# A SYSTEMS PERSPECTIVE ON UNITED KINGDOM NATIONAL VULNERABILITY: THE POLICY AGENDA

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**Abstract**

**Researchers in the United Kingdom have long recognised that the emergency management system was in need of restructuring. (Parker and Handmer, 1992; Rockett 1993; Coles 1999; Norman and Coles 2002). The fuel crisis and the floods of 2001 and the foot and mouth crisis of 2002 exposed serious weakness in the United Kingdom's capability to deal with wide area emergencies, and the government's own capacity for dealing with crisis. The subsequent terrorist attacks of 9/11 further emphasised the *ad hoc* nature of the UK system and added impetus to the need to restructure. The current developing policy is a result of a review of emergency management strategy and an extensive consultation process coupled with the perceived need to reduce national vulnerability to terrorist attack. Resilience' has been a term adopted by the Government in an attempt to describe the way in which they would like to reduce the UK's susceptibility to major incidents of all kinds by reducing their probability of occurring, their likely effects and by building institutions and structures to minimise any possible effects of disruption upon them. (Cabinet Office, 2002) This paper will consider the criteria suggested by Comfort (1995) and the dimensions described by Rosenthal and Kouzmin (1997) coupled with the notions of 'systems, complexity and resilience when critically examining the developing policy agenda in the UK.**

*Keywords: resilience; anticipation; systems; complexity; risk; Capabilities Programme; Civil Contingencies Bill; policy; decision-making; emergency management; capability; government*

*"Our objective is to do everything that can be done to enhance our resilience."*
(Home Secretary – Hansard, Nov. 2001)

## INTRODUCTION

Comfort (1995) notes that designing policy for future events crucially depends upon the degree of certainty or uncertainty faced by the architects of such policy. It appears that the terrorist events in the USA of September 11th 2002 (9/11) (and

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more recently the events in Madrid in 2004) have served, as the journalists would like have it, as a 'wake up call' for western governments and have increased the degree of uncertainty faced by policy makers.

Britton (1998) when discussing recent changes to emergency management policy in New Zealand pointed out that if emergency management was to meet the challenges of reducing uncertainty and ensuring public safety then a major policy shift was needed. The shift, he suggested was in the need to anticipate risks better rather than rely on being prepared to respond to hazard impacts once they occur. He went on to identify several factors that he saw as critical to changing mind-sets, including government willingness to maintain progress and follow through in the face of what he calls the *'tyranny of the immediate"* (p); the ability of local government to develop effective risk management tools that will assist in allowing informed choices to be made and the willingness of the emergency services to take note of evidence based research and implement education and training programmes in a timely fashion. All of which seem to be particularly appropriate for the UK case.

Comfort (1995) further suggests that strategies to cope with the "*risk of future adverse events"* (p174) depends upon accuracy, the capacity to re-organise existing resources, skills and knowledge and the ability to develop systems that cross organisational and jurisdictional boundaries.

Rosenthal and Kouzmin (1997) have added to the debate on policy stating that disaster impacts (whether natural or man-made) are compounded because *"policy makers have prepared neither themselves nor the public for appropriate responses once tragedy strikes"* (p277). They further believe that understanding the way governments (and thus policy makers) respond to crises involves the *"examination of at least four dimensions"* (p286). These are the administrative system, the administrative level, the speed of government intervention and the scope and strategy of government intervention. Interestingly, as early as 1991 Parker and Handmer noted that *"the British approach is characterised by a lack of policies, especially explicit national policies providing unambiguous signals."*, a position that has remained unchanged until now (see for example Norman and Coles, 2002, Coles 1999 and Coles 1998).

This paper will consider then, the criteria suggested by Comfort (1995) and the dimensions described by Rosenthal and Kouzmin (1997) coupled with the notions of 'systems, complexity and resilience when critically examining the current developing policy agenda in the UK. Rosenthal and Kouzmin (1997) also offer some useful insights from a systems perspective into government decision making during crisis. They consider the complexity of crisis events and the government systems in place for dealing with such situations. Wildasvsky (1988) discusses the meaning of employing a resilience strategy and what such a strategy entails with regard to public action. This paper will also consider both the complex decision making processes of the UK government policy and the use of a resilience strategy to tackle the important issues of legislation, structure, communication and co-ordination identified by Norman and Coles in 2002.

In the United Kingdom (UK) the new millennium brought with it some events that increased the degree of uncertainty faced by policy makers, challenged emergency management arrangements and raised issues regarding their appropriateness. The background to the current situation has been documented elsewhere (see Norman and Coles, 2002, Coles 1999 and Coles 1998) and describes a number of policy reviews undertaken in the last fifteen years. Furthermore, it describes how UK researchers have long recognised that the emergency management system was in need of restructuring. (see for example Parker and Handmer 1992, Rockett 1993, Coles 1999, Norman and Coles 2002). However, only when the fuel crisis and the floods in the millennium year of 2001 and the foot and mouth crisis of 2002 exposed serious weakness in the capability to deal with wide area emergencies, plus the government's own capacity for dealing with crisis, that policy makers began to take notice. The degree of uncertainty being faced was such that the Deputy Prime Minister ordered an immediate review of emergency management arrangements, (the fourth in twelve years), and an extensive consultation process. It is worth noting here that disaster events like the ones mentioned above are described by Schneider (1995:p11) as triggering mechanisms, they have the effect of pushing issues such as local authority emergency management onto the political and public agenda almost instantaneously. Similarly Comfort et al (1999) point out that "*Disasters serve as evidence of the need for change in public policy and practice, and create an opportunity to redesign, revise or rebuild the human environment damaged by the event.*" The subsequent terrorist attacks of 9/11, Bali and now Madrid have further emphasised the *ad hoc* nature of the UK system and added impetus to the need to restructure.


## RESILIENCE, SYSTEMS AND COMPLEXITY

Added to the last review and its associated consultation process, the declared 'War on Terrorism' with its accompanying rhetoric, associated heightened national security and its emphasis on chemical, biological, radiological and nuclear (CBRN) attack has lead to the Labour Government to develop new policy in the form of a 'Resilience Agenda' for the United Kingdom. The choice of terminology is interesting focussing as it does on the ability to respond and 'bounce back' from destructive events. It appears to accept an inevitability that such events will happen rather than an adoption of a proactive anticipatory crisis management approach. Indeed, the Commissioner of the Metropolitan Police, Sir John Stevens, has recently confirmed such a stance (BBC, 2004). However the following discussion will go some way to demonstrating that the choice of such a term is not necessarily a poor one.

### Resilience

'Resilience' has become a very popular term in much of the post 9/11 emergency management dialogue and political rhetoric, yet it is not a new concept as far as risk is concerned. In 1982 Douglas and Wildavsky were discussing the concept of risk

from a cultural perspective, observing that the management of risk posed a dilemma of the polar opposites of anticipation and resilience. They describe resilience as *"the capacity to use change to better cope with the unknown: it is learning to bounce back"* (p196) and note that *"anticipation emphasizes uniformity"* and that *"resilience stresses variability"*. (p197) A later study by Wildavsky (1988) further developed the notions of anticipation and resilience with regard to devising effective courses of action by public authorities to cope with uncertain, catastrophic events. He saw anticipation as *"predicting hazards, specialized protections, centralisation and detailed standards"*, whilst he viewed resilience as *"trial and error, general capabilities and decentralization"* (p244). He concluded that the most beneficial strategy for coping with risk and its outcomes is one of finding a balance between anticipation and resilience. More recently Kendra and Wachtendorf (2003) have applied the term to the creative actions of organisations they observed in the aftermath of 9/11. They argue that such creativity is an important element of resilience being a significant feature of the emergency response and suggest that planning and training should enhance creativity at all levels of responding organisations.

> *"…training and preparation remain fundamental, but creative thinking, flexibility and the ability to improvise in newly emergent situations is vital"* (p52)

Similarly, Dynes (2003) agrees that the term resilience does convey a sense of emergent behaviour *"which is improvised and adaptive in rapidly changing and usually ambiguous conditions"* (p17). Conversely, he sees the command and control structure of emergency response organisations as a 'destroyer' of flexibility and innovation rather than a necessary part of response to it as Wildavsky (1988) does.

'Resilience' then, has been a term adopted by UK policy makers in an attempt to describe the way in which they would like to reduce the nation's susceptibility to major incidents of all kinds by reducing their probability of occurring and their likely effects and by building institutions and structures in such a way as to minimise any possible effects of disruption upon them. (Cabinet Office, 2002) It has been stated that the 'resilience agenda' is seeking to do three things;

1. Build a comprehensive capability for anticipating major incidents, where possible prevent them or take action in advance that will mitigate their effects.

2. Ensure that planning for response and recovery is geared to the risk therefore ensuring preparedness.

3. Promote a 'culture of resilience' including business continuity thus helping to reduce the disruptive effects of disaster. (*ibid*)

Again Britton (1998) points out that an emergency management policy like the one envisaged by UK policy makers does have the capability to create resilience in communities but only through *a recognition of the risks in the wider hazard-scape, and the essential resources required to reduce their consequences* (p3). He

suggests that resilience can also be developed through a proactive emergency management strategy that helps communities choose a level of risk appropriate to their circumstances, but warns that *"knowing that simply reducing losses from future disasters is too narrow a goal"* (p3).

Finally, Rosenthal and Kousmin (1997) point out *"…that a key question regarding the necessity of a response to threatening inputs bears on the dilemma of restoration versus adaptation or innovation as the appropriate functional requirement"* (p283) echoing again the anticipation versus resilience argument.

**Systems and Complexity**

The concept of systems thinking and the associated notion of complexity offer some useful insights into the structure and processes of organisations in dynamic environments. Foster et al (2001) define these two inextricably linked concepts in a simple heuristic as, *"system concepts are a set of techniques used to address complex situations"* (p1). At the core of the systems concept is the notion that the state of universe is uncertain, that the whole is made up of interdependent, interacting parts, and that no one world view should dominate over another. This is opposed to a Newtonian view of linearity, predictability, control and the attainment of perfect knowledge. The concept emerged in the 1990s as a post modern alternative to this Newtonian worldview.

A Complex System then is any system which involves a number of elements, arranged in structure(s) which can exist on many scales. These go through processes of change that are not describable by a single rule nor are reducible to only one level of explanation; these levels often include features whose emergence cannot be predicted from their current specifications. A systems perspective applies systems principles to aid a decision-maker with problems of identifying, reconstructing, optimizing, and controlling a system (usually a socio-technical organization), while taking into account multiple objectives, constraints and resources. It aims to specify possible courses of action, together with their risks, costs and benefits

Emergence is one of the key attributes of complex systems and can be defined by saying 'the whole is greater than the sum of the parts'. The outcome cannot be predicted from studying only the fine details. The unpredictability that is inherent in the natural evolution of complex systems can yield results that are totally unpredictable based on knowledge of the original conditions. Such unpredictable results show how complex systems are inherently creative ones and are still a logical result, just not a predictable one.

Comfort (1995) suggests that complex, adaptive systems may be capable of sustaining the balance between anticipation and resilience proposed by Wildavsky but found it rare in practice. She concludes that in order for the balance to be developed emergency response organisations must have a capacity for learning

from previous actions and incorporating the new knowledge into the decision making process.

Both Foster et al (2001) and Rosenthal and Kouzmin (1997) make the point that policy makers/decision makers do not think in a systems way and therefore take an over simplistic view of the world, a view that is also supported by Broderick (2003). This in itself can present problems for the design of policy in as much as failing to take a systems perspective can lead to the failure to consider of crucial (inter)dependencies and interactions. Indeed Rosenthal and Kouzmin (1997) observe *"....within this putative complexity, cognitive simplicity has tended to prevail. This may operate through simplifying biases (Hogarth 1980), which can lead to severe and systematic error, it may also operate through limited cognitive maps that exist at organisational levels"* (p282). Further to this a Department of Health report entitled '*An organisation with a memory*' concludes *"it is important to consider experiences in the context of the various systems in place and the way these interact, because only in this way is it possible to come to sound conclusions about the nature of potential and actual risks faced"*. (p44)

## THE POLICY AGENDA IN THE UK

The developing policy agenda in the UK is a two stranded approach focussing on a Capabilities Programme and the Civil Contingencies Bill 2004 (CCB). This paper will focus mainly on the Capabilities Programme as the one of the central tools for building resilience and will only briefly survey the CCB.

### The Capabilities Programme

As one of the first measures put in place post 9/11 by UK policy makers the Capabilities Programme can be seen as an attempt to develop the strategies outlined by Comfort (1995) and address first two of the dimensions described by Rosenthal and Kouzmin (1997) noted above. It uniquely covers all areas of the UK including the devolved administrations of Scotland and Northern Ireland and is seen as part of the core framework through which the Government is seeking to build resilience across all parts of the state. It is however, a complex and confusing picture of inter and intra departmental domains and responsibilities and arguably appears to be a clear example of how to further extend complexity in what is already a complex, tightly coupled system of interactions and interdependencies. Such environments can present difficulties and as Rosenthal and Kouzmin commented in 1997:

*"For administrative and organisational actors alike, however, contingency stemming from adverse or complex situations has not yet been fully recognised as a critical element in decision-making strategy. This is, in part, a consequence of the fondness for divided responsibilities in administration with an attendant*

*fragmentation of, and an inability to coordinate properly various interdependent activities".* (p284)

"Capability" is a military term which is intended to be inclusive of personnel, equipment and training and such matters as plans, doctrine and the concept of operations. Essentially the programme is an audit of current infrastructure and resources with the scope of the programme ambitiously extending to the full range of responses to the full range of contingencies likely to face the UK in the first decade of the 21st century. The aim is to ensure that a robust infrastructure of response is in place to deal rapidly, effectively and flexibly with the consequences of civil devastation and widespread disaster inflicted as a result of conventional or non-conventional disruptive activity (CCS, 2003)

The programme consists of a total of seventeen capability "workstreams" which fall into three groups:

- three workstreams which are essentially structural, dealing respectively with the central (national), regional and local response capabilities;

- five which are concerned with the maintenance of essential services (food, water, fuel, transport, health, financial services, etc);

- nine functional workstreams, dealing respectively with the assessment of risks and consequences; chemical, biological, radiological and nuclear (CBRN) resilience; infectious diseases – human; infectious diseases – animal and plant; mass casualties; mass fatalities; mass evacuation; site clearance; and warning and informing the public.  (*ibid)*

At national level each of the workstreams are the responsibility of a designated lead government department[i], a peculiarity of the UK system. Within each of the lead departments, a workstream leader at senior civil service (SCS) level is responsible for the management of a programme of work that is set out in a delivery plan agreed with government ministers. The Civil Contingencies Secretariat (CCS), part of the Cabinet Office is the coordinating department at the centre of the programme. Then within the Cabinet Office, an SCS-level programme director reporting to the Head of CCS is responsible for the management of the programme as a whole, on behalf of the Security and Intelligence Co-ordinator.

Reporting structures for the programme are through monthly meetings of workstream leaders (the programme management team) and a monthly report of progress to the Official Committee on Domestic and International Terrorism (Resilience) (TIDO(R)), the official committee on UK resilience chaired by the Security and Intelligence Co-ordinator. Ministerial oversight of the programme is exercised through the Ministerial Committee of Defence and Overseas Policy (Sub-Committee on International Terrorism), (Ministerial Group on Consequence Management and Resilience) DOP(IT)(R), the Ministerial committee on UK resilience chaired by the Home Secretary. (*ibid*)

The leaders of the nine functional workstreams have responsibility for developing capability at the national level. The newly established regional resilience teams (set up after the success of the London Resilience Team post 9/11, see Norman 2002 and Norman and Coles 2002) in each of the Government Offices for the Regions (GoRs) are responsible for co-ordinating activity in the local (local authority or police force) area, and for communications between workstream leaders at the national level on the one hand and local authorities and first responders on the other.

To facilitate this each of the SCS-level directors of the English based regional resilience teams have been given a lead responsibility on behalf of their colleagues for one of the nine functional workstreams. Where the content of a particular workstream includes Scotland, Wales and Northern Ireland, responsibility for that part of the workstream rests with the devolved administration. Representatives of the devolved administrations only have observer status on TIDO(R), as they all have their own equivalent bodies. The Capabilities Programme director meets with representatives of the devolved administrations once every three months, to ensure a consistency of approach across the United Kingdom. So already a complex picture of coordination and communication is beginning to emerge. Responsibilities at the local level will be formalised through the provisions of the proposed Civil Contingencies Bill, and through regulations and guidance to be made or issued after the Bill has passed into law.

The CCS admits that as yet the programme has no defined end-point or outcome. On the one hand this can be seen as desirable as all good risk management programmes should be on-going and cyclical, emphasising constant monitoring and evaluation, and consultation and communication (see for example the Australian Emergency Risk Management programme). The fact that the CCS is even considering an end-point is worrying. On the other hand the lack of identified deliverables can present problems for those tasked with implementing the programme. The CCS (2003) has said that an important part of the first phase of the work is to identify the current level of resilience in each of the areas covered by the workstreams. This will enable Ministers to decide what increased level of resilience they wish to achieve in each area, and then to plan and if necessary to allocate additional resources to achieve that increased level of resilience. An on-going programme of testing and exercising is also a part of the assessment. One of the components of the central response capability workstream is the development of a cross-government programme of exercises and training, which might go some way to redressing the crisis management problems exhibited by government during the fuel and foot and mouth crises. This all raises the important issue of who decides what the optimum level of resilience is and how is it going to be maintained. As latter discussion will point out there are real concerns amongst practitioners and local authorities alike regarding the funding of this policy.

The programme has not been without its critics and many issues have been raised regarding its capacity to learn the lessons of the past and improve resilience. Firstly among these is the concept of a 'Lead Government Department' particularly after such a framework was seen as a possible contributory factor in the FMD crisis

(Anderson 2002). Also here Broderick (2003) points out the likelihood of delay, departmental prevarication and 'blamism' as possible consequences of the capabilities approach. Departmentalism is also a problem identified by Rosenthal and Kouzmin (1997). Secondly the complex nature of the approach has been challenged by Broderick (2003) with regard to the process of designating response authority/responsibility when more than one Lead Department is involved in an emergency. He makes reference to what could happen if for instance there was a nuclear radiation leak. Thirdly, the issue of decision making in times of crisis has been raised. This again interlinks with the issue of 'Lead Departments' and raises matters of interpretation and dispute about who should control the response (Rosenthal & Kouzmin, 1997). A final criticism of this capabilities based approach is that it is not clearly defined within the forthcoming Civil Contingencies Bill and that the responsibilities of the regional tier within the programme are particularly vague and poorly explained.

**The Civil Contingencies Bill 2004**

It is intended only to provide a brief overview of the CCB here as its development and implications will be discussed elsewhere, suffice it to say that calls for a new legislative framework for emergency management have been on going for many years (see Coles 1997, 1999)

The new CCB is a recognition by policy makers that the legislative framework that currently governs emergency management in the UK is both outdated and outmoded. The framework that underpins emergency management in England and Wales is a patchwork of acts that began with 'The Civil Defence Act (1948) and has developed through a series of *ad hoc* measures introduced over the last fifty years. However as with all things bureaucratic, the process of drawing up the Bill that started with the review and consultation process in 2001 has yet to come to fruition. Indeed as Waugh (2000:154) suggests disasters can create policy windows when the *"… the need to act and to prepare for future events"* is heightened and he further suggests that these 'windows' close very quickly as the memory of the event(s) fades. In the UK the window of opportunity that presented itself in the first two years of the Millennium is rapidly closing, as the bureaucracy of 'Whitehall' and the political will of 'Westminster' play their part in slowing the momentum of change. Currently the Bill has just completed the Committee stage of its progress through the legislature and has just been published in its amended form. It is now awaiting its second reading in the House of Commons. The Government hope that it will receive the royal assent and thus be entered on to the statute books before the end of the current session of Parliament in June 2004.

The CCB is essentially an enabling Bill in two parts which encompasses and repeals much of the current legislation regarding civil defence and civil protection and the old 1920's Emergency Powers Act. The Bill includes;

- A working definition of an emergency
- Provision for identification of risks and the development of a community risk register
- A duty to plan for civil emergencies
- A duty for responders to share information
- A categorisation of responders
- A duty for first responders to have business continuity plans in place
- Provision of advice and support to the business community
- Provision to declare a state of emergency on a regional basis
- Provision for warning and informing the public
- Provision for the appointment of regional coordinators
- Provision for the Minister of State to draw a Regulatory framework for dealing with emergencies

Although the creation of a new Bill is broadly welcomed by all concerned with the management of emergencies in the UK it does have one major failing which according to Broderick is its lack of clarity and comprehensiveness. He complains that it is poorly considered, is too vague regarding its definition of an emergency which gives scope for ambiguity and misinterpretation; presents decision making conundrums for which there are no clear guidelines; is focussed mainly at the local responder level and omits any coherent references to a regional or national tier; will place an unfair burden on local responders in terms of administration and funding; makes no reference to military assistance to civil authorities; creates a complex structure that is not well designed for the job it has to do; does not contain any reference to 'Lead Government Departments, exempts central government from the duty to plan and raises grave concerns regarding the declaration of emergency powers.

As mentioned above these issues will be discussed elsewhere however, it is worth making the point as Rosenthal and Kouzmin (1997) do that preparation of policy should always be seen in a political light.

*"Comprehensive emergency management and integrated emergency management systems sound rational. In most countries they are, however, they are best viewed as official doctrines and rationales disguising conflictive political and organisational realities"*(p281)

**CONCLUSION**

The degree of uncertainty with regard to risk and disaster faced by UK policy makers has quite clearly been increased since the terrorist attacks on the World Trade Center on September 11th 2001. However, even before this event there was a recognition by government of the need to develop new policy and restructure the present emergency management arrangements. This paper has considered a part of the developing policy agenda from a systems perspective and found that there

are indeed some weaknesses within the proposed arrangements that must be addressed if vulnerability is to be reduced and resilience achieved. The notions of resilience, systems and complexity were examined with the purpose of setting the theoretical background and providing insights into the way in which government decision making in crisis situations is undertaken.

Issues have been raised regarding the degree of complexity created by the Capabilities Programme particularly with regard to the 'Lead Government Departments' concept and the ability of the policy to create a coordinated approach where resilience is fully integrated both horizontally and vertically into the system. A salutary note is offered by Rosenthal and Kouzmin (1997) with regard to government organisations

> "*Surprisingly, even today, functional organisation dominates in spite of the problem of departmentalisation that centres around two conflicting variables: one that emphasises the requirements of coordination and another that emphasises the requirements of specialisation. Forms of departmentalism that are calculated to be advantageous in terms of one are often costly in terms of the other*". (p284)

The policy does go some way to addressing the five criteria suggested by Comfort (1995) as strategies to cope with the risk of future adverse events but only address two of the four dimensions noted by Rosenthal and Kouzmin (1997). The scope and speed off government intervention have not even been considered in the policy, indeed the government has even exempted themselves from the duty to have contingency plans of its own in place. The very real danger however is that if and when a perceived level of resilience has been achieved that those responsible for the programme begin to exhibit the characteristics of crisis- prone organisations (Mitroff & Pauchant, 1992), sitting back on their 'laurels' and becoming complacent believing that they have achieved their purpose.

> *"We trained hard, but it seemed that every time we were beginning to form up into teams we would be reorganised, I was to learn later in life that we tend to meet any new situation by reorganising and a wonderful method it can be for creating the illusion of progress while only producing inefficiency and demoralisation."*
> *Petronius Arbiter (A.D. 66)*

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i For instance Utilities would come under the Department of Transport, human infectious diseases, Department of Health, mass evacuation, the Home Office and so on.