disaster, as opposed to accident and emergency management. There appeared to be little conception of the fact that disasters require mutual-aid response from many organisations and that skills training needed to reflect this.

Table 4.7

Identification and Differentiation of Skills Training Undertaken to Combat the Effects of Accidents, Emergencies, ar d Disasters in New South Wales and Queensland

	% NSW	% QLD
ACCIDENTS		
Type of Training		
Table-Top	50	60
Seminar	20	10
Field Exercises	20	30
Other	10	0
Total	100	100
EMERGENCIES		
Type of Training		
Table-Top	30	40
Seminar	20	20
Field Exercises	30	30
Other	20	10
Total	100	100
DISASTERS		
Type of Training		
Table-Top	0	0
Seminar	20	30
Field Exercises	60	70
Other	20	0
Total	100	100

There are a number of inhibitors to effective coordination between disaster-relevant organisations. Unfortunately, the response to this question for both States was poor (Table 4.8 and Table 4.9) and this restricts the inferences we can draw from the data. Inhibitors which respondents in both States 'appeared' to identify were:

- Perceived threat/competition;
- Different leadership approaches/authority;
- Imperfect knowledge of the environment; and
- Disparities in staff training.

Questioning senior management on these findings prompted the following response:

"I have no comment to make (pers. comm., Anon.1., QLD Emergency Services, August, 1995)."

"I think you gave personnel to many inhibitors to choose from. I think this would explain why a higher percentage of respondents did not identify inadequate internal/external communication, or fragmentation of the environment as inhibitors to coordination (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"Too many inhibitors. Why didn't you give respondents an open question? Responses would have then been more interesting and valid (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"There are no inhibitors to effective coordination (pers. comm., Anon.1., QLD Police Service, September 1995)."

Table 4.8

Identification of those known inhibitors of effective coordination that have led to the greatest operational difficulties amongst disaster related organisations in New South Wales

	Very High	High	Neither High nor Low	Low	Very Low	Total	N=
	%	%	%	%	%		
Inhibitor							
1	100	0	0	0	0	100	1
2	25	75	0	0	0	100	4
3	80	20	0	0	0	100	5
4	0	0	0	0	0	0	0
5	100	0	0	0	0	100	1
6	0	0	0	0	0	0	0
7	60	40	0	0	0	100	5
8	33	67	0	0	0	100	3
9	67	0	33	0	0	100	3
10	67	33	0	0	0	100	3
11	0	0	0	0	0	0	0
12	100	0	0	0	0	100	4
13	50	50	0	0	0	100	2
14	60	40	0	0	0	100	5
15	0	0	0	0	0	0	0
16	50	50	0	0	0	100	2
17	0	100	0	0	0	100	2
18	0	0	0	0	0	0	0
19	100	0	0	0	0	100	2
20	67	33	0	0	0	100	3
21	0	0	0	0	0	0	0
22	50	50	0	0	0	100	2
23	50	50	0	0	0	100	2
24	0	0	0	0	0	0	0
25	50	0	50	0	0	100	2
26	0	0	0	0	0	0	0

1 None
2 Vested interests
3 Perceived threat / competition
4 Perceived loss of organisational program identity / strategic position
5 Perceived loss of organisational-leader-staff prestige / authority domains
6 Client (ie community) alienation
7 Different leadership approaches / authority
8 Disparities in staff training
9 Inter and intra professional differences
10 Different priorities / ideologies / outlooks / goals
11 Lack of a common language
12 Internal norms against environmental outreach
13 Negative evaluations of other organisations
14 Imperfect knowledge of the environment
15 Poor historical relations / image formation
16 Perceived sanctions by network members
17 Costs outweigh benefits
18 Bureaucratisation
19 Centralisation
20 Inadequate internal communication / tolerance
21 Little or no boundary permeability / roles
22 Infrequent/inadequate external communication
23 Structural differences
24 Fragmentation of the environment - federal / state / local / levels of government
25 Turnover of policy personnel
26 Other

Table 4.9

Identification of those known inhibitors of effective coordination that have led to the greatest operational difficulties amongst disaster related organisations in Queensland

	Very High	High	Neither High nor Low	Low	Very Low	Total	N=
	%	%	%	%	%		
Inhibitor							
1	0	0	100	0	0	100	1
2	57	29	14	0	0	100	7
3	64	18	9	9	0	100	11
4	50	37	13	0	0	0	8
5	80	20	0	0	0	100	5
6	0	100	0	0	0	0	1
7	50	25	25	0	0	100	8
8	38	31	23	8	0	100	13
9	43	29	14	14	0	100	7
10	67	33	0	0	0	100	3
11	20	60	20	0	0	0	5
12	50	50	0	0	0	100	8
13	0	100	0	0	0	100	1
14	50	50	0	0	0	100	2
15	0	100	0	0	0	0	2
16	50	0	50	0	0	100	2
17	100	0	0	0	0	100	1
18	33	0	34	33	0	0	3
19	50	50	0	0	0	100	2
20	75	0	0	25	0	100	4
21	100	0	0	0	0	0	3
22	100	0	0	0	0	100	1
23	67	0	33	0	0	100	3
24	0	0	100	0	0	0	1
25	100	0	0	0	0	100	1
26	0	0	0	0	0	0	0

1 None
2 Vested interests
3 Perceived threat / competition
4 Perceived loss of organisational program identity / strategic position
5 Perceived loss of organisational-leader staff prestige / authority domains
6 Client (ie community) alienation
7 Different leadership approaches / authority
8 Disparities in staff training
9 Inter and intra professional differences
10 Different priorities / ideologies / outlooks / goals
11 Lack of a common language
12 Internal norms against environmental outreach
13 Negative evaluations of other organisations
14 Imperfect knowledge of the environment
15 Poor historical relations / image formation
16 Perceived sanctions by network members
17 Costs outweigh benefits
18 Bureaucratisation
19 Centralisation
20 Inadequate internal communication / tolerance
21 Little or no boundary permeability / roles
22 Infrequent/inadequate external communication
23 Structural differences
24 Fragmentation of the environment - federal / state / local / levels of government
25 Turnover of policy personnel
26 Other

There are a number of facilitators to effective coordination between disaster-relevant organisations. Specifically, respondents in both States ranked highly the following facilitators of effective coordination (Table 4.10), which in their view could solve inter-organisational coordination problems among disaster-relevant organisations if implemented:

- Positive attitudes;
- Informal contracts/exchange of information and resources;
- Occupational diversity; and
- Group-centred approach to problems.

Table 4.10

Identification of Those Known Facilitators of Effective Coordination That Could Solve Inter-Organisational Coordination Problems Among Disaster-Relevant Organisations in New South Wales and Queensland

Facilitator	% NSW	% QLD	N=
Perceived need	4	7	9
Rewards outweigh costs	0	1	1
Positive attitudes	5	10	18
Consensus between administrators and staff	3	2	3
Cosmopolitan ethos	0	2	2
Group-centred approach to problems	11	7	12
Accessibility to other organisations	8	5	9
Similar resources / goals / needs	7	5	8
Common definitions / ideologies /interests/ approaches	7	7	10
Agreement in domains / value of coordination	4	7	9
Perceived partial interdependence	3	3	4
Organisation norms of innovation / coordination	3	5	7
Professionalism	3	6	7
Occupational diversity	8	10	14
Leadership qualities	3	3	4
Informal contracts / exchange of information and resources	14	10	16
Boundary permeability / roles	7	5	8
Complementary organisational / personnel roles	3	2	3
Similarity of structures / supply capabilities /needs/services	4	2	4
Other	3	1	2
Total	100	100	

These findings reinforce the value of memorandums of understanding and mutual-aid agreements in preference to more formal organisational structural changes, ie. amalgamation of services. Occupational diversity as a facilitator of effective inter-organisational coordination holds particular value in the design and development of an IDMS for Australia. In such a system, emergency service personnel would be expected to deploy themselves as multi-functional task teams, and his requires occupational diversity. Such action would facilitate boundary spanning between organisations by allowing participants to appreciate the operational dynamics of participant organisations.

As a facilitator of effective coordination, leadership qualities was rated fairly low by respondents in both States. In fact. different leadership approaches/authority was identified as an inhibitor to effective coordination. This raises the question of whether a mix of leadership styles is detrimental to the effective operation of an IDMS? When questioned about this finding, senior management stated the following:

"I have no comment to make (pers. comm., Anon.1., QLD Emergency Services, September 1995)."

"Depends who you talk to. Some would argue the mix of leadership styles based on personality differences is beneficial. Some, however, will say the mix is detrimental. Certainly, the mix of leadership styles has on occasion resulted in conflict both within and across organisations. As luck would have it, such conflict inevitably surfaces during actual emergency situations where sentiment and stress levels are riding high (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"It depends on the particular mix of leadership styles and personalities. Some leadership styles and personalities blend together and others clash (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"Depends on the mix of leadership styles. Within the Police Service it is not a problem. But, in other emergency service areas I have seen evidence of resentment to anything which resembles authority, control, or command. Additionally, if you are not a "practitioner" you effectively have no credibility when it comes to training personnel (pers. comm., Anon., NSW Police Service, September, 1995)."

There is, then, a lot to be said for Drabek's (1990) approach to disaster management in which disaster managers exhibit intelligen leadership inspired management qualities. These qualities include:

- Thinking through their philosophy;
- Are aware of their managerial style;
- Nurturing positive attitudes;
- Building community support; and
- Participating in a professional group.

The current state of thinking in respect of Australian counter-disaster training and education goes some way towards effecting intelligent disaster management practice. In this respect, counter-disaster training has been the subject of a number of recent investigations (discussed in Chapter Two); not least by Fire Safety International (1994:6-8), who identified the following intelligent needs and requirements:

- Establish transfer of responsibilities for delivery, with regards to the outsourcing of EMA's educational and training courses;
- Establish a National symposia;
- Establish policy development and National standards;
- Establish competency standards development;
- Establish credit transfer between selected educational institutions, with the view to developing accredited courses;
- Establish information services;
- Establish a research program; and
- Establish bench marking.

These intelligent needs and requirements suggest a move towards greater professionalism. To the list above, the author would add the five criteria mentioned by Drabek (1990) that demonstrate a level of intelligent leadership thinking. Such an addition, potentially "humanizes" the process of counter-disaster training. This is important if the apparent imbalance of having too many emergency service personnel solely interested in centralised command and control, and too few personnel interested in human-relations, and thus decentralised and pluralistic decision making, is to be overcome. This trend clearly has implications with regard to how volunteers are recruited, selected, and trained.

Commonwealth Counter Disaster Management Concepts

The Commonwealth's four counter-disaster management concepts (discussed in Chapter Two) reinforce an interest in developing an intelligent approach taken to disaster training and management. The majority of respondents in New South Wales indicated that their organisation to their knowledge had established performance measures by which to evaluate the success of an all hazards, comprehensive, and prepared community approach to disaster management (Table 4.11). The exception to this was the all agencies (or integrated) approach. Of concern, however, is the large percentage of respondents in Queensland

(almost 50%) who revealed that their organisation to their knowledge had no established performance measures by which to evaluate the success of an all hazards, comprehensive, all agencies, and prepared community approach to disaster management. Senior management explained this finding:

"I have no comment to make (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"Well I don't agree. But, if this is what your results said, then, it endorses the need for change and organisational restructuring (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

Table 4.11

The Extent to Which Organisations With an Involvement in Disaster Management Recognise and Plan Counter-Disaster Management Operations Around an All-Hazards, Comprehensive, All-Agencies, and Prepared Community Approach

Approach	% Yes	% No	% Don't know	Total	N=
NSW					
All hazards	67	22	11	100	9
Comprehensive	60	30	10	100	10
All agencies (or integrated)	50	38	13	100	8
Prepared community	57	29	14	100	7
QLD					
All hazards	30	48	22	100	22
Comprehensive	33	48	19	100	21
All agencies (or integrated)	24	48	29	100	21
Prepared community	23	50	27	100	22

Respondents in both States highlighted a number of criterion which are used to measure performance or effectiveness of the four counter-disaster management concepts. These criterion include:

- The operational effectiveness and efficiency of regional/district and local counter disaster plans in achieving timely response and recovery;

- The supply of adequate resources and equipment;
- The effectiveness of liaison and communication in getting coordination/cooperation;
- The success of skills training (table-top, seminar and field exercises);
- The success of operational de-briefs;
- The evidence of community awareness of, and preparedness for disaster events;
- The regularity of planning meetings and field exercises;
- The success of hazard mitigation planning; and
- The damage costs compared to costs incurred in counter disaster management response and recovery operations.

Regular and effective field exercises are inferred by respondents to be a major measure of performance or effectiveness of the four counter-disaster management concepts. This is interesting given that few respondents in the identification and differentiation of skill training presented earlier, failed to identify field exercises as a major form of adopted training. However, with the exception of disaster training, respondents showed in their answers related to skills training questions presented earlier, that field exercises were infrequent and of an inadequate nature.

Thirty percent of respondents in New South Wales, and 53% of respondents in Queensland foresaw aspects of their State counter-disaster arrangements as adversely affecting the way their organisation fulfilled its counter-disaster responsibility. Areas of concern include:

- That there is a lack of coordination transgressing authority levels;
- That the chain of command is too complex and slow to be of major assistance;
- That planning and legislation is not disaster specific; and
- That communities and organisations would be unable to resource (personnel and equipment) prolonged disaster operations where impact is extreme and complex.

Moreover, there was the distinct hint in the case of Queensland respondents that organisational restructuring associated with State counter-disaster arrangements, rather than improving the situation (ie. counter-disaster operations), was making things worse by making operations more complex and complicated. Senior management had the following comments to make:

"I have no comment to make (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"I don't agree. But, I think the response is typical and expected given current organisational restructuring (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"This is an opinion, but I cannot accept it. Experience has shown NSW State counter-disaster arrangements to work very successfully (pers. comm., Anon.1., NSW State Emergency Services, September 1995)."

Clearly, evaluating the success of established counter-disaster management concepts, principles, and approaches is difficult and controversial. Indeed, such investigation prompts considerable debate (ie. see Steering Committee Assessing Victoria's Emergency Management Arrangements (1992); Task Force Ash Wednesday Bushfires (1994); Senate Select Inquiry into Disaster Management (1994); Fire Safety International (1994); and Emergency Management Australia (1996b).

Working Relationships

All respondents in New South Wales, and 91% of respondents in Queensland had ready access to the current names and contact details of emergency service personnel in organisations other than their own. This was also true for the percentage of respondents in New South Wales (90%) and Queensland (70%) who had ready access to the resource registers of other emergency service organisations. Respondents were given the opportunity to identify organisations and evaluate the cooperation received from them with regard to carrying out counter-disaster management responsibilities. Results are presented in Table 4.12. Of concern is the large percentage of respondents in both New South Wales and Queensland who indicated that cooperation was neither high or low.

Table 4.12

Evaluation of Cooperation Received Across a Group of Select Organisations

	Very High %	High %	Neither High nor Low %	Low %	Very Low %	Total	N=
NSW							
State Emergency Service	25	25	25	25	0	100	4
Fire Services	17	50	33	0	0	100	6
Ambulance Service	0	100	0	0	0	100	3
Police Service	14	29	43	14	0	100	7
Health Service	0	0	0	100	0	100	1
Public Utilities	0	0	0	0	0	0	0
Local Govt Authority	33	33	34	0	0	100	3
Other	0	20	60	20	0	100	5
QLD							
State Emergency Service	31	8	53	8	0	100	13
Fire Services	36	36	28	0	0	100	14
Ambulance Service	21	50	29	0	0	100	16
Police Service	0	36	55	9	0	100	11
Health Service	0	0	0	0	0	0	0
Public Utilities	50	50	0	0	0	100	2
Local Govt Authority	10	20	60	10	0	100	10
Other	40	0	40	20	0	100	22

Respondents explained their evaluations of cooperation across organisations on the basis of whether there had been:

- Regular planning meetings and good attendance;
- Regular skills training sessions, in particular, field exercises involving other organisations;
- Regular visits by senior management/training personnel from head office to regional/district offices;
- Regular participation and interest shown by local government officers; and

- Regular development of formal and informal (personal) linkages with personnel in other organisations.

Senior management explained the evaluations of cooperation in the following way:

"I have no comment to make (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"I read 'neither high nor low' as representing middle ground or neutral territory, that is to say that respondents were indicating that cooperation was reasonable or satisfactory. I can accept this. I would have been more concerned if a higher percentage of respondents had indicated cooperation was 'low' or 'very low' (pers. comm., Anon.2., Queensland Emergency Service, September 1995)."

"I think the evaluation of cooperation is about right. I am not really concerned by the number of respondents indicating cooperation is 'neither high nor low'. Obviously, it would have been nice to see higher percentages in the 'high' and 'very high' cooperation categories (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"The response, is as expected (pers. comm., Anon.1., NSW Police Service, September 1995)."

Seventy percent of respondents in New South Wales, and 40% of respondents in Queensland indicated that they had formed personal or informal linkages with personnel in six or more other organisations with an involvement in disasters. Of interest, is the 30% of respondents in Queensland who indicated that no personal or informal linkages had been formed. There appeared no satisfactory reason for this. However, the majority of respondents in both States were adamant that the development of personal and informal linkages with other organisations was very useful for the development of cooperation (Table 4.13). Indeed, as one New South Wales respondent put it:

"You can get more out of a person if you meet and get to know that individual on a personal/informal basis, than if you never met them at all. Quite simply, you can put a name to a face, and this is important (Anon., Questionnaire results)."

Blanchard & Johnson (1994) and their discussion of effective one-minute-management practice would endorse the importance and development of personal and informal linkages. Indeed, it was encouraging to note that respondents in both States recognised the usefulness and value of informal linkages:

- They increase local knowledge of equipment and human resources;
- They assist in breaking down communication barriers between organisations;
- They establish greater understanding of personnel roles and responsibilities;

- They allow cross-fertilisation of ideas across organisations; and
- They facilitate the building of relationships and/or friendships.

Table 4.13

Evaluation of Personal Informal Linkages that Have Formed Between Personnel in Other Relevant Organisations

	Very Useful %	Useful %	Neither Useful nor Useless %	Useless %	Totally Useless %	Total	N=
NSW	56	44	0	0	0	100	9
QLD	65	25	0	0	0	100	20

Organisational Capacity

Eighty percent of respondents in New South Wales and 59% of respondents in Queensland believed that their organisation would not have any problems scaling-up operationally, or making the transition from dealing with routine relatively small-scale emergencies to dealing with non-routine large scale disasters. Some 18% of respondents in Queensland thought that the ability to scale-up operationally to deal with a disaster depended on:

- The location and magnitude of disaster;
- The accessibility of resources (personnel and equipment);
- The duration of the disaster;
- The cost of 'exercising' disaster; and
- The knowledge, experience and education of personnel.

The majority of respondents in New South Wales (80%) and Queensland (78%) believed that their organisation could provide sufficient trained and appropriate skilled personnel to replace personnel (as required) during a prolonged disaster operation so that inter-organisational relationships or the flow of vital information was not disrupted. These findings appeared to challenge the earlier questionnaire results that 30% of respondents in New South Wales, and 53% of respondents in Queensland foresaw aspects of their State counter-disaster arrangements as adversely affecting the way their organisation fulfilled its counter-disaster responsibility.

Taking the question of organisational capacity further, the questionnaire put forward a hypothetical bushfire disaster to respondents. The details were as follows:

- That 50% of buildings were severely damaged or destroyed;
- That 40% of vehicles had been severely damaged or destroyed;
- That 60 people were killed, and 140 people were injured requiring hospitalisation;
- That the General Hospital had been destroyed;
- That 1500 people were homeless;
- That communications were overloaded, disrupted or lost altogether;
- That all power supplies were cut;
- That in some cases, water supply was disrupted;
- That provision of warning to key authorities and communications; was seriously downgraded; and
- That access into and from the major affected areas was made impossible.

In retrospect, this hypothetical bushfire disaster outlined by the author raised more questions from respondents than it did answers. Many respondents in both States questioned the finer details, and more generally, whether in fact it constituted a 'disaster'. The author constructed the hypothetical bushfire disaster from data and information taken from the Victorian Ash Wednesday Bushfires of 1983. Few people would dispute that this event was indeed a disaster. However, respondents taking account of their training, education, experience (in particular, disaster experience) and organisational position, chose to be critical of this question. Perhaps, the author would have done better with this question to have let respondents detail or construct, 'what to them' constituted a disaster scenario, rather than provide specific details, which could be disputed?

Evaluating the organisational capacity of their organisation to provide sufficient equipment and/or services to deal with a bush fire disaster (as described), revealed that the majority of respondents in New South Wales (89%) believed their organisation could cope. Contrastingly, Queensland respondents were more cautious, with only 57% believing their organisation could cope operationally with such a disaster. Again, however, the result here for both States appeared to challenge earlier questionnaire result findings. To this end, the differences in perception could be a function of respondent counter-disaster training, education, and disaster experience and conception. Senior management had the following comments to make with regard to evaluations of organisational capacity to deal with disaster:

"I have no comment (pers. comm., Anon.1., QLD Emergency Services, August 1995)."

"Interesting! You have opened a real can of worms here. I believe we have, and can evidence an organisational capacity to deal with disaster. I think respondents have a problem visualizing a 'worse case scenario'. This is something that obviously needs to be addressed in our training programme (pers. comm., Anon.2., QLD Emergency Services, September 1995)."

"You have identified a contradiction here. On the one hand you say: the majority of respondents in New South Wales and Queensland believed their organisation had the organisational capacity to deal with a disaster. And on the other hand, you say: 30% of respondents in New South Wales, and 53% of respondents in Queensland foresaw aspects of their State counter-disaster arrangements as adversely affecting the way their organisation fulfils its counter-disaster responsibility. I don't understand this. Surely, it is one case or the other? Unless, however, respondents did not see a relationship between State counter-disaster arrangements and organisational capacity (pers. comm., Anon.1., NSW State Emergency Service, September 1995)."

"I reiterate what I said earlier, I believe the Police Service has the organisational capacity to deal effectively with disaster. I cannot speak for other organisations (pers. comm., Anon.1., NSW Police Service, September 1995)."

Surprisingly, very few respondents recognised that their organisation's ability to contribute successfully to counter-disaster operations was dependent on the support provided by other participating organisations. The bushfire disaster represented a situation requiring the mutual-aid efforts of a group of organisations working in close cooperation with one other. Respondents answers, however, seem to indicate a naive view that their organisation alone was capable of dealing with the bushfire disaster. Similar results were identified by Pagram (1989) in his study of bushfire management, organisation and planning in Mundaring, Western Australia. Pagram (1992) also found complacency and poor understanding of disaster dynamics among emergency service personnel in a study of flood management in Carnarvon, Pinjarra, and Bassendean, Western Australia.

Actions that would improve the organisational capacity of a disaster-relevant organisation are detailed in Table 4.14. An increase in the quantity and quality of training was highlighted as a key issue affecting organisational capacity in both States. New South Wales respondents also recorded (25%) a notable need for increased quantity and quality of equipment.

Table 4.14

Actions That Would Improve the Organisational Capacity of Your Organisation

Option	% NSW	% QLD
Increased funds	13	14
Training	37	53
Equipment	24	7
Increased staff	13	13
Overseas visits	0	0
Other	13	13
Total	100	100
N =	8	15

Financial Arrangements

In hindsight this section of the questionnaire should either have been deleted or expanded. It was poorly completed by respondents in both States. Quite clearly, few respondents had the required knowledge to answer questions re: their organisation's financial arrangements meaningfully. Questions were answered in a very general manner. For example, while all respondents in New South Wales, and the majority in Queensland (73%) believed they could detail their organisation's source(s) of funding for counter-disaster management, very few could comment beyond identifying their own organisation as the principal source of funding!

The majority of respondents in New South Wales (89%) thought that their organisation was effectively using allocated funds in the area of disaster preparedness. Preparation of plans, and the purchase of equipment were cited as key examples of how an organisation was effectively allocating funds. Interestingly, no mention was made of training or education. Similarly, 89% or respondents in New South Wales thought that their organisation was effectively using allocated funds in the area of disaster response. In most cases, respondents cited similar justifications as per disaster preparedness.

In Queensland, however, respondents tended to more cautious in their evaluation of allocation of funds. Whether this self-critical stance was as result of restructuring in Queensland's emergency services is questionable. In this regard, only 48% believed that their organisation was effectively using allocated funds in the area of disaster preparedness (this contrasts with the 65% of respondents who believed that their organisation was effectively using allocated funds in the area of disaster response). Nineteen percent did not think funds were being used effectively for disaster preparedness in Queensland, and 24% thought it depended on a range of factors. Strangely, few Queensland respondents chose to justify their answers. Of those that did, the answers did not appear to be directly related to disaster preparedness or response. For example, a number of respondents drew the author's attention to a level of unease in Queensland's emergency services with regards to career planning and opportunities in the newly restructured organisation. Other respondents quite simply indicated that information in this area was not readily available, and as such, it was difficult to make a proper judgement. This fact appears underlined by the comment:

> ...no other agency of the Queensland Government evolved from funding its operations through 'chook raffles', chocolate wheels and the generosity of the community. Unlike most departments, the Consolidated Fund provides only one-third of all QES funding (PSMC, 1993:5).

More specifically, within Queensland Emergency Services, the primary revenue sources of the Queensland Ambulance service are subscriptions, Consolidated Revenue, community based activities, bequests, and fees and charges to non-subscribers (PSMC, 1993:5). The Queensland Fire Service is principally funded by property levies collected by local government, Consolidate Revenue and charges (PSMC, 1993:5). The State Emergency Service is funded from Consolidated Revenue, a Commonwealth subsidy, local government funding and community-based activities (PSMC, 1993:5). The CHEM Unit and Aviation Division are funded through Consolidated Revenue, although its emergency services air unit in Townsville relies on commercial activities to fund most of its operations (PSMC, 1993:5). The diversity of funding arrangements, and the limited capacity to transfer funds to areas which Queensland Emergency Service perceives as having higher priority, impedes coordination within the structure (PSMC, 1993:5).

Questions in respect of financial arrangements would have been much better directed to senior management. Chapter Six is a discussion of economic issues and costs.

Inter-Organisational Liaison Personnel

Eighty percent of respondents in New South Wales and 76% of respondents in Queensland had liaison personnel in their organisation whose functions included the transfer of information and resources among organisations. Evaluations by respondents of the effectiveness of the interchange of information and interchange of resources by liaison personnel between their organisation and other organisations for accidents, emergencies and disasters revealed high percentages of respondents who thought the interchange was effective to very effective (Table 4.15). Queensland was slightly a bit more cautious with notable percentages of people indicating interchange of resources and information was neither effective or ineffective. The more cautious respondents indicated that effectiveness of the interchange of information and resources was dependent on the movement of staff within their respective organisation and their subsequent replacement. Other issues addressed included how information from other organisations is received, disseminated, prioritised, recorded, and acted upon with appropriate feedback, as well as how often meetings are held and what attendance is recorded.

Table 4.15

Evaluations by Respondents of the Effectiveness of the Interchange of Information and Interchange of Resources by Liaison Personnel Between Their Organisations and Other Organisations for Accidents, Emergencies, and Disasters

	Very Effective %	Effective %	Neither Effective nor Ineffective %	Ineffective %	Very Ineffective %	Total	N=
NSW							
Interchange of Information							
Accidents	43	57	0	0	0	100	7
Emergencies	50	50	0	0	0	100	6
Disasters	33	50	0	17	0	100	6
Interchange of Resources							
Accidents	17	83	0	0	0	100	6
Emergencies	40	30	0	30	0	100	5
Disasters	40	40	0	20	0	100	5
QLD							
Interchange of Information							
Accidents	6	81	13	0	0	100	16
Emergencies	21	64	15	0	0	100	14
Disasters	25	56	19	0	0	100	16
Interchange of Resources							
Accidents	19	63	12	6	0	100	19
Emergencies	14	64	14	8	0	100	14
Disasters	25	44	25	6	0	100	16

There is no doubt that inter-organisational liaison personnel are necessary and a critical requirement if there is to be effective inter-organisational relations, cooperation, and coordination. Such individuals are the 'boundary spanners' in an organisational system (Scott, 1992).

Organisation Restructuring

The majority of respondents in New South Wales (90%), and Queensland (67%) indicated that their organisation had undergone recent restructuring for the purposes of improving

counter-disaster operational capac ty. The principal reasons for organisational restructuring are set out in Table 4.16. In the ca se of New South Wales and Queensland, it appeared that restructuring was the means to ad dress poor coordination and poor operational planning in respect of providing for an all hazards, comprehensive, all agencies, and prepared community approach to disaster ma nagement.

Table 4.16

Reasons Why Re structuring Took Place in Organisations

	% NSW	% QLD	N=
To improve program management	11	14	9
To improve personnel performance	11	7	9
To address lack of common administrativ boundaries	0	10	7
To address poor operational planning	13	15	16
To address the lack of common terminolo gies and management systems	8	10	10
To address inadequacies in community pu blic relations programs	5	3	4
To achieve better integration of volunteer workers	8	4	6
Take advantage of technological improver ients in equipment and management systems	11	6	8
Achieve better coordination	16	15	17
Reduce duplication of services and facilities	7	10	10
To address changes in the environment wi th regard to hazard risk	5	3	4
Other	5	3	4
Total	100	100	

Evaluation of organisational restructuring with regard to providing for an all hazards, comprehensive, all agencies, and prepared community approach to disaster management is detailed in Table 4.17. Given that organisational restructuring has been cited as a possible key reason for the poor return of questionnaires, it was interesting to note that evaluations of organisational restructuring were very positive. The author asks the reader to note, however, the low number of respondents to this question.

Table 4.17

Evaluation of Organisational Restructuring

	Very Effective %	Effective %	Neither Effective nor Ineffective %	Ineffective %	Very Ineffective %	Total	N=
NSW							
All hazards	22	56	0	22	0	100	9
Comprehensive	43	57	0	0	0	100	7
All agencies	60	40	0	0	0	100	5
Prepared community	33	67	0	0	0	100	6
QLD							
All hazards	8	76	8	8	0	100	12
Comprehensive	14	86	0	0	0	100	8
All agencies	13	87	0	0	0	100	10
Prepared community	17	83	0	0	0	100	6

Respondents were given the opportunity to identify and explain the various strengths and weaknesses of their organisation's restructuring. Some of the identified strengths of the restructuring included:

- Improved coordination/cooperation between stakeholders;
- Improved mission orientation, better understanding of roles and responsibilities;
- Improved equipment upgrades and shared resources;
- Improved effective joint participation, interaction and training;
- Improved control;
- Improved communication between organisations;
- Improved focus on counter disaster management issues;
- Improved financial arrangements;

- Improved disaster-specific legislation;
- Improved community involvement; and
- Improved Local Government input into the planning process.

Some of the identified weaknesses of the restructuring included:

- The problem of vested interests still difficult to eliminate;
- The problem of regionalisation and the perceived threat to regional authorities by local district police officers;
- The problem of tunnel vision, where some areas of planning have been downgraded to highlight the importance of new initiatives;
- The problem with continuation of top heavy bureaucracy;
- The problem with resistance to change;
- The problem surrounding 'uncertain future' for some emergency service personnel;
- The problem of a move away from operational effectiveness to policy development and economic efficiency;
- The problem of changes taking too long to be implemented; and
- The problem of there being too many new committees and points of liaison.

Senior management in both States preferred to make no further comment on findings concerning organisational restructuring when interviewed.

Amalgamation of Services

There are generally two schools of thought. The first, emphasises the advantages of amalgamation of services:

- Greater economies of scale;
- Pooling of operating resources and trained personnel;
- Increased borrowing power; and
- Reduced duplication of services

The second, emphasises the disadvantages of amalgamation of services:

- May allow a group to dominate the policy interests of a formerly separate area;

- Reduces policy options by submerging a previously vocal group of experts inside a bigger structure;
- Flexibility is reduced by increasing the chain of command required for agreement on any policy course;
- Duplication and overlap are welcome, since diversity of competition ensure more policy options; and
- Rivalry between organisations provides vying perspectives on a policy problem.

Wilson (1989 [cited in Craswell & Davis, 1992]) states in his study of public bureaucracy:

> In some governmental systems as in many mechanical ones, redundancy is useful. Overlapping agencies, like back-up computers on the space shuttle, can detect errors; duplicating functions is not always wasteful, it can lead to more flexible responses and generate alternatives. The problem, of course, is to choose between good and bad redundancies, a matter on which scholars have made little progress (p3).

Wilson tested the effect of amalgamation of services in four federal departments: Foreign Affairs and Trade; Transport and Communications; Health Housing and Community Services; and Employment, Education and Services. Craswell & Davis (1992) report that these amalgamations resulted in modest, rather than spectacular success. Specifically, integration of policy and delivery has in some cases proved difficult, the workload required to achieve coordination remains high, and organisational complexity brings costs in areas such as access to ministers and demands placed on management. Craswell & Davis (1992) acknowledged that while there had been some notable improvements in flexibility and policy outcomes, influence and options, **it cannot be discounted that a more diffuse machinery, incorporating some duplication and redundancy could not have produced the same results if not better.** Built-in positive redundancy and multiplexing in internal structures and organisation, as it facilitates decision making under disaster conditions, has been commented on by Dror (1988). This is discussed further in Chapter Five.

In the questionnaire, 60% of respondents in New South Wales and 74% of respondents in Queensland believed that amalgamating their organisation with other disaster relevant organisations would not lead to more effective management at an operational level during disasters. Similarly, 70% of respondents in New South Wales, and 65% of respondents in

Queensland did not feel that amalgamation would reduce duplication of services. Reasons cited:

- That continuing and intensified power struggles would ensure that the amalgamation was not operationally effective or economically efficient;
- That remote/rural areas would not benefit from such amalgamation;
- That emergency service organisations would still want to retain their identity and culture; and
- That the Police Service could not operate under the constraints of other departments and vice versa because of their existing multi-functional duties to the community.

Sixty-seven percent of respondents in New South Wales, and 64% in Queensland did not think that improved inter-organisational relations would result from amalgamation. For this situation to change, parochialism on the part of the services would have to be change, a common mission orientation adopted, and cultural differences eliminated. Forty-four of respondents in New South Wales and 57% of respondents in Queensland thought that there were some disaster-relevant organisations with a counter-disaster responsibility with whom they would not like to see their organisation amalgamate. No respondent wanted to see their organisation amalgamated with the Police Service or Public Utilities. Respondents from the Police Service and Public Utilities similarly did not want to be amalgamated with another organisation or for that matter have other organisations amalgamated to them. The Police Service justifies "its stand alone stance" on the basis that it has multi-functional responsibilities to the community and nothing would be gained by giving the organisation extra and non-relevant functions. A forced amalgamation would create tension and inter-organisational conflict for all concerned. Public Utilities also question (perhaps legitimately), the necessity and usefulness of the r organisation being amalgamated with organisations that have routine counter disaster responsibilities. In their case, it only makes sense to be part of a support or referral network.

Such findings question the value of amalgamations of services. The Queensland experience exhibits the findings of Craswell & Davis (1992) that there are clear disadvantages to amalgamation. In this respect, while there had been some notable improvements in flexibility and policy outcomes, influence and options, it cannot be discounted that a more diffuse machinery, incorporating some duplication and redundancy could not have produced the same results if not better with emergency services in Queensland. Quite simply, there may have been equal gains and losses.

Not surprisingly, many States and Territories opt to avoid the creation of mega-departments. Victoria for example, considers that its emergency management arrangements operate best in a simple structure, which while lacking a degree of integration works generally well, and has in-built self-appraisals mechanisms (Steering Committee, [Assessing Victoria's Emergency management Arrangements] 1992). Queensland Emergency Services recognising the need for an effective and efficient integration of services, emphasised that such integration was possible:

> ...through cooperation and coordination rather than actual amalgamation of services. The Review strongly supports the current process of closer cooperation and believes that no compelling argument exists for amalgamating highly diverse and culturally different agencies (PSMC Report, 1993:2).

While in theory the organisational structure of Queensland Emergency Services is a step in the right direction, it still has a long way to go in practice, before it can be classed as an IDMS. Indeed, the structure of Queensland Emergency Services still remains a very large, complex bureaucratic and hierarchical structure, in which the operational framework is anything but loose and collegial.

Senior management when interviewed preferred to make no comment on the questionnaire findings concerning the issue of amalgamation of services.

CONCLUSION

This Chapter outlined the results of a questionnaire investigating inter-organisational relationships in New South Wales and Queensland across the State Emergency Service, Police Service, Fire Services, Health Service, and Public Utilities. The study of inter-organisational relationships proved sensitive and controversial.

It is debateable as to whether the evaluation of inter-organisational relationships by Regional and District Officers across emergency service related organisations would have yielded 'better' results through interviewing, as opposed to a mailed questionnaire. This is stated despite the interview method being widely recognised as a better device for probing sensitive and deep human sentiments. The need for confidentiality and anonymity in surveying emergency service personnel in New South Wales and Queensland was unbelievably strong. So strong, that despite assurances of confidentiality, it was considered a problem in the case of interviewing by phone senior management personnel, that the author could identify the

respondent. The result, then, was defensiveness, cautiousness, and in some cases just plain 'buck-passing'.

As stated in the Introductory Chap er, and this Chapter, ideally the author would have like to survey all Australian States/Territories, all emergency service related organisations, and all levels of official management personnel. Such an undertaking was not possible, and the results in this Chapter provide some insight into the complex picture of Australian disaster management. Time and thesis manageability were paramount. The same justification is used to explain why unofficial and/or volunteer disaster management is not examined.

The questionnaire results clearly identify confusion and misunderstanding in the use of the term 'disaster' and what constitutes effective disaster management practice. This has implications for any evaluation of counter-disaster training and organisational capacity in dealing with disaster. The issue of the amalgamation of emergency services, as a means of improving the effectiveness of organisations in dealing with disaster, is a very complex and sensitive one. Overall, the questionnaire results show that there are two-sides to every argument.

Hopefully, the reader has gained some appreciation of the practical difficulties of establishing inter-organisational coordination. Ineffective coordination, is an impediment in the development of an IDMS. The IDMS, utilising human-relations and natural-systems design precepts (discussed in Chapter Three and Seven), provides a preferred model for facilitating cooperation and coordination within the disaster-relevant organisational network, while at the same time diffusing possible conflict situations.

In the next Chapter, we examine political and bureaucratic considerations as impediments to the development of an IDMS.

CHAPTER FIVE

POLITICAL AND BUREAUCRATIC CONSIDERATIONS AS IMPEDIMENTS TO THE DEVELOPMENT OF AN INTELLIGENT AUSTRALIAN DISASTER MANAGEMENT SYSTEM

Chapter One examines the nature of disaster;

Chapter Two reviews Australia's existing counter-disaster organisational structure and associated management arrangements;

Chapter Three searches for intelligent effective and efficient organisational structures, system design, and associated management arrangements with a view to designing, developing and implementing an IDMS;

Chapter Four assesses inter-organisational relationships among selected emergency service related personnel in New South Wales and Queensland with a view to designing, developing, and implementing an IDMS;

Chapter Five investigates political and bureaucratic impediments with a view to designing, developing, and implementing an IDMS;

Chapter Six investigates economic impediments with a view to designing, developing, and implementing an IDMS; and

Chapter Seven is the outline of an IDMS and conclusion to the research project.

INTRODUCTION

This Chapter concerns itself with the process of policy making in disaster management. To this end, political and bureaucratic considerations are viewed as potential constraints in effecting successful counter-disaster practice, and more specifically, the development of an Intelligent Disaster Management System (IDMS). Economic considerations, discussed in Chapter Six, produce similar constraints. The political and bureaucratic environment determines (as it does with all policy arenas) the preferred approach, decision-making process, and implementation of policy as it relates to disaster management practice. Clearly, an IDMS is dependent on effecting appropriate political and bureaucratic change. But, such change is typically a slow and incremental process. The only exception to this is where Government and its policy advisors are given a parametric shock, in the form of a disaster. Australian disaster experience, however, has and continues to challenge existing thinking on disaster management practice, causing a major rethink of the ways in which disaster policy is formed and operates.

This Chapter will commence with an overview of the Australian polity, in particular the Australian State and its principal components. The overview will be followed by an analysis of policy making in disaster management. Particular emphasis will be given to the formulation of ideas, the decision-making process, and policy implementation. A selection of relevant models of decision-making will be highlighted for this purpose.

The diagram below outlines the sequence of discussion in Chapter Five.

ORGANISATION OF CHAPTER FIVE

THE AUSTRALIAN POLITY

The Australian State

Models of State Governance and Autonomy

POLICY MAKING IN DISASTER MANAGEMENT

Policy Actors in Disaster Management

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THE AUSTRALIAN POLITY

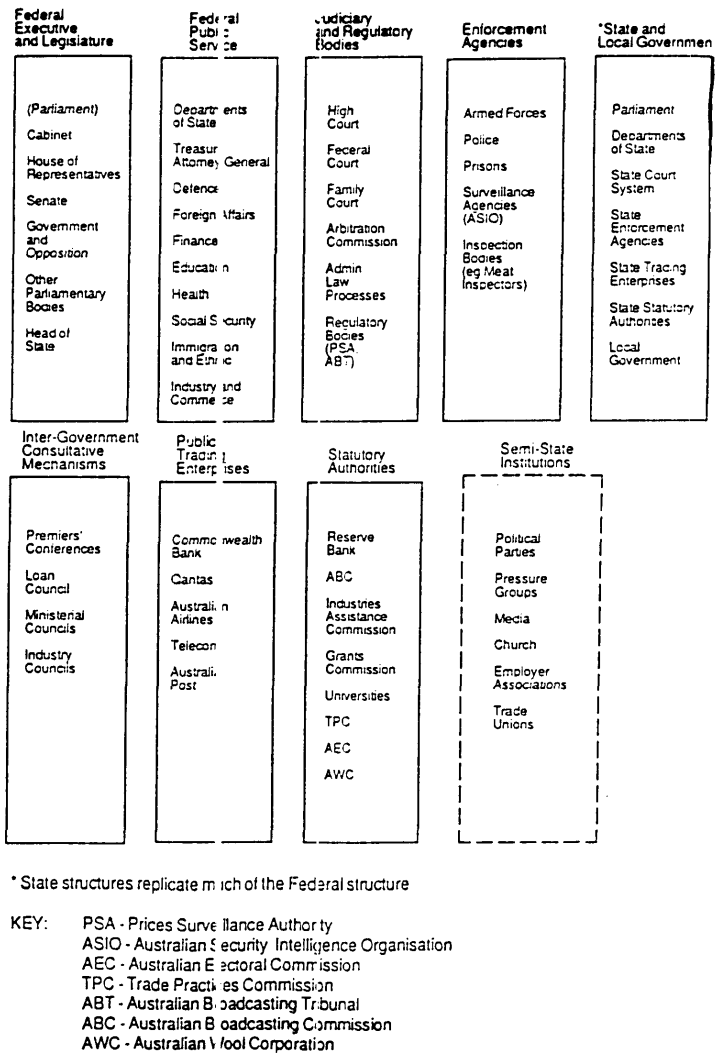
THE AUSTRALIAN STATE

The Australian system of politics has largely been modelled on the Westminster system (Jaensch, 1992). The foundation of the Westminster model is responsibility, which is both indirect and complex (Jaensch, 1992). This formal system of authority, accountability, and delineation of function is set amidst a power structure termed federalism (Sharman, 1990). Federalism, refers to the division of powers between National and State Governments and Parliaments. Federalism frequently involves conflict between the tiers of government over the scope of their functions or added difficulties in

developing and implementing consistent policies or programs (Jaensch, 1992). A schematic structure of the Australian State is presented in Figure 5.1.

Figure 5.1

Schematic Structure of the Australian State



Source: Davis, et al. (1988:20)

Within the structure of the Australian State a number of components are worth highlighting in discussion for their potential to bring success or failure in disaster management practice.

The Public Service

Non-elected administrative Departments of State are the technical service of the State responsible for policy implementation (Spann, 1972). Moreover, the Departments of State also provide considerable advice on policy formation. In so doing, they could be said to control government policy outcomes (Lucy, 1985). Traditionally, the Public Service is to be responsible to the government of the day, the Cabinet, and to the particular minister in charge of the department concerned. The Public Service assists and advises the controlling minister in the making and implementing of the 'right' political decisions and actions, taking into account economic considerations (Lucy, 1985). By and large, electors have only one way of making the Public Service accountable; that is, to change the Parliament and see a new government issue new orders and directives (Jaensch, 1992). In the formal sense of traditional responsible government the Public Service is in no way directly answerable to the electors (Jaensch, 1992). This is despite, the fact that the Public Service, at the grass roots level, deals with the greater public.

State and Local Government

State structures replicate much of the Federal structure. The Australian State is divided vertically between the Commonwealth, six States and two Territories. This is not a unitary hierarchy, but a loose federation based on regional power at the State level with certain limited functions centralised at the Commonwealth level (Davis et al., 1988). The States and Territories provide additional layers of power, with levels of the State interacting through conflict, cooperation and opportunist politicking (Davis et al., 1988). At the lowest and most restricted level of State action, Local Government bodies function as service and regulatory agencies directly within communities (Davis et al., 1988).

As stated in Chapter Two, the respective State and Territory Governments have the legislative mandates to engage in disaster management and planning. They have the authority to introduce disaster legislation, to determine the requirements for counter-disaster management and planning operations, to select and grant authority to disaster management system member units for specific disaster management and planning responsibilities, and to determine the level of funding and personnel allocation among disaster management system member units (Britton, 1986a).

Local Government plays a critical role in disaster management. Local Government is where counter disaster activities and planning must be implemented because this is the level at which a disaster is going to have most impact (Britton, 1986a). Local Government and community organisations provide the basis for organising community self-help (Emergency Management Australia, 1995). In addition, experience shows that disaster-affected communities turn first to their local agencies for support, advice and assistance (Emergency Management Australia, 1995). The Commonwealth views the community as the primary focus in prevention preparedness, response and recovery; Local Government is seen as the most immediate agent through which appropriate systems can be set up (Emergency Management Australia, 1995).

Inter-Government Consultative Mechanisms

Besides program coordination mechanisms, Premiers' Conferences and Ministerial Councils facilitate a means of communication, cooperation and coordination between States and Territories (Davis et al., 1988). These mechanisms provide an excellent opportunity for Premiers and their Ministers to address the success and future direction of existing State and Territory disaster management programs.

Emergency Management Australia through its training arm, the Australian Emergency Management Institute, also fulfils an important role as an inter-government consultative mechanism. This is particularly important for effecting Federal-State and Federal-Local understanding and cooperation in disaster management.

Semi-State Institutions

Other less obvious institutions of the State include the political parties, pressure groups, the Church, sections of the media, and trade unions (Jaensch, 1992). These institutions represent the margins of State policy making and policy implementation. Nevertheless, they can and have on occasion represented a powerful force in Australian politics. As lobbyists, popular movements, or alternate single issue political parties (Warhurst, 1983; Warhurst, Bean & McAllister 1990) they can get Government to rethink its policy making.

Cleavages in Australian society: between rural-urban populations; between ethnic groups; between unions and businesses: between black and white; between States, and between the States and Canberra; betwee ı cities; and between different regions, take on a political dimension where different sec ors or groups in the community have different needs, different desires, and demand di ferent things from Government (Jaensch, 1989).

MODELS OF STATE GOVERN ANCE AND AUTONOMY

State governance and autonom y can be explained by making reference to four models (Table 5.1). In the Sovereign Ra ionality-Bounded State Model the State is the architect of society; the agency is a neutral instrument implementing political goals; the public are voters subordinate to the State. In the Institutional State Model the state develops and maintains political and moral order; the agency protects the order and individual rights; the public are citizens with rights ar d duties defined by the system. In the Corporate-Pluralist State Model the State is an arena for bargaining and conflict resolution; the agency defends special interests; the public are members of formal organisations. In the Supermarket State Model the State is a service p ovider and "bookkeeper for the great necessities"; the agency facilitates service deliv ery; the public are sovereign consumers or clients. The Australian State exhibits asp ects of all four types of State governance. Disaster management is subject to the l mitations of each type of governance. For example, the Supermarket State Model serves to justify why a policy area such as disaster management is considered a public good.

Table 5.1
Models of State Governance

		Decisions are voluntary and reflect the goals and expectations of rational actors	*Decisions are determined and respond to environmental forces*
		Sovereign Rationality-Bounded State Model	*Institutional State Model*
Decisions are made among actors with shared goals or norms	*The organization's role in the state*	The state is the architect of society: the agency is a neutral instrument implementing political goals: the public are voters subordinate to the state.	The state develops and maintains political and moral order: the agency protects the order and individual rights: the public are citizens with rights and duties defined by the system.
	Formation of organizations	Organizations are designed by political leaders: autonomy is delegated.	Organizations develop over time in a natural, historical process.
	Criteria used to assess organizations	Organizations are judged by their political effectiveness.	Organizations are judged by their effects on structures of meaning and norms.
	The organization's form and place in a network	The organization is a departmental agency embedded in a hierarchy.	The organization is an independent court embedded in a moral order.
	Reasons for an organization's autonomy	Autonomy is justified by rationality and expertise: it relieves political leaders and avoids embarrassment	Autonomy is justified by shared norms of noninterference.
	Reasons for change in an organization	Change depends on changes in political leaders, elections, coalition formation and breakdown.	Change depends on the historical process, mostly influenced by changes in the government.
		Corporate-Pluralist State Model	*Supermarket State Model*
Decisions are made among actors with conflicting interests	*The organization's role in the state*	The state is an arena for bargaining and conflict resolution: the agency defends special interests: the public are members of formal organizations.	The state is a service provider and "bookkeeper for the great necessities": the agency facilitates service delivery: the public are sovereign consumers or clients.
	Formation of organizations	Organizations develop out of bargaining and political struggles among interests.	Organizations are formed by environmental pressures. "evolutionary" selection.
	Criteria used to assess organizations	Organizations are judged according to who gets what.	Organizations are judged according to their economy, efficiency, flexibility, and survival.
	The organization's form and place in a network	The organization is a collegium with interest representation embedded in a corporate-pluralist network.	The organization is a corporation embedded in a competitive market.
	Reasons for an organization's autonomy	Autonomy is justified by realpolitik, or the distribution of interests and power.	Autonomy is justified by the ability to survive.
	Reasons for change in an organization	Change depends on changes in power, interests, and alliances.	Change depends on the rate of stability or change in the environment.

Source: Olsen (1988:22)

In the first part of this Chapter, then, we have highlighted some of the complexity of Australia's polity in which disaster policy is formed and implemented. In the second part of this Chapter, we examine policy making in disaster management; the principal actors involved in disaster policy making; and the policy ideas, policy decisions, and policy

implementation. Various mode s of policy making are outlined in demonstration of the complexity and variable nature of disaster policy making. It will be discerned from the discussion, that different appro aches to decision making are often required in different disaster management situations.

A conceptual approach is taken in the analysis of policy making in disaster management. Reference is made to both Aus ralian and United States of America case material. It is noted, however, that the policy processes and operation of Government are quite different in the two countries.

POLICY MAKING IN DISASTER MANAGEMENT

Disaster management, like othe r public policy areas, is characterised by different levels and types of decision making de pending on situation and circumstances (Comfort, 1988). May et al. (1996) reinforce this finding with their investigation of hazard management and governance, and associated eval uation of intergovernmental approaches in Florida, United States of America and New So th Wales, Australia. This investigation was an extension of work completed by May & Handmer (1992) examining regulatory policy design: cooperative versus deterrent ma dates.

Policies reflect the history and structure of the policy system in which they occur. Disaster policies are no exc ption. Policy systems are also primarily driven by characteristic forms of depen ence which link actors and groups (Considine, 1994). Policy systems also exhibit a po icy culture:

> ...the cognitive or intellectual structure which enables participants to express emotions, to trust one another, to resolve disagreements and to repair damage done through conflict (Considine, 1994:2).

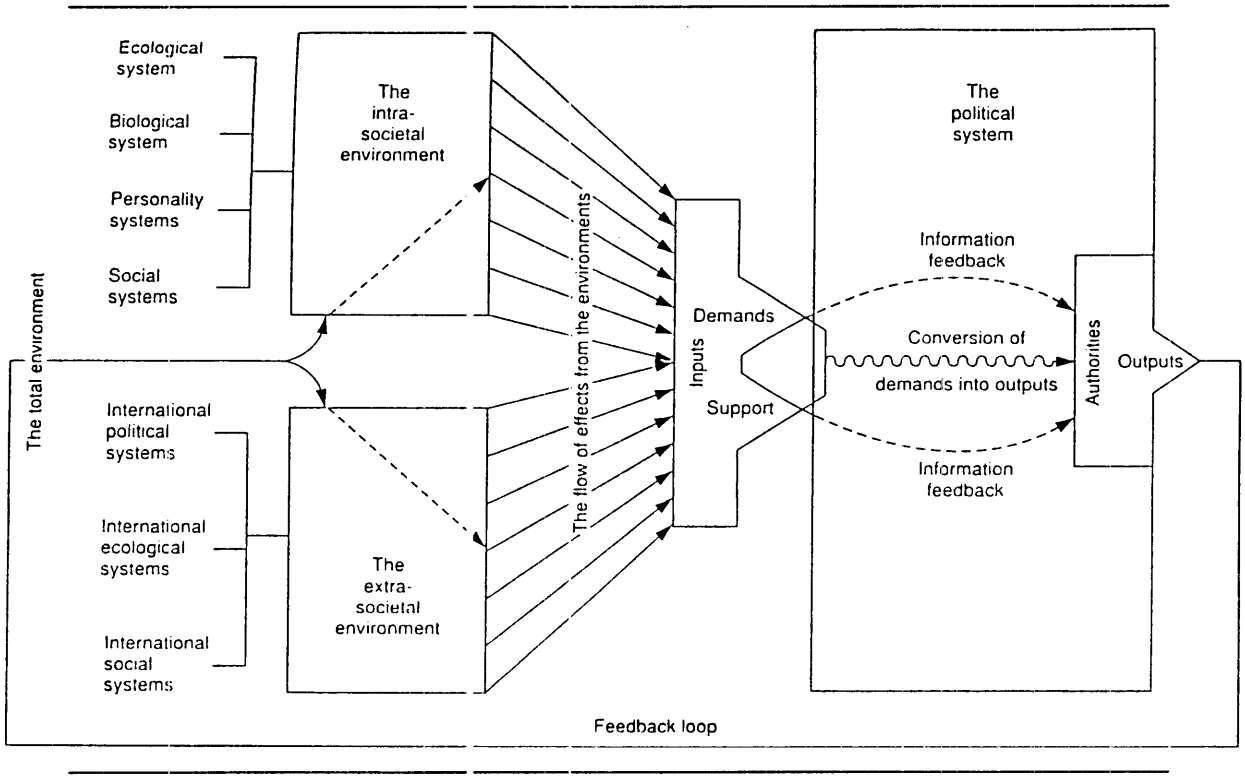
Moreover, policy systems:

> ...are primarily com posed of resources and values intertwined through institutions and habits...what distinguishes a policy system is the central role of government authority as a form of public power wh ch can sanction and legitimise actions (Considine, 1994:2).

These descriptions define a dynamic response model of a political system (Figure 5.2). This model shows how the political system interacts with its surroundings and adapts to new pressures and opportunities. Governments have, in recent years, taken on board ever more complicated policy arenas (and existing ones have also become more complicated) so that the processes being discussed here are becoming even more critical. Disaster management is one such policy arena - indeed, an extreme case of complexity.

Figure 5.2

Easton's (1965) Dynamic Response Model of a Political System



Source: Considine (1994:43)

More specifically, to a large extent the development of policies and programs to deal with potential disasters depends on the value we individually place on our security, that is, the levels of risk with which we are willing to live (Waugh & Hy, 1990). The assessment of that risk:

> ...is a political process influenced by the personal and professional interests of the assessors, the level of public attention (or inattention), the economic interests that may be affected by programs to eliminate or lessen the risk...(p1-2).

Disaster management policies can be divided into four categories: disaster mitigation, disaster preparedness, disaster response, and disaster recovery. There is overlap across these four functions. Waugh & Hy (1990:3) identify a number of determinants of disaster management policies that have profound implications for the effective design and implementation of disaster management policies and programs:

- The issue of 'issue salience';
- The issue of political and administrative responsibility; and
- The issue of technical expertise.

Issue salience is a critical variable in the policy making process. Many types of disaster tend to occur infrequently, and so their effects are very difficult to anticipate (Waugh & Hy, 1990). Moreover, it is difficult to justify the expenditure of scarce resources to prepare for events that may not happen (Waugh, 1988;1990). Generally, disaster preparedness efforts have very low salience among public officials, as well as among the public itself, and this a major impediment to effective policy making (Waugh & Hy, 1990). Fragmented government responsibility is a second major impediment to effective action. The United States of America Federal system fragments policy making vertically between national and state governments with relatively little autonomy at the local level, and horizontally among a multitude of competing agencies with overlapping jurisdictional prerogatives (McLoughlin, 1985). Effective decision making and program coordination is difficult in the absence of a strong 'lead' government. Australia experiences similar problems with regards to fragmented government responsibility, particularly, at the State-Local level. Unlike the United States of America, however, Australia should be able overcome the problem by further recognising and reinforcing the State-Local government relationship. The third impediment to effective disaster management policies and programs is the lack of technical expertise to identify and assess hazards adequately, predict the occurrence of disasters, and provide the requisite technical information for the design and implementation of effective programs (Waugh & Hy, 1990).

Disasters, as was demonstrated in Chapter One, are extreme events in which the human socio-economic and physiological systems simply do not have the capacity sufficiently to reflect, absorb or buffer the potential impact of such events (Alexander, 1993:5). Let us take an example of such an event: the Victorian Ash Wednesday bushfires of February

1983. As an extreme event (Task Force Ash Wednesday Bushfires, 1984:23), the extent and severity of the Ash Wednesday bushfires saw:

- 47 people dead;
- 2,080 homes were destroyed or damaged;
- 32,750 head of stock were lost;
- 8,900 kilometres of fencing was destroyed; and
- 200,000 hectares of land area was burnt (85,200 hectares was State Forest).

Compounding the disaster (Task Force Ash Wednesday Bushfires, 1984:24-35) were:

- The extreme weather conditions (high temperatures, gale force winds and low humidities);
- The extreme fire severity;
- The disruption of facilities and systems (communications; power supplies; provision of warning; access into, egress from and movement within fire-affected areas; utilisation of water storages);
- The degree and types of destruction;
- The protection and evacuation of communities;
- The immediate post-impact conditions and requirements;
- The long-term relief problems; and
- The rehabilitation of communities.

The extent and severity of the Ash Wednesday bushfires challenged existing disaster policy ideas, decisions, and implementation (Task Force Ash Wednesday Bushfires, 1984:36-116) in terms of:

- Planning and organisation;
- Mitigation and preparedness;
- Legislation;
- Public awareness and education
- Communications;
- Warning and information systems;
- Shelter;
- Evacuation;
- Fire-fighting operations;
- Relief measures; and
- Research.

Not surprisingly, the severity o' the bushfires left the general public wanting answers to such questions as: "Why the c isaster occurred?" and "Why was there no warning of impending disaster?" and "Who can be blamed for the disaster?" and "Will the disaster be repeated?" Again, it is only natu ral that under such community pressure, government and the Public Service will go into a form of damage-control mode, whereby certain committees of inquiry/investigation are set-up with a frame of reference to find answers as to why the disaster occurred. It is critical for government to be seen to be doing something. Failure to do so, wc uld result in loss of community confidence/support, and ultimately loss of government it the next election. In this respect, public perception of crises tends to be immediate, and cyclic. Applying the Issue Attention Cycle (see Downs, 1972) to disaster management shows how public perception of crises is one of repeated heightened awareness, action, and then boredom. The Issue Attention Cycle moves through five stages (Figure 5.3).

Figure 5.3

The Issue Attention Cycle

Stage 1

Pre-problem stage, the issue is the concern of experts and the directly involved.

⇓

Stage 2

Alarmed public discovery with sudden pressure for action.

⇓

Stage 3

Realisation of the cost of significant progress. People realise that certain sacrifices by large groups of people will be needed to address problem. People realise that problem must have winners and losers, and that the losers may be themselves in their role as taxpayers.

⇓

Stage 4

New issues emerge, and there is a decline in public interest regarding the original issue. The electorate becomes frustrated, frightened or just bored with the original problem.

⇓

Stage 5

Post-problem stage. The process is not entirely without result, because by the final stage one would anticipate that agencies, programs and legislation will have be established to deal with the original problem.

⇓

Stage 1-5 Repeated

Source Adapted from Downs (1972:40)

The Issue Attention Cycle is of assistance when understanding policy issues as they relate to disaster management, particularly with respect to developing community hazard and disaster awareness/perception. Such awareness becomes critical when deciding to evacuate, or choosing to remain in one's house and combat the effects of an extreme event (ie. bushfire). Following the model, identifies that there is a good and bad or effective and ineffective time for policy makers to address inefficiencies in disaster management practice and highlight the need for possible change. In Australia, the issue

attention cycle tends to be a very short one because occurrence of disasters is infrequent. Presumably, the best time to highlight inefficiencies in disaster management practice and the need for change, is the immediate aftermath of an extreme event, when an 'alarmed' public exerts pressure for action. This political pressure, however, will generally be short lived, and thus the need to act quickly and decisively is underlined. Moreover, because the people affected by disaster tend to be a minority, they have organisational difficulties putting their case and thus demonstrate low political salience. Ultimately, a policy system and policy cycle has no meaning unless individuals are making policy decisions and choices. So, who are the policy actors in disaster management?

POLICY ACTORS IN DISASTER MANAGEMENT

The key participant in public policy considerations is the Australian State. Of particular interest to us in Australia, is State and Local Government. Under the Australian Federal system, State Governments are responsible for the protection and preservation of the lives and property of their citizens. State Governments exercise control over most of the functions which are essential for effective disaster mitigation, preparedness, response and recovery - through legislative and regulatory arrangements which the community and the various organisations operate, through the provision of police, fire, ambulance, medical, hospital and emergency services to the community.

State Emergency Management Committees play a critical role in effective disaster management. In enacting these responsibilities the State Committee is reliant on being assisted by District Emergency Management Committees (DEMC), as well as Local Emergency Management Committees (LEMC). The ideas, decisions and implementation of State and Territory Disaster Plans are subject to intense lobbying from disaster-relevant organisations. Conditions under which lobby groups exert most power were discussed in Part A. Interest groups are potentially numerous if one accepts that some twenty-six State-level organisations are expected to have input into the disaster management process (see Chapter 2 and Table 2.5). Local Government interests are also expected to play a major role in the disaster management partnership, as do the many voluntary organisations in Australia which assist with disaster (see Chapter 2 and Table 2.6).

Electors as policy actors have limited capacity to directly influence disaster policy. As a powerful lobby group(s), electors could perhaps force bureaucracy and government to

listen. Ironically, such lobby groups have most chance of succeeding in the aftermath of a disaster. Characteristically, this is the period when bureaucracy and government is likely to listen to the need for structural and/or legislative changes. By way of example, a study was commissioned by the New South Wales Deputy State Coroner to assist in the Inquiry into the Sydney bushfires of January 1994. Terms of Reference for the study were (Cunningham, et al., 1994):

- The problems inherent in hazard reduction strategies, and why attention to such strategies has seemingly been neglected prior to the January 1994 wildfires.
- What might have been possible on the part of the community, District Fire Committees and individual householders to have mitigated the worst effects of the fires. In particular, did weather conditions in the years before the 1994 fires hamper the efforts of District Fire Committees and other authorities in hazard reduction burning programmes.
- What can be done to ensure that communities and individual householders are well informed and prepared for future bushfire outbreaks.

At the State, regional, and local level there is inevitably conflict among policy actors towards disaster policy as it relates to mitigation, preparedness, response and recovery, and this effects the formulation of policy ideas, the decision-making process and policy implementation (Britton, 1991b). Inter-government (ostensibly State-Local relations) and inter-organisational conflict (in one form or the other) has been identified in the response and recovery operations of Australia's more extreme events, or disasters (see Chamberlain et al., 1981; Chamberlain et al. 1981; Task Force Ash Wednesday Bushfires, 1984; and Cunningham, et al., 1994). Conflict among policy actors appears to be a common finding throughout the world, and in particular, the United States of America (Comfort, 1988; Pavlak, 1988). Uncertainty surrounding disaster, compounded by low frequency of disasters does little to curb inter-personal, inter-organisational and inter-governmental conflict. Uncertainty, is a dominant and overwhelming feature of decision making under disaster conditions (DDC) (Dror, 1988). This characteristic, suggests Dror (1988:26-261) is illustrated in a number of ways:

- The calamity itself is unpredictable, at least in location and scope and often in its basic features.
- The unfolding dynamics of the calamity is shrouded in fog, with many actual events being unknown to DDC till much later.
- The often Cardinal future scenarios of the calamity dynamics cannot be predicted.

- The second, third, and further levels of calamity effects are often indeterminate. For instance, involved populations may either panic or organize very effective self-help measures, with quite different implications for DDC. Such levels of calamity effects often are unpredictable and cannot be unknown without long time lags.
- The many results of DDC actions cannot be predicted, with a high probability of unanticipated and frequently undesired consequences.

Dror (1988:261) suggests that because of these, and other uncertainties built into calamities, all DDC involves 'fuzzy gambling', in the sense that decisions must be made in the face of uncertainty. So how, then, do the policy actors arrive at policy decisions?

POLICY IDEAS, POLICY DECISIONS, AND POLICY IMPLEMENTATION

How are policy decisions and choices made in disaster management? The answer to this relatively straightforward question is anything but straightforward! A policy decision is the outcome of a policy process. Not all policy decisions, however, result in positive outcomes. Disaster management brings forth all kinds of maladaptive response from the bureaucratic system (Britton, 1991a; 1991d). Indeed, policy decisions more often than not, have special interest groups shaping procedures, intervening at strategic moments, and challenging the validity of administrative decisions (Jaensch, 1992). Disaster policy decisions are no exception. The diffusion of power makes it impossible to talk about a single decision making process. The organisational culture(s) of the respective emergency service organisations in Australia reinforces this trend, particularly given the hierarchy within the disaster relevant organisational network which ensures that: all organisations are equal, but some are more equal than others (Britton, 1993). For every routine choice there are others which require difficult decisions, perhaps long before adequate information is available. Process must bend to meet circumstances. Because problems vary, policy formation adjusts across time and place (Comfort, 1988). One should be aware, however, that evaluation of policy and policy systems which is an accepted as an important means to policy adjustment and improvement, is largely a poorly managed task, which more often than not ends up with the implementation of 'fatal remedies' (Sieber, 1981; Sorensen & Auster, 1989). Fatal remedies, in this case refers to policy adjustments which are converted to frequently unintended and disastrous outcomes.

Luaiufi-Moli (1995:98) highlighted three dimensions surrounding the general process of policy making and implementation:

- The interdependence between policy making and implementation. Obstacles to policy implementation are inter-changeable with those highlighted in the process of policy formation;

- The evolutionary nature of the policy formulation and implementation process together with the complexities in society means there is no ideal way to make policies; and

- The comprehensive analysis of government organisations and their operations is frustrated by the un-predicability and dynamic nature of human interactions.

Disaster management policy making takes place in two different political worlds (Comfort, 1988). The first world is that of normal politics where disaster policies have low political salience and, as a result, are relegated to the backwaters of legislative committees and agency activity. The second world is the 'active' one of disaster policy making that occurs in the aftermath of major catastrophes. In this second world, disaster policy has high salience featuring intensive media attention and politicians' desires to help disaster-struck communities (Sinha, 1992). These features of disaster policy making can be likened to the issue attention cycle mentioned earlier (see Downs, 1972) where public perception of crises is repeated with each issue - heightened awareness, action and then boredom. No policy statement will be forthcoming unless a problem is recognised.

The Idea

Political salience and/or awareness of disaster potential is the first requirement for policy making. It is almost a sine qua non that disasters have low public salience, at least for most of the time (Waugh & Hy, 1990). Only immediately after an impact are communities, certainly those in the immediate vicinity, interested in the issue of disaster management. Even then, their concern is likely to be directed towards issues of response and recovery rather than mitigation and/or preparedness (Waugh & Hy, 1990). In this regard, the field of emergency management historically has focussed on the immediate and urgent aspects of a disaster - the response function of emergency service organisations; the advance planning and training necessary for emergency operations; and the post disaster recovery period (Cigler, 1988). To illustrate low salience, Drabek (1990) describes the difficulties disaster managers have in justifying their expenditure levels in the face of more immediate and visible needs. Drabek notes that the community's perception of hazards is characterised by denial and unfounded notions of invulnerability. Rubin & Barbee (1985) also note that Local Government traditionally is rarely concerned

about 'disaster' as a policy issue, particularly in the light of more routine roles and responsibilities.

Strong political leadership in Parliament, and more specifically, in the Department of Prime Minister and Cabinet is required to react to the strategic issues of disaster mitigation. This is particularly true of the post-disaster phase, when there is often considerable pressure to rebuild a community exactly 'as was' prior to disaster impact. Moreover, this is pressure, which can see the rejection of mitigation measures in the wake of the very incident whose impact they could have helped reduce (Godschalk, 1989). Tactical issues of disaster response and recovery are more pressing, more obvious and more amendable to the 'quick-fix' mentality. Indeed, rapid resolution of response and recovery issues, particularly in the post-disaster euphoria is relatively easy to achieve and brings positive political outcomes.

By contrast, mitigation policies are less visible and more intractable to a rapid, obvious solution. Factors affecting adjustment to hazards are: individual assumption of risk, governmental assumption of risk, and intergovernmental and other intersystem incentives (Cigler, 1988). If one accepts that the development of an IDMS is a means of pursuing strategic issues of disaster mitigation, then emergency services, and more particularly, disaster management as a policy area is perhaps best served by being located in the Department of Prime Minister and Cabinet. This action would accord the policy area of disaster management position, status, credibility, and therefore, some level of priority in relation to other policy areas. The Department of Prime Minister and Cabinet would characteristically be 'expected' to exhibit high level leadership; something, which is a critical factor in disaster management.

Development of policy ideas are most likely to be forthcoming in the post-disaster phase, although various pressure groups, including response agencies, Local Government associations, conservationists or developers naturally attempt to raise issues at other times. This refers to the interaction of stakeholders in the Australian State. Ideas thrown in to the political arena, tend to be acted upon only if enough 'political noise' can be generated; to achieve this, requires intense 'lobbying' by relevant stakeholders (Laube & Murphy, 1985). Having said this, the development of policy ideas in the immediate recovery period may also be perverse (Comfort, 1988). Again, the example of the Port Arthur, Tasmania massacre is of assistance here. It could be argued that people do not

always think rationally in such circumstances, and become emotionally wedded to restoring the status quo ante (ie. gun lobby is resolute that semi-automatic weapons will not be banned), or even perhaps go overboard to protect the community against some unlikely future event. It could be further argued that the more dramatic the dislocation, the more dysfunctional is likely to be the political response - at least immediately upon the event and without time for due reflection.

Effective policy ideas will address the what, when, how, why, and for whom considerations as they relate to disaster management. Although this appears logical, politicians and bureaucrats who follow their ideologies will often make decisions on incomplete and/or inaccurate technical information (Considine, 1994). Moreover, one cannot always guarantee the existence of an explicit, defined or systematised policy governing disaster recovery (Laube & Murphy, 1985). That is to say, the rationale for the policy and actions of government and private sector agencies may not be fully enunciated, even to themselves. Ideas, and the policy programs derived from ideas, may be based on precedents which have been forgotten. Ideas and policy programs may be adhoc and they can often address individual and community needs in a fragmented manner.

Policy ideas may also be developed in response to immediate and/or unique events, without clear consideration of long term or consistent objectives. Hazard mitigation practices spring to mind. State of mitigation practice includes structural (engineering solutions) and non-structural (regulatory approaches) (discussed in Chapter One). The dilemma lies in the costs and benefits of mitigation. Often a mitigation measure is selected without a true evaluation of its benefits and costs (Cigler, 1988). Clearly damage costs should be compared to the costs of adjustment, yet we know very little about the total costs of mitigation (Cigler, 1988).We do know, however, that adjustments to mitigate the extremes of natural and technological disaster are not totally successful and that total adjustment to a threat is often impracticable and may be unwise from a cost-benefit analysis. These issues and others raise the classic problem of social regulation and how the costs of the problems should be distributed. This is the subject of Chapter Six.

Development of ideas into policy and implementation is mediated through political and bureaucratic processes. Disaster management is no exception. In addition, there are also the constraints imposed on ideas by community expectations of involvement in the policy development process. Moreover, the level of attention given by government and agencies

to specific disaster policy ideas is important. It would be true to say that comprehensive disaster management as individual policy ideas - disaster mitigation, disaster preparedness, disaster response, and disaster recovery - are not acknowledged in party platforms, general statements of government intent or election manifestos (see examination of party platforms by Jaensch, 1992 and Davis et al., 1988). Environment promises does not negate lack of awareness and understanding of disaster in party platform statements. If there is a disaster awareness and understanding then precepts of comprehensive disaster management appear concealed and implicit in broader policies, such as those concerned with law and order or social justice.

By way of illustrating the previous statements, disaster recovery policies, like those of mitigation and response, are articulated at ministerial level through such documents as - State Disaster Recovery Plans and Emergency Management Acts. At this level policy statements are usually couched in general terms. Even at senior bureaucratic levels, and this applies to private as well as public sector agencies, there is a tendency to avoid detail and specificity in public declarations (La Plante, 1988; May, 1988). It is only at the level of operations and/or organisation 'grass roots' levels that specific declarations of purpose and intent are given (La Plante, 1988). Typically, however, these levels of organisation lack the authority to turn ideas into policy. Although one can assume that statements made by officers involved in program management reflect the intention of senior managers and government (La Plante, 1988 May, 1988), it is always difficult to be assured that program implementation closely parallels the intent of government policy. This situation occurs and will continue to occur while there is a level of apathy in the community (emergency service personnel included) towards the occurrence of disaster events. Put simply, there is tension between the political and bureaucratic wings of government. The former blows hot and cold on the subject (with the hot often reflecting erratic, irrational community sentiment), while the latter has to keep the flag flying throughout long periods of apathy.

Nowhere is this situation more clearer than in disaster recovery management, where policy statements are extremely general and programs are put into effect infrequently (Laube & Murphy, 1985). This situation may be justified by the process of compromise, whereby policy formulation and implementation progresses through a number of levels, and is subject to a range of constraints, that force compromise and interpretations (Laube & Murphy, 1985). The point here is that between government intention and actual practice

there will be a series of interpretations, re-interpretations and compromises which may not always be apparent to the researcher, or if they are not documented, may be very difficult to identify. Bureaucratic constraints are to blame for this circumstance. For example, the Department of Prime Minister and Cabinet may decide that an IDMS is warranted and should follow certain design principles. The Public Service implementing Department of Prime Minister and Cabinet policy will make its own interpretations as to the form the IDMS will take and what design principles will be adopted. The outcome can be something very different to what was intended, and may represent no more than an incremental change to existing policy.

The Decision

Political willingness is a function of an ability to act and a reason to act. The ability to act depends on a government's technical capability, its resources and its flexibility. A government will base its reason to act on either a desire to uphold community values, or to protect the community's economic base (Rubin & Barbee, 1985). Unfortunately, in the field of disaster mitigation, these two motivations may be mutually incompatible. For example, a policy of preventing construction in flood prone areas might protect a community's economic base, but be contrary to the same community's values of developmental freedom.

There may also be a number of other considerations related to the willingness to act. Such questions (Rubin & Barbee, 1985; Laube & Murphy, 1985) relate to the proper role of the state (should the state be bearing risk, or should the individual, or both); the effects of mitigation policies on the various stakeholders (at-risk groups, insurers, the wider community); disputes over the responsibility for policy creation and/or implementation (between departments, statutory authorities or levels of government); overlapping jurisdictions (between levels of government and between departments within each level); decisions relating to who should deliver programs (again vertically and horizontally within and between governments and departments); and disputes over values, including ideological questions relating to cost and benefit (such tensions are particularly evident in Australia's Federal system). These questions are essentially political and lie at the heart of the decision making process.

After passing through all the government hoops, a disaster mitigation policy must ideally have the active, or at the very least, tacit support of the relevant community. More than any other aspect of disaster management, mitigation strategies are the resultant outcome of community concerns and political agenda (Drabek, 1990). In this respect, mitigation policies are the nexus of clashes between stakeholders' interests. Most, if not all mitigation policies tend to be interventionist, ranging from relatively inoffensive tactics, such as building regulation, through to potentially inflammatory policies related to zoning, taxation or rating incentives and disincentives and even land acquisition (Comfort, 1988). Any intervention will have its supporters and detractors. For example, the decision to build a dual-levee system to protect the Town of Carnarvon, Western Australia in the wake of the disastrous floods of 1961 saw heated debate between townspeople and plantation owners (Sinclair Knight & Partners, 1981). Plantation owners perceived the levees would increase the magnitude of flooding on their properties situated along the banks of the Gascoyne River (Pagram, 1992). Their fears proved correct. As a result, a series of levees were constructed in the wake of disastrous floods in 1974 and 1980 at strategic points on plantation properties to control the flow of water (Sinclair Knight & Partners, 1981). A growing town saw the completion in 1990 of further town levees thus facilitating further urban subdivision. The effect of all these levee constructions in terms of increasing potential flood height and therefore capacity for older levees to be breached is yet to be realised (Pagram, 1992).

The pluralist processes largely used in Australian public decision making are biased in favour of particular, powerful interests (Davis et al., 1988). This inequality can lead to one sided decision making. Powerful interests can keep issues off the agenda altogether. In terms of hazard mitigation, competing interests abound. For example, disaster mitigation policies will more often than not be seen as anti-development and be strongly opposed by powerful pro-developmental interests (Comfort, 1988). Decisions will be made on the basis of the decision maker's weighting of the competing interests and their perception of the potential community support (and electoral consequences) of their actions (Comfort, 1988).

Adoption of rational decision making processes in disaster mitigation is difficult due to the limited information available and the difficulty of quantifying the factors involved. In addition, there is limited time available to analyse the long term planning options required for mitigation policy, due largely to the number of daily decisions requiring immediate

action (Kunreuther, 1982). Complex decisions, such as those involved in disaster mitigation, make the application of rational decision making models time consuming and expensive. Often, the information required to make rational cost-benefit calculations is not available or is disputed by different stakeholders. Objectivity in assigning costs and benefits may not be possible (Kunrether, 1982). Indeed, technical decision making might not even be appropriate. At best, one can only engage in disjointed incrementalism.

Having said this, given political willingness to act, a government's knowledge of 'what to do' will play a pivotal role in the decision making process. The flexibility of the bureaucracy and its experience in dealing with similar problems are important dimensions of the decision making process (Rubin & Barbee, 1985). Few public officials (at least in the United States of America) have thought about devising integrated strategies for reducing risk from multiple hazards, particularly through strategic mitigation strategies (Godschalk, 1989). This requires a rational comprehensive approach to decision making. However, the majority of disaster mitigation strategies emphasise a structural solution, for they are highly visible demonstrations that the government is 'doing something' (Rubin & Barbee, 1985). Alternative strategies may simply not be within the government's corporate knowledge bank and are therefore not even considered in the decision making process. Governments that do not communicate within and between other governments will not be exposed to the widest possible number of alternative actions. As a consequence, strategies and solutions, are at best, incremental.

During disaster recovery the need for some form of relief assistance is obvious, but what constitutes an appropriate level of government assistance is less apparent. The political visibility of the relief effort and pressures to provide extraordinary levels of assistance are typically such that special disaster-specific relief legislation is introduced into Parliament, thereby shifting disaster relief policy from the periphery to centre stage. Between catastrophic events, disaster relief policy making is left to a few disaster specialists within government. At such times the specifics of disaster relief policy are a central concern only to those specialists, the relevant government agencies, and limited number of interest groups (Laube & Murphy, 1985).

Governments' role in shaping disaster relief policy differs in the two political worlds cited earlier. Post-disaster impact, government relief agencies have discretion, within certain limits, in negotiating the specific relief provisions (Emergency Management Australia,

1995). These negotiations have been occasions for introducing fairly substantial policy changes. More generally, the cumulative actions of government agencies in responding to various disasters define the content of government disaster relief policy. In the intervening period between disasters, the emphasis of government agencies is on promulgating administrative regulations often designed to overcome problems encountered in recent disasters (Laube & Murphy, 1985).

Commonwealth assistance for any particular disaster is negotiated by State Government officials in response to pressure from Local Government, community expectation and need (Emergency Management Australia, 1995). The tenor, then, of relief efforts is influenced by an inter-governmental relationship. However, unlike the United States of America where the relationship is strongest between Federal and State Government agencies, in Australia the bond is strongest between State and Local Government. United States experience has shown that inter-government relationships with respect to disaster management can be either successful and unsuccessful (Laube & Murphy, 1985). Disaster event magnitude and extent will determine whether the inter-government relationship is successful or unsuccessful. Furthermore, Schneider (1995) addresses why government (United States of America) performance in the area of disaster response is inconsistent:

> I argue that the answer to the preceding question [why governmental performance in the area of disaster response is inconsistent?] does not lie solely in the structure of the governmental response system or the nature of the disaster. Instead, it is a combination of these two factors. More specifically, the key to a successful governmental response depends on the extent to which post disaster human behaviour corresponds to prior to governmental expectations and planning. On the one hand, public organizations develop standard operating procedures, routine policies, and institutionalized processes that are supposed to address every possible contingency. **These bureaucratic norms provide the foundation for the governmental response system. On the other hand, some disasters generate conditions that are unusually difficult, complicated, or stressful. During these situations, bureaucratic norms and institutionalized patterns of behaviour simply do not seem to apply. Therefore, new or emergent norms develop to provide guidance and meaning to the affected population** (p6).

Clearly, according to Schneider (1995) when the gap between these emergent norms and the pre-existing bureaucratic norms of the government system is quite wide, the response process breaks down. This fact underlines the need for flexible, intelligent disaster

management arrangements. Varying the sizes of the gap in different norms corresponds with three alternative patterns of policy implementation (Schneider, 1995:6-7):

- First, when the gap between emergent and bureaucratic norms is relatively small, governmental policies and procedures provide an appropriate guide to human behaviour. This is bottom-up policy implementation.
- Second, there are other disasters that produce a moderately sized gap. Bureaucratic and emergent norms do not exactly agree with each other, but they are not entirely contradictory either. This leads to a situation in which there is no clear guidance for, or support of, government activities. This is confused policy implementation.
- Third, in some situations, bureaucratic procedures and patterns of human behaviour diverge entirely from one-another; in such cases, the gap is extremely wide. In these disasters government simply cannot follow its standard operating procedures. This is top-down policy implementation.

Disaster events in the United States of America have had two fundamental influences on government policy, best described as a 'ratchet-like' effect. First, the policy at any point in time is likely to be defined in terms of the most recent disaster (Rubin & Barbee, 1985). This in turn skews disaster policy more generally toward extreme events. Second, the recurrence of disasters has become occasion for further expanding the scope of and opportunities for funding recovery and reconstruction (Rubin & Barbee, 1985). This in turn, has resulted in increased government outlays for disaster programs. The expansion of outlays has led to the search for ways to limit government disaster relief expenditures in particular and disaster losses generally. In Australia, it is noticeable due to low political and bureaucratic awareness of disaster potential and community expectation and pressure (in the immediate post-impact period) that disaster policy at any point in time is likely to be defined in terms of the most recent disaster.

The political dilemma of disaster policy making, on one hand, the politically most popular policy, expanding government disaster assistance for recovery and reconstruction, is both costly and does little to control longer-run growth of disaster losses. On the other hand, policies that are believed to be most effective in these latter respects, mitigation and preparedness, are politically less salient and therefore unlikely to receive much attention during the 'active' stages of government disaster policy making.

Implementation

Generating a policy idea and having that idea pass through the decision making process to be finally accepted as a policy for implementation is a large part of the battle won. The war is not over, however, until the policy is implemented and operating. Effective policy implementation will require both a top-down (Elmore, 1978 and Ham & Hill, 1984) and a bottom-up (Elmore, 1978 and Ham & Hill, 1984) approach to policy implementation. Furthermore, effective policy implementation requires:

- An evaluation and revision;
- An assessment of goals;
- A consideration of training requirements; and
- A consideration of costs.

During the implementation phase, a government must rely on its political awareness and astuteness. These qualities may be even more important than ability to act, reason to act, or knowing what to do. The inevitable trade-offs and cost benefit considerations of the decision making phase should be publicised early to help develop and maintain community consensus (Rubin & Barbee, 1985). Convincing the community that a balance has been reached between mitigation strategies (often invisible) and response/recovery activities (usually visible) will help build and maintain support for implementation (Comfort, 1988). A useful weapon in the communication armory is to ensure a pre-disaster awareness of the strategic (as opposed to expedient) development options that the policy represents (Smith & Tobin, 1979; Geipel, 1991).

Unfortunately, however, long term vision is often difficult to promote in the face of opposition based on short term gain. One way to promote policy implementation is to adopt an 'all hazards' approach to mitigation (Godschalk, 1989). Such an approach may increase community acceptance by demonstrating the full scope of hazard threat and potential economic loss. The aim is to integrate development and hazard mitigation strategies to gain support from the community.

Placing more emphasis upon hazard mitigation and preparedness, however, creates an implementation dilemma. On the one hand, government officials have a strong stake in promoting hazard mitigation and preparedness, in order to lessen government costs for disaster recovery, but little direct control over the effectiveness of such efforts (Smith & Tobin, 1979). For disaster policy to have an impact in lessening disaster losses, the

programs the government esta blishes must alter the behaviour not only by persons in government agencies, but also b y personnel in state and local government, and ultimately individual citizens (Smith & To bin, 1979).

The difficulty is that citizens and governmental officials often do not feel an urgency to undertake such actions. People who reside in hazardous areas tend not to worry about the 'coming' disaster event until it occurs. Believing they have little control over such events, they tend to be fatalistic about the occurrence of disasters (Geipel, 1991).

We now turn to a discussion of models of policy making. The previous section outlined a range of general policy ideas, policy decisions and policy implementation relating to disaster and disaster management. So, what now are some of the more relevant decision making models that give rise to policy ideas, policy decisions and policy implementation in disaster management?

MODELS OF POLICY MAKING

Rational Comprehensive Model

In the Rational Comprehensive Model, disaster management policy is determined using a rational approach to decision making. The Rational Comprehensive Model is the work of Herbert Simon (1957). Simon, was of the opinion that decision making was based on rational choices. In this model, Simon wanted goals to be specified, all alternatives measured and compared, and a choice made which would maximise an organisation's objectives. There would then, be an identifiable set of stages (Soroos, 1991:6) to a rational policy process:

- A recognition of a policy problem;
- A specification of procedures;
- An understanding of goals and principles;
- A formulation of policy alternatives;
- A consideration of policy alternatives;
- A decision on a policy;
- An implementation of the policy;
- A review and evaluation of the policy; and
- A decision on the future of the policy.

Sieber (1981), however, underlines a level of cautiousness concerning rational decision making, in terms of its capacity to result in fatal policy remedies. The Rational Comprehensive Method is very much the ideal, but is it achievable in disaster management? In theory, rational decision making is something to be aimed for. At best, District and Local Emergency Management Committees are only intendedly or boundedly rational. These Committees are expected to implement the broad policy of State Disaster Councils and State Emergency Management Committees and liaise with their respective communities with regards to the communication of hazard risk and threat. Moreover, these Committees are expected to adopt a series of intelligent design principles and components (in their search to establish an intelligent disaster management system) in their strive for rational decision making in disaster management. Table 5.2 identifies these intelligent design principles and components.

Table 5.2

Intelligent Design Principles and Components

Principles
• All Hazards; • Comprehensive; • Integrated; • Consistent and Equitable; and • The Responsible and Prepared Community.
Components
• Organisation; • A Planning Process; • Effective Plans; • Skilled Personnel; • Actions; • Inter-Agency Roles and Responsibilities; • Information Management and Communications; • Adequacy of Resources and Maintenance of Readiness; • Operational Flexibility; • Capacity to Manage Extreme Events; • Funding; • Parliamentary Accountability/Ministerial Authority; • A Policy Development Process; and • Evaluation of the Results.

Source: Adapted from Emergency Management Australia (1995:6)

Accepting that politicians and administrators have limited ability to compare options and therefore may no be able to identify the correct decision, Simon (1957) developed as a compromise, a 'behaviour alternative model' or what he couched as 'bounded rationality'. This was in response to answering criticisms of the Rational Comprehensive Method. Some of these criticisms are outlined in Table 5.3. Bounded rationality meant that decision-makers would sacrifice complete objectivity in order to satisfy the need for speedy and a workable solution. The result is 'satisficing', as policy makers relax the criteria of strict rationality. Bounded-rational decision making is, then, the 'ideal' situation, or more importantly, the solution in a crisis situation.

Table 5.3

Criticisms of the Rational Comprehensive Method

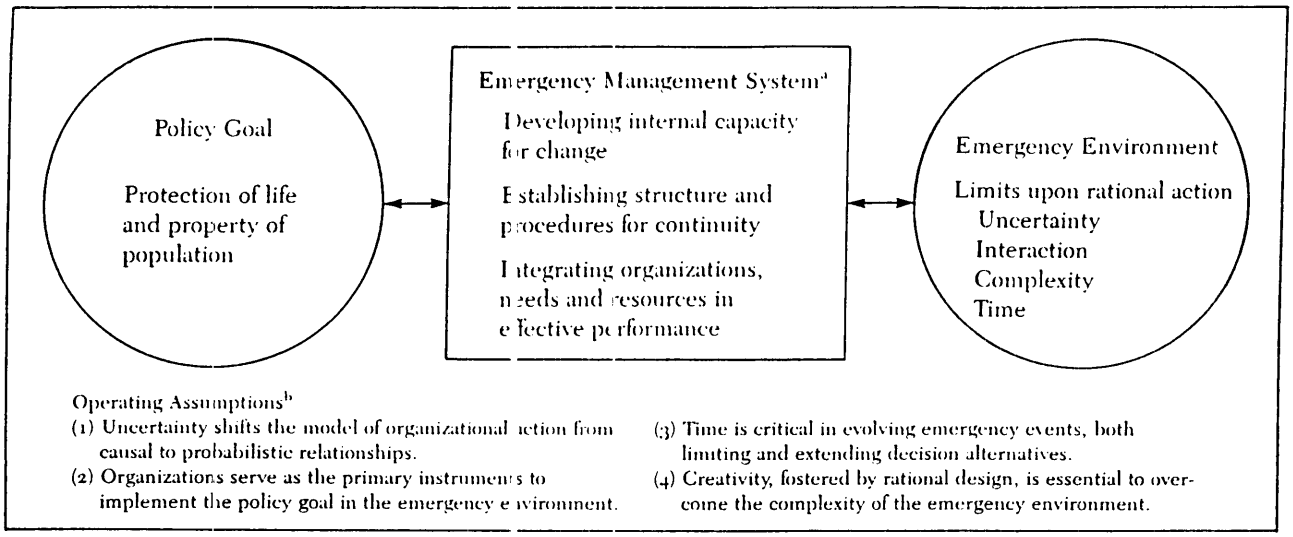
- Individuals are rarely rational;
- Individuals have different values and goals to organisations;
- Organisations are far from homogeneous;
- The political and bureaucratic environment is an unpredictable one, making the prospect of identifying order difficult;
- Limited resources, time constraints and imperfect knowledge combine to make it difficult to rationalise a choice between alternatives;
- Societal complexity is such that the consequences of a policy are only known during and after implementation; and
- The success of rational decision making is dependent on effective leadership and individual personality traits.

Source: Adapted from March & Simon (1958:21)

Comfort (1988) drawing upon Simon's concept of professional design and organisational behaviour research, outlines a model of professional design (see Figure 5.4) in emergency management, where coping with the complexity involved in emergency management requires a clear conceptualisation of the policy process.

Figure 5.4

A Model of Pro essional Design in Emergency Management



[a]This rational system includes the interjurisdictional emergency relationships established at federal, state, county, and city/district levels.
[b]This model draws upon the concept of professional design stated by H. A. Simon (1969, 1981) and the discussion of organizational behavior in L. B. Mohr (1982).

Source: Comfort (1988:7)

The model of professional design:

> ... represents the conscious effort to create the appropriate mix of change through developmental learning processes, continuity through organizational structure, and integration through organizational structure, and integration through interactive communication patterns needed to sustain a functioning emergency management system in a complex, dynamic environment (Comfort, 1988:6).

Identifying the strategy for change and the development of learning capacity in emergency organisations, Comfort (1988:11) identifies three rational processes:

- The assessment of risk;
- The feedback of information to decision makers; and
- The adjustment of performance based upon current information.

Combined, these processes result in a powerful clarification of goals for action at the respective jurisdictional levels of emergency operations and the sequential phases of emergency management. Comfort (1988) suggests that:

> ... given the bounded rationality of human decision makers, design specifies the information search, feedback, and decision processes within the complex emergency management system in a manner that refocuses the goals for action at each succeeding level of organizational decision (p12).

It is clear that a bounded rational or flexible and intelligent approach to decision making in disaster management is required; not least to deal with events which are dynamic, uncertain, and complex.

Incrementalism

Finding the rational comprehensive model restricting and a poor guide to the reality of decision making, Lindblom (1959 & 1965) reworked Simon's concepts of bounded rationality and the notion of satisfying into an alternative model termed incrementalism or a model of 'successive limited comparisons'. Policy, argued Lindblom proceeds by increment. Lindblom accepts that in making a decision, means and ends are not always clear, and that there is rarely the time, resources or inclination to conduct a comprehensive search. Further, Lindblom observes that the test of a good policy is not whether it is rational, but whether it is acceptable to participants.

More specifically, the test of a good policy is when various analysts find themselves directly agreeing on a policy, though they may disagree on the most appropriate means to that policy. Under such circumstances, it is not unusual to foresee the development of possible fatal policy remedies (Sieber, 1981) on the part of State Disaster Councils and State Emergency Management Committees as they propose what they view as 'rational' policy change. Reality, however, dictates that District Emergency Management Committees and Local Emergency Management Committees will most likely implement disaster policy, at best, incrementally. The reason for this, is that they do not have the resources (personnel, equipment, financial, experience etc.) to effect a more rational comprehensive approach to disaster management. Ironically, this could see many fatal remedies overlooked or untested outside of a disaster situation. If incremental muddling (Lindblom (1965) in disaster policy making is to be overcome (and perhaps appear to be

more rational), thereby facilitating the development, design and implementation of a IDMS, then a combination of several conditions may be required:

- A disaster (actual);
- A change of government;
- A review and identification of Public Service inefficiencies;
- A review of inter-government consultative/coordination mechanisms (particularly, State-Local relations); and
- A review of inter-organisational relationships.

These conditions may determine that there may be some advantage to be gained from competition among emergency service organisations, even though at first sight such competition may seem wasteful. The trade-off is that new ideas about disaster management may be generated in a contested environment. This would perhaps limit the effects of bureaucratic incremental muddling. Incrementalism, however, like the rational comprehensive method is not without its critics.

Dror (1964:155) attacked incrementalism as representing an 'ideological reinforcement of the pro-inertia and anti-innovation forces prevalent in all forms of human organisation', administrative and policy-making. The fact that it could be argued that incrementalism is a more adaptive path to change in a complex world does not seem to feature in Dror's analysis or understanding of complexity and uncertainty. Incrementalism argues Dror can only work in stable, pluralist society with relative consensus about goals and acceptable means. Goodin (1982:19) went further and labelled incrementalism as 'perverse and pervasive' because it disguised value judgements underlying the incremental choices of decision-making.

Reflecting on his incremental model of decision making, Lindblom (1979:18) acknowledged a possible weakness in his prescriptive claims, and proposed a notion of 'strategic analysis' which would employ formal analytic techniques, though in a manner which would short-cut the conventionally comprehensive 'scientific analysis'. Strategic analysis would reinforce and justify the actions of the decision maker, as they searched for the familiar by suggesting some variation of existing practice. If the variation satisfies participants (after strategic analysis), then the problem is solved; if not, the decision maker

moves to the next most familiar solution, always proceeding through comparison of existing policy with possible marginal alterations.

Strategic analysis provides the means of adjusting performance of emergency operations. In this respect, Cohen (1984) outlines:

> The content of information gained from interorganizational feedback processes coupled with clear understanding of policy goals at the successive levels of emergency operations, allows a closer fit between intent and outcome in actions taken. In the continual search for effective performance, feedback systems provide a rationally ordered flow of information, between the dynamic emergency environment and organizational decision makers, and back again. While informal feedback mechanisms exist via communications patterns among friends and coworkers in most complex organizations, significant improvements in the identification of error and consequent adjustment is achieved when the feedback is designed on a systematic basis (p440).

Establishing carefully sequenced feedback processes within and between organizations, and within and between jurisdictional levels of the emergency management system, is a rational task accomplished with 'systematic planning', practice, and agreement.

Combining Rationality and Incrementalism

Dror (1968:133-154) hoping to reformulate the rational comprehensive tradition proposed a Normative Optimum Model which would combine rational and 'extra-rational' (intuitive) components. In this model there would be a synthesising of realism and idealism, where the decision-maker would examine a problem, clarify objectives, survey the major alternative approaches and then decide whether greater benefits would be served by proceeding incrementally or through a conscious strategy of innovation.

Dror (1988) applied his Normative Optimum Model to advocating a variety of recommendations for improving decision making under disaster conditions. Specifically, these recommendations include:

1. Authority & Functions

Clear establishment of the legal authority of DDC is critical in disaster conditions (Dror, 1988:265).

2. Facilities

Without suitable facilities, the quality of DDC is seriously impaired (Dror, 1988:265).

3. Internal Structures and Organization

A number of structural and organisational principles can augment DDC, creating an adaptive, rapidly learning, and crisis-accommodating agency. Some of these principles, suggests Dror (1988:266-268) include:

- Built-in positive redundancy and multiplexing, with parallel teams considering critical decisions so as to compress time;
- Clear-cut decision makers, preferably individuals rather than collective bodies, with defined division of authority, to accelerate decisions and establish authority;
- Internal division of labour, combined with full elasticity, so that staff and functions can be shifted around and staff resources can be re-allocated according to urgency and nature of disaster;
- Special units in charge of select processes, including intelligence and implementation monitoring;
- Distinct units are also needed to mange issues that do not seem pressing and that, therefore, tend to be integrated into DDC rather than left for later; and
- Brain trusts, drawing upon outside volunteer experts, should be formed to consider special issues.

4. Decision Processes and Procedures

Decisions processes and procedures are at the core of DDC. Many of the detailed processes and procedures depend on the specific types of disaster to be managed by discrete DDC units (Dror, 1988). On a more general level, needed processes and procedures, suggests Dror (1988:268-269) would include:

- Preprogrammed, carefully exercised and updated procedures for activating DDC, including rapid mobilisation of staff and preparation of equipment and facilities for operations;
- Continual estimation and current and current portrayal of the disaster situation;
- Appropriate models for decision analysis are essential to assure decision quality under extreme time pressures;
- Special attention must be given to conditions of uncertainty, to avoid its repression or displacement;

- Creativity, in the sense of inventing good ideas for managing disaster predicaments, needs to be encouraged during DDC; and
- Necessarily, standard operating procedures will play a major role in DDC, but they must not be permitted to repress improvisation.

5. Staffing

Processes and procedures constitute the core of DDC, but the primary factor in determining DDC is the human beings engaged in DDC and its related activities. Therefore, developing the capacity of staff is the single most important approach to improving DDC. Dror (1988) suggests that in dealing with DDC staffing, a number of separate aspects need careful attention and improvement:

- Staff composition - the staff must include experts in the various fields relevant to particular disasters and include DDC process professionals (experts in policy analysis, decision psychology, and crisis management);
- Staff professionalisation - the staff as a whole needs professional training in DDC;
- Crisis management experts - improving DDC needs trained crisis management experts (to prepare crisis management experts, innovative programs are needed at public policy schools etc.); and
- Politicians and DDC - politicians who are in charge of DDC need some suitable training too (participation at simulated operations exercises and specially designed workshops may be the most practical means for preparing politicians for their critical roles in DDC).

6. Integrative Simulated Operations Exercises

A principal mode to integrate various improvements of DDC, as well as to test the improvements of DDC, as well as to test the improvements and train DDC practitioners and professionals, is integrated simulated operations exercises in DDC. Such exercises provides and element of realism which is so important for ensuring effective performance in actual disaster situations. The basis of integrated simulated operations exercises in DDC, suggests Dror (1988:271) includes:

- Integrative operations exercises need to be done periodically;
- Parts of DDC can and should be exercised more frequently, in preparation for the annual full-scale exercise;
- Realistic conditions should be simulated as far as possible;

- Diverse scenarios should be utilised and tied into contingency planning;
- Real-time monitoring is essential, with careful discussion of the exercise and written analysis of the experiences to facilitate organisational learning; and
- The participation of politicians who will be in charge in real disasters is very desirable, but often difficult to achieve; surrogate arrangements include participation of principal advisers and assistants of the politicians in the exercise.

7. DDC Research, Development, and Pilot-Testing

The need for DDC research, development, and field testing is demonstrated by the many unresolved problems and needed methods (Dror, 1988:271).

8. Policymaking for DDC

DDC is simultaneously a dispersed activity of importance to many localities and a national necessity; consequently, an integrated inter-governmental approach to policymaking is necessary (Dror, 1988:272).

9. Embedment in Governance Retrofitting

An even broader perspective for looking at DDC is to view disaster response and crisis management in general as a form of policymaking under adversity and of societal problem-handling processes (Dror, 1988:272). DDC development can be regarded as one of many modes for retrofitting governance to improve the capacity to govern (Dror, 1988:272).

Having outlined Dror's recommendations for combating poor decision making under disaster conditions, it is somewhat surprising, and the author believes worrying, that Dror (1988:267) would advocate a hierarchical structure as being the most effective for DDC, on the basis that collegial, consensual, and coordinational arrangements do not permit rapid and clear-cut decision making with due accountability, essential for DDC. Dror, advocates a flexible and innovative disaster management system which creates an adaptive, rapidly learning, and crisis-accommodating organisation. Yet, Dror believes that such an 'intelligent' system can be provided by adopting a hierarchical model. There seems to be a contradiction here. Perhaps, Dror is referring to the development of a modified bureaucratic form? It is difficult to rationalise an answer to this question, however, as Dror is not very clear. If anything, Dror's discussion of the ideal internal structure, organisation, decision processes, and procedures are suggestive of a matrix organisational design. Whatever Dror's reasoning is for advocating a hierarchical

structure, it should be stated that it has been shown (see Britton, 1991a:56) that hierarchical (bureaucratic) structure undermines adaptiveness, learning ability, and crisis-accommodation capacity through:

- The differential authority distribution within the network;
- The bureaucratic rivalry leading to problems of disputes over domestic turf;
- The problem of inter-organisational competition solved by the adoption of generalist orientation towards network mission objectives (rejection of niche diversification);
- The propagation of committees and other structural offshoots;
- The emphasis on administrative solutions to interorganisational problems (restructuring);
- The reliance on economic rationalisation as basis for restructuring;
- The consolidation and strengthening of procedural objectives;
- The narrow knowledge base coupled with inadequate often inappropriate information selection;
- The lack of effective communication between network agencies;
- The ineffective utilisation of boundary spanners;
- The inadequate commitment towards effective network coordination; and
- The maintenance of the status quo.

It is the opinion of the author, that collegial, consensual, and inter-organisational coordinational arrangements will permit rapid and clear-cut decision making with due accountability, if an intelligent matrix, rather than hierarchical network design is adopted. And, that such an intelligent structure, is supported by intelligent human resources management, and in particular leadership.

Etzioni (1967) took a different tack in his attempt a reconciling the practicality of incrementalism with the comprehensive rational method. Etzioni distinguished between fundamental decisions establishing the broad framework of goals in a policy area, and incremental choices used to fill in the details. He termed this 'mixed scanning'. If fundamental decisions are made on rational criteria, and then details decided incrementally, the resulting mixed scanning policy-making would be 'more realistic and more effective than its components' (Etzioni, 1967:390).

Both the Dror and Etzioni decision making models have their weaknesses like the models presented by Simon and Lindblom. Dror does not say how a decision maker should decide whether a problem requires an incremental or innovative synoptic approach (Davis et al., 1988:168). Etzioni also fails to clarify a technique for distinguishing between fundamental and incremental decisions, and does not specify how his mixed scanning would work in incremental practice against the values embodied in the rationally determined framework. Neither also addresses in detail the problem of assigning weights to conflicting variables (Davis et al., 1988:168).

Disaster management would benefit by there being some reconciliation between the rational comprehensive and incremental approach to decision making. It was stated earlier in this section that establishing carefully sequenced feedback processes within and between organizations, and within and between jurisdictional levels of the emergency management system, is a rational task accomplished with 'systematic planning', practice, and agreement (Cohen, 1984). More specifically, any Edison making model which attempts to achieve inter-organisational communication, cooperation, and coordination and more effective relations between State Disaster Councils, State Emergency Management Committees, Regional Emergency Management Committees, and Local Emergency Management Committees is to be encouraged. Reconciling the two decision making approaches above would create the ideal circumstances for decision making under disaster uncertainty and adversity. The rational comprehensive approach creates the necessary structure in which control (or more correctly, coordination) and authority can be exercised. Incrementalism provides the necessary flexibility to enact an adaptive, rapidly learning and crisis-accommodating decision making network. These attributes are the foundation of an intelligent disaster management system.

If the rational comprehensive model and incrementalism cannot be reconciled then the problem may be the definition of 'decision' (Smith & May, 1980). If decisions are in practice constrained by a series of broad social factors, then any description of the policy process requires a prior understanding of power relations. Analysts should ask not only what decisions were made, but which were not taken and why - the importance of non-decisions. Bachrach & Baratz (1963:641) define the non-decision process as operating 'when the dominant values, the accepted rules of the game, the existing power relations among groups, and the instruments of force, singly or in combination, effectively prevent

certain grievances from developing into fully-fledged issues which call for decisions'. Testing Bachrach & Baratz's (1963) argument is not easy. Indeed, explaining why a decision was not made, and demonstrating how powerful interests could actually manipulate the agenda of public debate is very difficult (Polsby, 1979; Davis et al., 1988).

Policy making can also be understood in the form of a Public Choice Model. A Public Choice Model, espouses an internal rationality which links cause with effect, and claims a greater efficacy in understanding politics and policy-making (Davis et al., 1988). It draws upon assumptions developed within the discipline of economics. A Public Choice Model does not address the detail of making decisions, as do some of the models presented earlier. Rather, it points to patterns, to predictable outcomes in public policy. Public choice writings suggest that regulation will tend to be captured by interest groups, that markets will be dominated by cartels unless government ensures open competition, that public bureaucracies will tend to be self-serving, and that certain forms of state intervention are likely to fail because they cannot satisfy a range of policy preferences (Davis et al., 1988:173-174).

Public choice arguments rely on controversial assumptions. People know their preferences and act on them efficiently. Values can be ordered. Organisations behave like individuals in making consistent and maximising decisions. Groups attract members through self-interest, and therefore fail to form or are weak if no obvious benefit accrues from joining (Davis et al., 1988). Dunleavy (1991) suggests that the implicit analogy between economic and political behaviour does not always hold. Preferences cannot be assumed; they are constantly being reconstituted by the political process, can be inconsistent and may be premised on other than immediate self-interest. Further, political actors do not have perfect information when establishing preferences; maximising can be difficult in the face of uncertainty.

To some degree the difficulty of reconciling a rational comprehensive and incremental approach to decision making in disaster management can be understood by recognising the role of public choice and economics. Indeed, public choice and economics are portrayed as underestimating the importance of organisations (Davis et al., 1988). New institutionalism seeks to restore some semblance of life to explanations of policy choices. It focuses on the way choices are made, on who wins and who loses, with a particular emphasis on the rules of decision (March & Olsen, 1989; Searing, 1992). New

institutionalist accounts of pub ic policy stress the role of organisations in making sense of, and mediating, the interplay between interests, values and resources. Disaster management would benefit fr om understanding the underlying methodology of new institutionalism, particularly as it relates to a possible reconciliation of rational and incremental decision making.

It is clear from viewing the analysis of policy making models presented above that different management situations require different approaches in decision making. Disaster management is probably best s erved by a combined rational-incremental policy making model. This would provide the necessary organisational learning capacity to combat the effects of disaster. More import ntly, reconciliation of rational and incremental approaches to disaster management define ' ntelligence'.

CONCLUSION

Public policy decision making s a complex process, based on political choices between competing interests. In order to have a policy decision implemented, there must first be a salient problem to be addressed. Identification and promotion of the importance of the problem requires strong politi al leadership, particularly in the face of limited public salience. Unless decision make s are convinced of electoral value of addressing an issue, no idea will mature into an implemented policy. This is particularly true of disaster mitigation policies.

Even if strong leadership has thrust mitigation policy onto the political stage, a decision on what (if any) policies are to be implemented is required. Intelligent political leadership is needed to balance the competing interest of numerous pressure groups, many of which will have a voice out of propor ion to their constituency. Rational attempts at allocating resources to disaster mitigation will be difficult to achieve due to the limited and imperfect information available. The resources to seek additional information with which to bolster a case (in time, personnel or mor ey) may not be available. Opposing groups may, on the other hand, have extensive resource bases. It is likely that the group which can muster the best case (or make the most nois e) will win the day.

Without the positive support from the bureaucracy, a policy initiative is unlikely to succeed, at least in the form ori ginally envisaged. The ability of the bureaucracy to alter

the process, and eventually the product, is enormous. As in all political manoeuvring, it is essential to gain the support of the bureaucrats who will be administering the mitigation policy to ensure it is actively pursued. Moreover, the positive support of the bureaucracy, and in particular State Disaster Councils, is of critical importance if the development and design of an intelligent disaster management system is to take shape and ultimately be implemented. The role of communication in this process should not be underestimated. Perceived threats to organisational integrity, role or turf must be resolved before implementation can take place. Sensible and open communication, within and between organisations will help to circumvent potential difficulties.

Recognising that different management situations require different approaches in decision making is also important. This is particularly true of crisis and non-crisis situations. Reconciling rational and incremental decision making on the part of State Disaster Councils, State Emergency Management Committees, Regional Emergency Management Committees, and Local Emergency Management Committees should be a principal goal. Moreover, irrational decision making in crisis and non-crisis situations should be identified, explained and learned from with a view to avoiding similar mistakes in the future. It is clear that the development of personal and team leadership will be a major factor here.

In the next Chapter we examine economic considerations as impediments to the development of an Intelligent Disaster Management System.