

**AN INTEGRATED STRATEGIC DISASTER MANAGEMENT MODEL FOR ADMINISTRATION**

**Qurat-ul-Ain Shah**  
Research Scholar, The Business School, University of Kashmir  
Hazratbal, Srinagar Kashmir – 190006

**Prof. (Dr). Shabir A. Bhat**  
Dean Faculty of Commerce & Management Studies,  
University of Kashmir, Hazratbal, Srinagar Kashmir-190006

**ABSTRACT:** This article incorporates the management literature on Disaster to create a model that can be used to assess the seriousness of disaster. In addition, the model is extended for use by administrative officials. The article concludes with suggestions that will modify approaches employed and improve the effectiveness of administrative professionals in their role as disaster managers.

**Key Words:** Strategic planning process, disaster cycle, administration, disaster management.

## **INTRODUCTION**

According to Burns, Reid, Toncar, Fawcett, and Anderson (2006, p. 80), "Disaster Management (i.e. Rescue & Recovery), and the critical role disaster managers play at the time of chaos, has been gaining increasing attention by not only concerned managers but also by the general public and by researchers." The increase in attention, however, is not surprising as disaster rescue & recovery is an activity that is pursued by a fair number of individuals across all age groups and interests (Burns et al., 2006, p. 80). Historically, the responsibility for disaster communication has fallen on the shoulders of administration. Volumes have been written on how those in administration should best carry out this responsibility. Training volunteers, developing guidelines/policies for notifying people, and determining general processes for dealing with the media and public are just some of the areas that concern disaster related administrative officials.

The purpose of this article is to introduce the disaster construct to the administrative practitioners. Despite the assumption that administrations has been dealing with disaster for hundreds of years, there is evidence that the current level of understanding is both simplistic and incomplete. Therefore, strategic planning process, is offered in the hope that administrative managers will be more effective in managing disaster.

## **DISASTER DEFINED**

A number of definitions of 'disaster' have been proposed over time. Most of the definitions focus on the actual hazards or events and its cost in terms of loss of life or damage to property. In 1961, Fritz, for example, defined disasters as "*events that are concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society, undergoes severe danger and incurs such losses to its members and physical appurtenances that the social structure is disrupted and the fulfillment of all or some of the essential functions of the society is prevented*". More recently, however, the focus of disasters has moved from simply the origin, nature, size, speed of onset and other attributes of hazards towards consideration of the situation created by such events. According to the words of Barton in 1974 as cited in Nashreen 2004:1 "*Disaster is a severe, relatively sudden, and unexpected disruption of normal structural arrangements within a social system over which the system has no firm control*"

"Disaster is also viewed as a mental construct imposed upon experience by Barkun. This is because to understand disaster, knowing the number of deaths, value of property destroyed, or the decrease

in per capita income is not sufficient. The symbolic component requires knowledge of the sense of vulnerability, the adequacy of available explanation, and the society's imagery of death and destruction" (Barkun 1977 as cited in Nashreen 2004: 1).

Blaikie, 1994:21 is of the opinion that "A disaster occurs when a significant number of vulnerable people experience a hazard and suffer severe damage and/or disruption of their livelihood system in such a way that recovery is unlikely without external aid".

## WHAT DO WE KNOW ABOUT DISASTER MANAGEMENT?

Disaster management is a discipline of dealing with risks and making possible way outs to avoid them. It involves preparing for a disaster before it happens, disaster response, as well as supporting, and rebuilding society after natural or man-made disasters have occurred. Disaster management usually refers to the management of natural catastrophes such as fire, flooding, or earthquakes. From the point of view of social scientists, disasters have been investigated for more than eight decades. Throughout this period, various themes and concepts have emerged and led to on-going debates. Until recently, social scientists in the field of disaster were still unable to reach consensus on the definition of disaster. This confusion was clarified by Oliver-Smith (1999:19). According to them, this is caused by the external variability and internal complexity of disaster.

In his view, external variability of disaster refers to:

1. The wide range of physical agents which can trigger calamities. For example: a sudden and catastrophic movement of a part of the Earth's surface (earthquake), extreme high waves which are caused by rapid displacement of water in a lake or the sea on a massive scale (tsunami), or the decline in the quality of an environment (pollution), etcetera.; and
2. The various impacts of such calamities, ranging from immediate destruction and death because of an earthquake to gradual deterioration of life condition and destitution in a famine.

Consequently, external variability alone has already made it difficult for analysts "... to establish a set of common definitional characteristics that can encompass the vast array of phenomena that generate and occur in disaster" (Oliver-Smith 1999: 20).

Internal complexity of disaster refers to different perceptions, interpretations, experiences, needs and goals of the actors involved in disaster situation and affected by it. These differences intersect in the theoretical and practical aspects of the disaster field, which can lead to miscommunication, in coordination or conflicting ideas and interests.

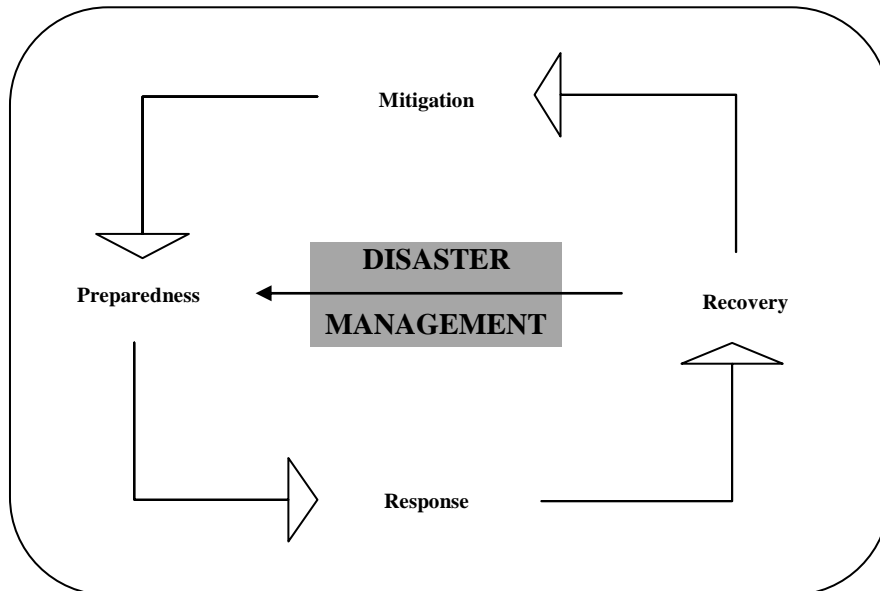
More and more social scientists (especially geographers and anthropologists), share the idea that disasters are not merely events, but are "... considered to be primarily about process in which hazardous events represent moments of catharsis along a continuum whose origins lie buried in the past and the outcomes extend into the future. It is the pre- disaster conditions that mainly affect a society's ability to cope with hazard ..." (Bankhoff 2003:157).

## DISASTER MANAGEMENT INTEGRATED MODEL: AN INTEGRATION OF STRATEGY DEVELOPMENT AND DISASTER LIFE CYCLE

### The Disaster Management Cycle

The Disaster Management Cycle illustrates that disasters and development are inextricably linked (Twigg, 2004, Collins, 2009). 'Disaster management' is a term used to describe all the important stages carried out by relief and development actors (Twigg, 2004). The first of all the stages of the cycle represent 'disaster reduction' or 'disaster risk reduction' (Twigg, 2004) and is focused upon by development agencies: preparedness and mitigation (Collins, 2009). The last stages typically engage emergency responders, and are described by Twigg as recovery and response. Disaster management

cycles are defined and redefined differently, however, the same principles of preventing, mitigating risk, and recovering from losses stand. The process of recovering from a disaster is not linear and looks different in each country, province or state, family or individual (Heijmans, 2001, Bankoff, 2001). Therefore, to illustrate the process of disaster management in a cyclical diagram is misleading; however, for the purpose of illustrating a general process or chain of events, it can be helpful.



### **Disaster Management Strategy Model**

In this section of the article we develop a strategically anchored model of disaster management that builds on the collective strength and wisdom of previous frameworks, and propose a disaster model useful to administration. Both lay the foundation for identifying the unique challenges that disasters pose to administrative officials. Essentially, administrators will be able enough to make more intelligent decisions with such guidelines. Although there are several articles in the literature that delineate appropriate administrative responses to disasters. Many definitions, models, and typologies of disaster management have been proposed by scholars in different fields, the administrative challenges created by disasters have not been identified fully and clearly. Although various definitions of disaster have been proposed but the review of literature indicated that disaster management is first and foremost a strategic problem and it is differentiated from more routine strategic decisions by their attendant time pressures, control issues, threat-level concerns, and response-option constraints. Therefore, resolution strategies required by disaster managers for managing disasters strategically comprise of six tasks:

- (1) Goal formulation;
- (2) Environmental analysis;
- (3) Strategy formulation;
- (4) Strategy implementation;
- (5) Strategy evaluation and
- (6) Strategic control.

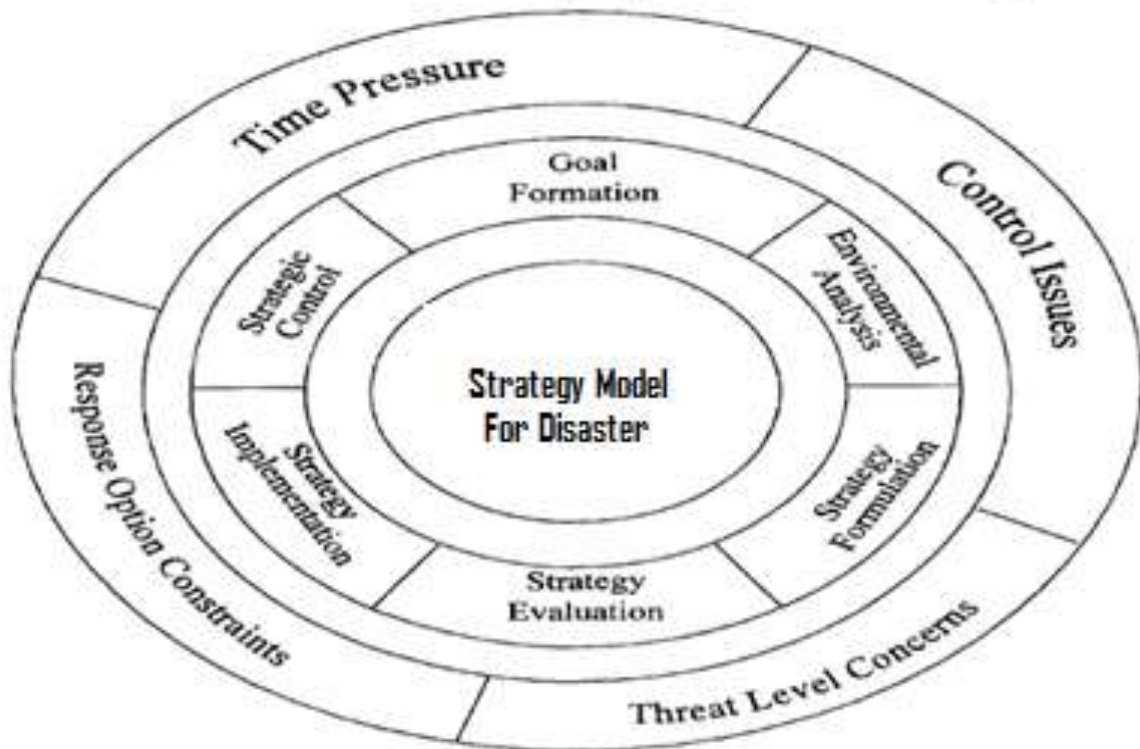
At the very outset of the disaster life stages, development of certain strategies and plans are necessary as to stop or limit the impact of such an unavoidable event. Organisations concerned with the management of disasters must be able to design pre-disaster goals. However, the real challenge is to recognize any such event in a timely fashion and implement coping strategies to limit their damage. (Darling, Hannu, & Raimo, 1996). Authors such as Burnett (1998) and Kash and Darling (1998) note that decisions undertaken before a disaster occurs will enable more effective management of the it, rather than organizations being managed by the disasters itself and making

hasty and ineffective decisions. Proactive planning through the use of strategic goal formulation will help reduce risk, time wastage, poor resource management and reduce the impacts of those events that can cause damage to the life & property. After the proper formulations of goals and plans, a thorough analysis of the environment is required. Environment analysis helps to predict potential disaster situations and could include opinion based quantification, extrapolation of trends, simulation and cause and effect methods. As an 'issue' develops into a disaster it enters the prodromal phase of its lifecycle. If concerned authorities are aware of the impending disasters through the use of proactive scanning and they have been able enough to develop contingency or emergency planning procedures, they can then be able to implement strategies in order to stop a disaster from occurring or to limit its impacts on humanity/society. However, the implementation phase can also be complex and chaotic and complicate any specific strategy implementation. Implementation therefore requires flexibility, constant monitoring concerns, controlling or reallocating resources to deal effectively with such incidents and identifying and working collaboratively with key stakeholders of the disaster management. Lastly possible strategies that are available to the authorities need to be evaluated the selection of those that will best fit is selected. However, the paradox of strategy selection and implementation is that decisions have to be made quickly to limit the damage caused by a disaster. This requires the concerned organisation to decide and act under intense time pressure. Strategic alternatives have to be hopefully generated from the proactive prevent planning and environmental scanning. However, these may have to be modified in response to the disasters different magnitudes and threats and their impacts upon various stakeholders. Therefore strategic options need to be evaluated and chosen quickly so that the organisation can gain control of the situation.

Outer ring of the model indicates strategic management process in four specific ways i.e.

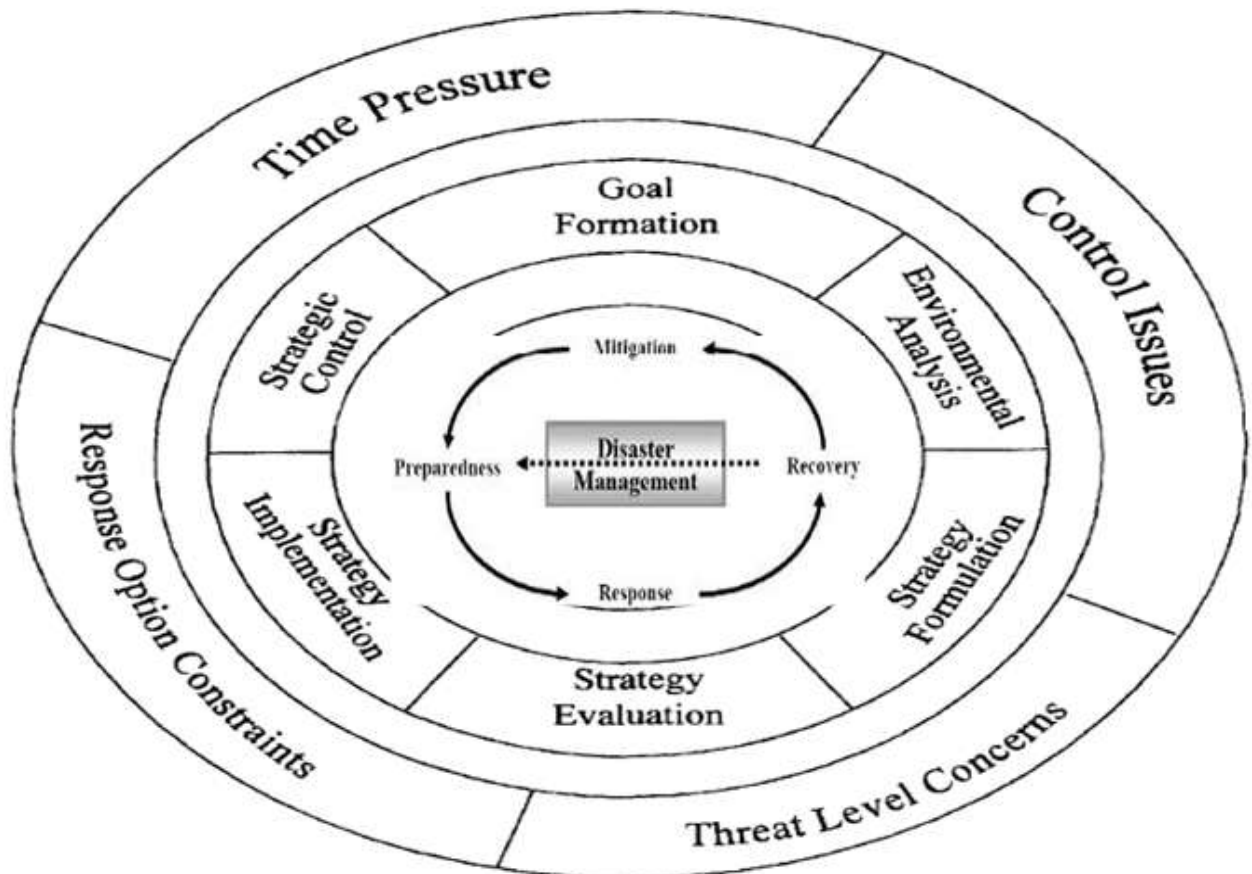
- 1) Time Pressure
- 2) Control Issues
- 3) Threat-level concern
- 4) Response constraints

Disasters require immediate action therefore Time pressure compel disaster managers to act quickly and decisively. A second inhibiting characteristic of a disaster relates to control over the occurrence of untoward events and minimize its effects. Disaster also creates threats that vary in their magnitude and severity. From a strategic management perspective, threat-level concerns pose unique and often insurmountable challenges to the strategy formulation, strategy evaluation, and strategy implementation tasks. It is difficult to define and to predict the actual level of threat posed by any disaster. We must build a plan to take help from at the time of any disaster in order to minimize the threat level. A fourth inhibiting characteristic of disaster relates to response-option constraints. Public always looks for the response in terms of relief and rehabilitation. It is important to respond to the events in a strategic manner so as to cope up with the situation in an effective manner. In summary, disaster management requires sensitivity to strategic management fundamentals. Proper identification of disaster is a critically important first step and requires that environmental analysis and goal formulation tasks to be undertaken. Management actively confronts the disaster when formulating and evaluating their strategic options. Finally, the tasks of strategy implementation and strategic control require that the disaster management organizations reconfigure itself through the deployment of resources (both human and financial). This consolidated view of the strategic management process-identification, confrontation, and reconfiguration--is exacerbated during a disaster by time pressures, control issues, threat-level concerns, and response-option constraints. The model is as under:



#### **Integrated Model of Disaster Management and Strategy Development.**

Keeping in view the strategy development framework and disaster management cycle, an integrated approach is development which amalgamates both the models together to develop a unique model which can exhibit properties of both strategy development and disaster cycle. This model helps to generate a clear vision of the situation and how to handle any hazardous situation prior to its occurrence. The four stages of disaster life cycle starting from preparedness to recovery when aligned with the stages of strategy formulation develops a model that help disaster managers or administrative officials concerned with disaster situations to cope up with it. The first two stages of the disaster life cycle require goal formation, environmental analysis and strategy formulation. Strategy evaluation, implementation and control is required in order to provide effective response and recovery at the time of disaster situation. All these processes need to take further account of the four major processes before precedence i.e. time pressure, control issues, response constraints and threat level. The three concentric circle model revolving around disaster management cycle helps to provide a better and effective approach in order to handle and cope up with the hazardous situation. The integrated model is as follows:



## SUMMARY AND CONCLUSION

Despite the critical role administration plays with handling potential disaster, there has been little effort to deal with disaster in a systematic and proactive manner. Instead, areas who have a clear and strong vulnerability to disaster appear to prepare for disaster, while the rest subsume a reactive posture. Disaster, like competition, is a phenomenon that administrations managers can plan for and produce strategic responses to minimize adverse effects.

From a management standpoint, disaster administration is above all an effort to mitigate uncertainty. It can do so either by being proactive and deal with this type of uncertainty strategically. This article represents an initial effort to introduce the disaster management model into the realm of administration with the proposition of classification matrix that employs four criteria (time pressure, degree of control, threat level, and response options) that are associated with disaster situations. It is suggested that each state/district/area initiate a vulnerability audit which employ this matrix. In addition, we suggest a set of considerations that are relevant as disaster moves through its three basic stages: identification, confrontation and reconfiguration. Primarily there is an emphasis on establishing an MIS mechanism that is targeted to deal with early detection, warning and disaster resolution. No one really knows how many lives lose and property is destroyed each time because of their ineffective and inefficient responses to disaster. It appears that such a loss to humanity and environment is unnecessary and therefore the proposed model represents a valid and efficient solution to the problem in hand.

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