

# ATLANTIS

## A Disaster Simulation Exercise for Training Purposes

by Lieutenant Colonel G.N. Ritchie (Ret'd)

---

### Introduction

This paper examines the process of identifying training needs and methodology and the selection and development of a computer-based simulation exercise as a means of meeting these requirements.

In doing so it seeks to identify guidelines that may be helpful to those involved in similar projects. These guidelines relate to conception, the identification and establishment of modelling parameters, project management and development trials and the integration of the simulation exercise into a study programme.

The paper is based on the experience of the author in a research project which examined the role and responsibilities of the Administration in maintaining life support systems in disaster situations in the developing countries.

The military have used simulations as a means of training for a very long time. At best simulations provide an excellent methodology for training and can highlight the lessons which are the trainer's objectives. At worst they provide an interesting interlude in a course of study but may require careful monitoring to avoid students' developing misconceptions.

Simulations designed for analytical purposes present the same difficulties and dangers although the parameters will be somewhat different.

---

For purposes of developing the simulation, the following definition of a disaster was used:

A situation resulting from a natural or man-made catastrophe, other than war, demanding total integration of the rescue and life support systems available to the officials responsible for the stricken area, together with the communications and transportation resources required to support the operation.

### Identified Areas of Failure in Disaster

Disaster is a highly complex situation in which many influences operate in concert and many in conflict. Some of these factors provided data that are quantifiable but many of them do not.

Clearly, however the role of the local Administration is of paramount importance and the patterns of failures lie in the maintenance of the resources and life-support systems (water, medical aid, food and shelter) and on the transportation and communication systems upon which those life support systems depend.

This helped establish the limits of the models upon which the simulation was to be based. No simulation can hope to represent all the factors and influences present in reality but it is important to isolate those that are most significant and to identify the data that are critical.

It is important to be quite clear about what is to be simulated and the purpose for which the simulation is intended.

### The Computer and the Players

Unless the training project to which a computer-based simulation or game relates also aims to illustrate the application of some aspect of computer technology there are good reasons for isolating the players from the computer. We are at some pains to ensure that players do not get the impression that they manage disasters by computer.

---

*Lieutenant Colonel Ritchie works for the Operational Research Branch of the Royal Military College of Science, Shrivenham, Swindon, Wilts, England.*