

## Disaster Prediction and Political Decision :

### The Case of Guadeloupe, 1976

#### A. GENERAL FACTS OF THE CASE.

In accord with expert predictions, that the volcano of La Soufriere on the Island of Guadeloupe (W.I.) would probably erupt violently, the prefect ordered the evacuation of a part of the population to a safe area. The volcano did not explode. Losses to agriculture and tourism were heavy. The evacuated population was restrained for a period of months. Pillage and vagabondage caused problems. Political warfare broke out between the prefect and his opponents, between the bureaucracy and the populace, between one group of scientists and a dissenting group, and among political parties taking opposing views.

#### B. THE PROBLEMS OF DISASTER DECISIONS GENERALLY.

The case typifies what happens when scientists who are becoming increasingly competent are looked to for advice by politicians and executives when "an act of God" and helpless ignorance no longer can be used as defenses of inaction prior to the occurrence of natural disasters. A great research effort is being made to forecast earthquakes in California, in China, and elsewhere. The presumption is that, given notice, the population may be evacuated or otherwise mobilized to avoid destruction.

The costs of a decision in the face of disaster are, however, invariably heavy. To stop the industries of San Francisco for days, weeks, or months would cost billions of dollars. To organize an evacuation or a full alert is costly. So also is the care-and-feeding of an evacuated population or any special regimen imposed in the event of an alert.

Politically the problems raised by an accredited disaster prediction are numerous. The "Police power" of the government has to be stretched to its limits. Every level of government --local, state, and national-- and every independent or quasi-independent organ of government--such as the educational system, the broadcasting system and the independent regulatory agencies--, plus agencies with special problems--such as hospitals, military forces and fire departments--become immediately involved in a complex and perhaps totally confused set of signals, communications, commands, counter-orders and logistical priorities.

Avoidance of responsibility - for political, legal, fiscal, and psychological reasons - is to be expected from all quarters. Representative government is tested to the breaking point and beyond. So is the private economy. The aftermath of a disaster prediction - whether the disaster occurs or does not occur--is exceedingly expensive, time-consuming, and politically and socially turbulent.

Besides all of these consequences is the nature of the prediction itself. In the absence of any pretence of rational prediction, individuals are left to make their own forecasts and arrange their own futures. But as the "index of validity" of disaster prediction rises, say, from 15% to 70%, on the nature, scope, intensity and dating of a future disaster, the irresistible tendency occurs to match growing scientific knowledge with increased social (governmental) control. In fact, the governments (and foundations, universities and scientific groups) cannot but seek more valid predictions even though all must realize that for every enhanced degree of certainty achieved an increased degree of social control will ensue, with its attendant troubles.

In all of this, the role of science is crucial yet schizoid: scientists want to be counted in on public decision-making when the scientific component is large, as there; yet they also want to be "clean" of politics and have nothing to do with the political parts of the decision. Can such a distinction be maintained?

### C. PREVIOUS RESEARCH ON SUBJECT

The number of case studies of disaster prediction and destruction-avoidance measures is exceedingly small, this despite the heavy publicity surrounding potential earthquakes in America and the growing wealth of scientific studies of prediction of hurricanes, tornados, vulcanism, tidal waves, and seismism. Research has been largely concentrated upon the effects of disasters and exercises to

take the proper steps in the wake of disasters. There is an ominous tendency, also, to act as if the political-social decisions will merely follow in due course, once the scientific predictions are available.

There is an assortment of other studies related to the problem at hand: Civil defense studies on policies and procedures for the evacuation of populations; studies of the decision to intern Japanese-Americans in World War II; studies of what happens when the prophecy of judgement day fails among millennialist sects; studies of military strategy under various possibilities of warfare; studies of Martinique, a second French island close to Guadeloupe where the prefect hesitated to act on warning and all the people of the island's main city were exterminated by volcanic explosion in 1902; studies of Krakatoa's explosion in 1883 and the question of evacuating Batavia in the face of tidal waves.

Recently, an HEW-commissioned study has been released on the massive swine-flu immunization for a predicted epidemic, prepared by Professors Richard E. Neustadt and Harvey V. Fineberg of Harvard University. The scholar's report is sharply pointed at the decision-making process that resulted in the production of vaccines and the inoculation of 48 million people. They find no solution that would have prevented the fiasco; decisions were on the whole rational, despite the failure of swine-flu to materialize. However, they discovered some seven disturbing features of the process.

1. An overconfidence by specialists in theories spun from meager evidence.
2. Convictions fueled by a conjunction of some preexisting personal agendas.
3. Zeal by health professionals to make their lay superiors do right.
4. Premature commitment to deciding more than had to be decided.
5. Failure to address uncertainties in such a way as to prepare for reconsideration.
6. Insufficient questioning of scientific logic and of implementation prospects.
7. Insensitivity to media relations and the long term credibility of institutions.

#### D. WHY THE GUADELOUPE CASE IS IMPORTANT

In the case of Guadeloupe, there exists the chance to discover whether all seven of these excessive non-rational factors entered into decisions and procedures there. The prefect, politicians, scientists, administrators, press, and selected ordinary citizens can be interviewed. The island and metropolitan press, such as Le Monde, which provided extensive coverage over the period, can be reviewed.

The chief scientists involved in predicting the volcanic explosion and those denying its possibility are also the chief geologists of France. They have been locked in a court struggle over slander, defamation, and damages; hence an extensive court record is available. Internationally, geologists became involved too. Because Guadeloupe is an integral département of the French State, like Alaska is to the United States, questions of relations between the legislative and executive power may have some relevance to American contingencies. The political party struggle that has followed will also, for the same reason, be applicable partially to the United States. Reports, rumors, accusations of profiteering and political motivation are rife. Observable in the French setting is even the typical American phenomenon, of one faction assailing the decision for being "reverse discrimination" since, if the people, largely black, had not been evacuated and the disaster had struck, then the government would have been accused of racism. Farmers, businessmen and workers are claiming compensation.

#### E. PROCEDURE AND COSTS OF PROPOSED GUADELOUPE STUDY

It is proposed to complete the research and write a book about "The Volcano that Failed" over a period of six months, with the help of an assistant. Work to be done consists of:

- . Interviews of politicians, prefecture, scientists (20)
- . Interviews of a cross-section of citizens (50)
- . Review of press coverage (100 to 400 pages)
- . Review of court records (2000 pages)
- . Background literature not yet read, laboratory reports, etc. (5000 pages)
- . Writing of book, about 200 pages.

I have been encouraged in several conversations with publishers to believe that prompt publication will be possible. Furthermore, since my proposed assistant is a published French novelist who graduated in law, I have in mind concurrent publication of the book in English and French.

In addition to a number of books and articles that I have written in various areas of governmental policy and administration (most of them listed in Who's Who in America), I have for the past decade been studying the behavior of people in ancient disasters, and have acquired some competence in geology, oceanography, and meteorology. I have made initial contacts in Guadeloupe and Martinique and with the U.S. Geological Survey that monitored the Guadeloupe eruption. (Secondary effects might have caused meteorological and aquatic disasters to U.S. farm-lands, property and population bordering the area.) I am generally competent, though not expert, in the French language.

Costs of the research are estimated as follows:  
(I have not received any funds from any source for the project before this request.)

3 weeks in Paris (for interviews, reading court records and newsfiles)	900,00
3 weeks in Guadeloupe (for interviews, site visits, records, local news files)	800,00
1 round-trip ticket Washington-Guadeloupe-Paris-Washington	1100,00
1 round-trip ticket Paris-Guadeloupe-Paris	900,00
Communications, manuscript typing, reproduction of records, incidentals	400,00
Assistant for interviewing, research and French translation (six-months wages)	4000,00
Supervisor: Alfred de Grazia (supplement to \$ 545 monthly pension for 6 months)	4000,00
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Total funding sought:	\$12,100,00

## SUMMARY OF PROPOSAL

To write a research monograph suitable for general publication that would discuss:

1. The economic, political, social, and environmental problems involved in decisions to mitigate the effects of predicted natural disasters.
2. The procedures followed by scientists in advising community leaders about the portents of disaster.
3. The procedures that might maximize rationality and minimize losses in cases of disaster prediction.
4. The possibility of a national policy detailing disaster-prediction procedures. (An analogy might perhaps be drawn with the long-delayed but finally achieved set of procedures to be followed in the case of the disability from various possible causes of the President.)

My aim is to achieve these purposes in a book that will be readable, so that at least some of the persons upon whom responsibility may be thrust will benefit by it. The story of the experience of an exotic and unknown island may help in this connection.

I am also organizing a meeting on "Who is Responsible for the Decision that Disaster Impends?" intended for the Annual Convention of the American Association for the Advancement of Science (AAAS) to be held in San Francisco 3-8 January 1980. It would be an appropriate occasion for presenting the results of this study and encouraging similar efforts.