EMERGENCY PUBLIC INFORMATION:
A QUICK RESPONSE STUDY OF COALINGA

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PREFACE

This paper is one of a series on research in progress in the field of human adjustments to natural hazards. The series is intended to aid the rapid dissemination of research findings and information. It was started in 1968 by Gilbert White, Robert Kates, and Ian Burton with National Science Foundation funds but is now self-supporting. The papers are produced by the:

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SUMMARY

This report summarizes the findings of a quick response team that investigated the dissemination of public information following the May 1983 Coalinga earthquake. In particular, the researchers examined how the disaster information system emerged, how news media representatives interacted with the designated emergency public information officer (PIO), what topics were discussed, and what changes occurred in the content of these interactions. Their findings underscore the changing nature of both the information network and the information conveyed, as well as the difficulties faced by a PIO. They conclude by offering separate sets of recommendations for PIOs, emergency managers, and the news media.

FOREWORD

In 1977-78, the Committee on International Disaster Assistance of the National Academy of Sciences-National Research Council recommended that studies be conducted to explore the relationship between the mass media and natural disasters. A Committee on Disasters and the Mass Media was constituted in 1978, with Everett M. Rogers, Professor of Communication at Stanford University, as chair.

Several projects focusing on the mass media in disasters were conducted by Rogers and his former doctoral student, Rahul Sood (Rogers and Sood, 1981). In 1982, Geoffrey Stockdale joined the research team for a series of studies that included an emergency public information system prototype design project funded by the Federal Emergency Management Agency (FEMA), and a "quick response" field study of the Coalinga earthquake disaster funded through the Natural Hazards Research and Applications Information Center of the Institute of Behavioral Science at the University of Colorado, Boulder. By approving funding before the fact, the Information Center's quick response program enables researchers to go quickly to the scene of a disaster and to study disaster phenomena as they emerge.

The May 1983 quick response field study of the Coalinga earthquake disaster was one in a series of inquiries attempting to determine the behavior of news media in natural disasters, and was conducted specifically to illuminate the role of the public information officer (PIO) in news gathering and information management in a natural disaster. This paper presents some of the research conducted during this Coalinga study. It was prepared for publication with the help of Illana Gallon of the Institute of Behavioral Science.

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BACKGROUND AND RESEARCH QUESTIONS

In the United States (as elsewhere), natural disasters with community-wide effects severely disrupt communication processes. Communication among victims is strained, and communication among emergency response agency personnel is generally difficult. Communication between victims and emergency response personnel is chaotic and unpredictable. Often, by the time news media representatives arrive on the scene, communication processes have gone so awry that the news media are seen as "noise" in the system. Among those who address the need for planning to deal with the news media in a disaster there remains a sense that news media people are hard to manage, a drain on resources, and generally a threat to the effective management of emergency response operations.

This is not always the case. The news media have often played important roles in relieving suffering or mitigating the impact of disaster (Rogers and Sood, 1981). Drabek has described the composition, roles, and operation of the "emergent multiorganizational network" in rural search and rescue operations, specifying that "someone should be designated to work with the media. . . . Emergency managers need special training in providing information to them" (Drabek et al., 1981, p. xx). There are two points implicit in this recommendation: that the news media will be at disasters, and that emergency managers as a group do not know enough about how to work with the news media to be effective in dealing with them.

This paper is about helping people learn to deal with the news media in disasters. It is about how the news media ask questions in disasters, and it is about how emergency officials answer these questions. Mostly, it is about the system of information that extends our understanding of emergent disaster response and the information system within which victims, emergency managers,

the news media, and, especially, public information officers act, interact, and communicate.

The Disaster Information System

When we look at communication processes in a community-wide disaster, we are looking into an emergent system of information. Within this system there are 1) linkages and channels that were operant before onset of the disaster, 2) people who were knowledgeable of the community before the disaster's onset, and 3) information that was useful to the system's operation before the disaster's onset. These realities typically change at the onset of a disaster, and adjustments must be made if the system is to fulfill the need for effective communications in the ensuing emergency response operations.

In an earthquake, radio stations fall apart, radio antennas get mis-aligned, power goes down, operators get hurt. All these dislocations reduce the capacity of the information system. Stallings (1971) points out that it is in these early phases of postonset communications that the need for effective communication may be the greatest, precisely at the time when the system is least able to move desired information effectively.

In a community-wide disaster, emergency officials call for additional resources from outside the community. Arrival of resources and new actors/ agents from outside the disaster impact area causes the information system to grow larger, but, at the same time, less effective.

The limitations of information systems in disasters are made more acute by the need immediately to create and move large volumes of new information. Search and rescue operators have to create information about what buildings have been searched. Evacuation operators have to create information about where to move from, where to move to, when, how, and whom to move. Then all this

movement must be reported, accounted for, and fed back to newly operational command and control centers. All of these actions must be carried out with all possible speed. This, in turn, creates the need for emergency managers to prioritize resources (such as trucks, earthmoving equipment, cranes, lighting units, firefighting units, etc.) to ensure speed in the emergency response.

There is a specialized function within the disaster information system that attempts to provide this new information to the news media. This is the role of the public information officer (PIO). The PIO role is often filled by a person who is an administrative assistant to a city manager or county administrator in nondisaster operations; sometimes, it is filled by an experienced law enforcement or fire suppression officer; then again, it might actually be filled by a professional communicator, a person trained in the design of public messages.

The PIO operates in a subsystem of the overall disaster information system: the emergency public information system. What the PIO works with in this subsystem is emergency public information. The PIO must have sources of emergency public information, must have a mission to provide this information to somebody, and must have the means of moving this information to those wanting it.

News Media Behavior

As we know from Stephens (1980), news media personnel converge, often in large numbers, on disaster sites. Fritz and Mathewson (1957) told us this over thirty years ago; what Stephens added to the equation was an awareness that the news media today may be more sophisticated in their capacity to pull together quickly a working information network, and that they have better equipment than those working in the emergency response effort.

When news media representatives arrive at a disaster site they want information, and, as Tunstall (1971) notes, they like to contact and question official sources of information. Quarantelli (1981) notes this as well when he points out that local news media seek 1) official accounts of events, and 2) official interpretations of those events in terms of their identity as disasters.

Tunstall (1971) found that, in addition to official accounts of events available to anyone, reporters want exclusive information; competitive pressure tends to drive this "scoop" mentality.

In attempting to account for the huge numbers of news media personnel at disasters (particularly the Three Mile Island reactor accident), Stephens (1980) notes that there have been increases in the news budgets and staff sizes of news departments at television stations. When coupled with mobile satellite uplinks, this means that "live coverage" is possible from nearly anywhere in the country for local stations.

When the news media arrive, they collect information much as they normally do in nondisaster news gathering (Scanlon, 1978). There are some interesting differences though: Waxman (1973) tells us that reporters seek information more actively and from more sources in disasters than they do in normal news coverage. Waxman further states that the news media seek eye witness or personal accounts of the disaster event or subsequent activities and that the public thus becomes a news source, leading to the creation and presentation of individual stories to news audiences without the normal "gatekeeping" or editorial control usually exercised by the news media.

We know that the news media converge on disaster sites, that they look for information that all other news media have access to, and that they look for

information that others may not find. We also know, from Waxman and Quarantelli that in disasters the news media will seek information from both official and unofficial sources. Thus, we can expect the news media to seek information from a wider array of sources and with a heightened sense of urgency in disasters than in nondisaster contexts.

A possible explanation for the intensity with which the news media seek information across a wider array of sources may be that official accounts are incomplete, ambiguous, or inaccurate during the first hours of a disaster. The relevant damage and injury statistics may not be available at this early stage. However, the broad-based search for useful information should not preclude contact with officials.

Communicating in the Emergent Multiorganizational Network

For thirty years we have known that it takes more information to coordinate efforts through feedback than through plans (March and Simon, 1958). However, in cases where there is bidirectional communication, uncertainty of tasks and resources, and changing goals, it is necessary to coordinate through feedback. Thus, emergency operations are typically coordinated by feedback (Quarantelli and Dynes, 1976). This is not surprising, given that in an emergency it is essential that scarce resources and personnel be used optimally. For example, to move people from one task to another requires information describing completed operations, and re-evaluations of the personnel and equipment needed for the new operation.

Quarantelli and Dynes (1976) discuss four types of organizations that appear in disaster response operations: 1) established organizations, 2) expanding organizations, 3) extending organizations, and 4) emergent organizations. Emergent multiorganizational (EMO) networks are organizations

that form new structures to take on new tasks in emergency operations. They comprise people and equipment from a wide variety of sources. An EMO network may have equipment from a dozen communities and people from twice that number.

To coordinate an EMO network, the disaster information system must work. It must form into a cohesive unit to link people who may never have worked together before the disaster. It must provide communication channels between the command and control centers and operations in the field and must feed information to the PIO in the emergency public information subsystem.

This knowledge of information transfer in disasters was the background against which the Coalinga earthquake was investigated.

Areas of Research Interest

Our quick response group arrived to study emergency public information operations in Coalinga the morning after the earthquake struck. We looked at how the disaster information system emerged, how news media representatives at Coalinga interacted with the designated emergency PIO, what topics were discussed, and what changes occurred in the content of these sets of inter- actions. We also assessed the quality of the form and content of these interactions.

CRITICAL CONCEPTS

Before analyzing the data from Coalinga we need to first look at the key concepts that underlie some of the research questions.

Effectiveness, Efficiency, and Goal Clarity

Effectiveness is taken to mean the satisfactory accomplishment of organizationally salient goals (Tierney, 1985). We can see that within an organization particular goals may be valued more highly than others; that is,

goals may be equally real but with different degrees of salience. Goals may also be accomplished with varying degrees of success. Relative comparisons can be made among goals that are accomplished equally well but have different values for the organization. In noting these differences between level of accomplishment and salience, we can then judge that while two goals with unequal salience were met equally well, the more salient goal may not have been met more effectively.

When we address the concept of effectiveness in the context of disaster response operations we can compare sets of activities like search and rescue operations and fire suppression. Where there are large numbers of people trapped in buildings, and limited fires, we can see that getting trapped people out and into medical care units is of greater salience. If we postponed search and rescue to protect a few buildings, and consequently lost lives, we could see that fighting the fires was an ineffective choice for use of our resources.

Efficiency is a relative measure of the work, resources, time, or energy required to effect desired outcomes from organized activity (Van de Ven and Ferry, 1980). The relative quality of this concept allows us to realize that similar effects can be created through different techniques requiring widely varying resources. Implicit in this concept is the possibility that we might find an optimal efficiency for a given operation and thus create the desired effect with the least expenditure of energy. Conversely, inefficient methods might yield us the desired effect but at unnecessarily high energy costs.

When we apply this concept to the PIO role and emergency public information we can see that warning messages about the quality of drinking water after an earthquake might be most efficiently disseminated through local mass media, such as radio or locally programmed television. If no local mass media are

operational, other nonlocal media received by the local disaster victim population then become the most efficient option.

Goal clarity or its lack may be operant in any system of management. Where there is clarity of goals, analysis becomes more straightforward. Where goal clarity is weak, one cannot accurately evaluate how well an entity meets a goal (March and Simon, 1958). For an organization, having clear goals means that members of the organization can talk directly about the effects they intend to create through their actions. Looking at several people in the organization, we would find that they talked about the same goals in the same terms. Different members of an organization may have the same goals, but different ideas about how to achieve them. In some cases, people may feel they are acting in ways that facilitate accomplishment of organization-wide goals, but in fact their actions may frustrate the efforts of others in ways that undermine accomplishment of organizational goals.

Armed with these critical concepts we can look beneath the surface of the observations made at Coalinga and examine the relationships among organizationally salient goals, techniques used to accomplish those goals, and the relative success of those techniques. We might see that some goals only become salient after some other goal is accomplished, so that the most important thing to be done changes as conditions change; that is, we may see that some goals are contingently salient.

Contingency Theory

The logic of this analysis is drawn from contingency theory (Bryson and Delbecq, 1979). More recent theoretical work (Giddens, 1984) has framed contingent choices in the context of: 1) recurrent patterns of action which constitute and continuously reconstruct that context of action, and 2) the

conception of action as potentially productive both of desired and of unintended effects.

When we talk about "patterns of action which constitute and continuously reconstruct" a context of action we are focusing on types of action that both set rules for interaction and enact choices within the framework of those rules. An example would be the PIO talking with the sheriff's deputy to arrange a tour. In the course of talking they manage to exchange a wide set of messages and communicate a wide variety of meanings that are not always apparent. They give each other clues about what they believe the situation is with the news media—not through direct talk, but indirectly, through the terms used, their facial expressions, the choices suggested for the course of travel through the damaged areas, etc. In communicating in various direct and indirect ways, the PIO and the deputy define rules for interacting in the context of "tour planning," and follow those rules in the act of planning.

With these conceptual guides we can then attempt to uncover the hidden, submerged or tacit choices PIOs make in pursuit of their professional responsibilities, and what the effects of these choices might be. For example, with the concept of "unintended effects" (Giddens, 1984) we can take a close look at the choices made by the PIO and attempt to discern whether or not the effects produced were by design, due to the actions of others, or simply the result of random factors impinging on the events observed.

"Differentiation of intended from unintended effects" (Giddens, 1984, 1979, 1976) allows us an opportunity to sort the contingent factors that condition or influence the enactment of a PIO's choices, goals or plans. We can now look for differences between what the PIO at Coalinga tried to accomplish with the news media and what was actually accomplished. We can look at what he

<u>did not try</u> to accomplish with local townspeople, and what he did accomplish. And we can treat these two sets of questions as separate critical problems.

Here, contingent logic helps us to ask first: Was this activity the reflection of one of the PIO's goals? Having answered that question, we can then ask the first critical question: How well was that goal met? Then and only then does the question of causation become important to us: Why did it work the way it did?

Once we satisfy ourselves concerning the question of why it worked the way it did we can turn to the second critical question: What <u>should</u> the PIO do with limited time, energy, and resources? Should the PIO manage emergency public information operations in ways that provide immediate access to the news media? Should the PIO spend time granting interviews and arranging tours? Should the PIO devote time to the information needs of the local population? In what proportions are these goals mutually exclusive?

Our examination of the PIO experience at Coalinga will shed some light on these questions.

The Emergency Environment

Management of emergency public information after a community-wide disaster, when the news media have converged and the response efforts are managed by an emergent multiorganizational network, is management in a changing situation. The people change, the topics of conversation change, the stage of emergency response changes and, with it, the salient information about the disaster changes. Fatigue sets in. The effects of choosing to take one course of action over another become evident as time passes and conditions change (a process termed "latent effects," also called "delayed reaction effects").

When we look at what happened in Coalinga we need to keep this sense of a changing landscape in mind. Information systems in changing organizations

are volatile, and the heat of change can come on quickly.

Another point to keep in mind about the environment of emergency public information in a community-wide disaster like the Coalinga earthquake is that there are many players. At one moment the only people in town are local townspeople; then the outside emergency response teams arrive with personnel and equipment and suddenly the size of the town has gone up 10%. Suddenly hundreds of strangers are running about trying to solve emergent problems. If a person happens to be a PIO, he or she needs to keep track of who does what, where, when, how and why, because there are going to be a couple hundred representatives of the news media right behind the relief folks, and they will want accurate, concise and timely information about what is going on.

Finally, if a person happens to be a PIO in this kind of disaster, he or she must collect, organize, reformat, and report information in several different directions through the course of the remedy and early recovery phases of the disaster.[1] One has to talk with townspeople about one set of issues, with officials about other issues, and with the news media about nearly everything under the sun. This mixed set of tasks requires a great amount of energy, flexibility and resourcefulness. To do it all effectively, the PIO has to understand the processes unique to emergent multiorganizational network-managed disaster information systems.

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[1]We use the following terms to characterize the different phases of rapid-onset disasters:
1) predisaster mitigation and preparedness
2) disaster impact
3) immediate postimpact emergency response:
    a) inventory
    b) rescue
    c) remedy
4) early recovery
5) long-term rehabilitation.

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Disaster Information Sources

Distribution of operational information. Information about the progress being made in emergency response operations is "operational information." If that information is held and not shared with others it is "undistributed information." If a fire captain knows that the search and rescue (SAR) operations are 50% complete and the PIO last heard that the SAR was 25% complete, there is obviously a difference in the information about the SAR held by these two people. This kind of situation can produce an impression on the part of the news media that somebody does not know what is going on.

Emergent, historical, and speculative information. When the point is reached in emergency response operations where injury and death no longer dominate news media questioning, the subject becomes damages. The news media want to know about the general picture, so they ask for broad statistics. Statistics are framed in questions like "What's the dollar figure on damages at this point?" or, "How many buildings did you say were down?"

As more time passes and the general picture gets fleshed-out, the questions change again. The discussion progresses from "how many" questions to "what was" questions—questions such as: "What was that building before it fell down?" "How old were those buildings?" "Why did those houses bounce sideways a foot-and-a-half?" This latter type of "damage" question requires that the person answering be able to draw upon knowledge gained before the disaster event. This is not the case with more general damage statistics. The statistics are emergent information. Stories about what the community was like before the disaster are historical information.

Speculative information makes projections into the future, and is searched for with questions such as "How long will it take to get the gas and water

systems back into service?"

Information Content. We are asking two different questions when we ask "Who did what?" The first part of the question asks about identity, a person or role or organization or position title. The second part of the question asks about action. In some of the findings reported below, the "Who" is called "Emergency Response"--the people that responded to the emergency. "Functional Response" details what was done in response to the emergency. By "what was done" we mean complexes of action such as providing emergency medical services, conducting SAR operations, providing perimeter control, or fighting fires.

Table 2 (page 24) lists the types of information salient to the PIO and the news media at Coalinga.

METHODS

Quick Response Field Study

The process of going quickly into the field to collect data on disasters is often termed "firehouse research"-a description derived from the image of firefighters sitting about sipping coffee until the alarm goes off signaling a flurry of activity (firefighters sliding down poles, buttoning turnout coats). The reality for quick response disaster research more often involves some careful thought and planning regarding the selection of a subset of disaster types to be studied. Considerable time is spent gaining familiarity with the area of interest. When the opportunity comes to conduct the study, researchers go to the site as soon as possible, making needed adjustments (e.g., to the foci of interest, to the methods used to gather data) on site to fit the parameters of the particular disaster.

Killian talks about the need for quick response research with an eye to collecting the recollections of participants: "time always presses upon the

researcher, for the longer he [sic] takes to get into the field the more remote the disaster experience becomes for his subject" (in Sherretz, 1982). Sherretz goes on to say that "with the passing of time, disaster victims wrought with emotion and tension may be especially subject to faulty memory and retrospective distortion and reconstruction" (1982). If we accept this reasoning as valid, then the need for quick response field study methods becomes obvious.

For this study, the justifications for quick response methods presented above apply but do not go far enough. We needed to collect information on emergent communication processes. Because we needed to record the emergence of disaster information system processes, we could not rely upon response participants or victims to either observe or recall data important to us. It would not have mattered had the recall of these people been nearly perfect; we would not have been able to infer from their reports the specific types of information we needed to answer our research questions. For example, we sought to model the changes in topics addressed by the PIO as he talked with the news media. We could have simply asked the PIO to tell us what it was he believed the news media wanted to learn from him, but could he have reported this opinion accurately, remembering and revealing the trends and changes in trends in topics and themes of news media interest? Probably not.

We also needed to gain data on the continuous stream of dialogue between the PIO and others. Without first-hand, real-time data, any attempt to answer our research questions would have been a poor approximation at best.

Data Collection

Rogers and Sood (1981) argue for the use of teams of field researchers, rather than a single scholar, in disaster site research. By using such a team we were able to gather data in several different areas simultaneously. The

Coalinga research team was composed of two researchers from California State University, Sacramento (Rahul Sood and Geoffrey Stockdale) and two from Stanford University (Everett M. Rogers and Sheizaf Rafaeli).

The Coalinga disaster began with a 6.5 magnitude earthquake at 4:42 p.m. on May 2, 1983. The first member of our quick response field research team arrived on site at 10:00 p.m. that same night. The remainder of the team arrived in the early hours of May 3, and the greater part of the data collection was conducted on the morning of May 3, 1983.

Stockdale joined company with the Coalinga PIO, Robert Semple, and tape recorded nearly all of Semple's public discourse over a four-hour period in which Semple interacted with the news media, other officials, local townspeople, and members of the field research team.

Rafaeli surveyed the news media personnel at the disaster site, collecting data on their numbers, organizational affiliations, duration of stay, and technical specialties.

Sood and Rogers interviewed a varied assortment of news media personnel, officials, and local townspeople (while directing and supporting the data collection efforts of the two junior team members, Rafaeli and Stockdale) in order to gather data on the emerging disaster information system.

Data Analysis

A time-based content analysis was done with the transcripts of audiotaped PIO discourse (Stockdale, 1987; Krippendorf, 1980; Holsti, 1969; Pool, 1959). Interpretation of the content analysis was enhanced using the field notes of the other team members. The findings from the time-based content analysis help to provide answers to some of our research questions, such as those dealing with changes over time in the form and content of PIO/media interactions.

The other areas of our research interest, such as how the disaster information system evolved, and assessment of the quality of PIO/media interactions, are answered from a critical review of the transcripts, from field notes, and from some secondary data sources, including: 1) reports from hearings conducted by the California Seismic Safety Commission, 2) telephone logs from the California Office of Emergency Services, 3) the California Highway Patrol Coalinga Station report, and 4) Tierney (1985).

FINDINGS

The findings from Coalinga tell us that the PIO has many roles within the process of emergency public information management in a rapid-onset, community-wide natural disaster.

Major findings include:

1) The movement of information lags behind disaster operations.

2) Information networks change in an EMO network in ways that create management problems for the PIO.

3) The PIO cannot be all things to all people, and cannot do all the information dissemination jobs equally well.

4) The content of news media questions changes over time because of four factors:

   a. Questions change as topics become exhausted.

   b. Questions change as response operations change.

   c. Questions change as the "key players" change from city to county to state to federal levels, and as the disaster moves from the rescue to remedy to early recovery stages.

   d. Questions change as the news media learn more about the community and the disaster response, and after they have begun to answer the question: "Who did what?"

1) <u>Information movement lags behind disaster operations</u>.

In the latter stages of our observation of Coalinga's PIO we noted that there was an increase in the frequency of questions about damage assessment. At that time assessment teams were in the process of conducting a survey of the community. While it is obvious that information has to be created before it can be moved, it might not be obvious that the delay between information creation and dissemination can be a problem to the PIO. This was the case in Coalinga. The news media asked again and again about new damage data coming out of the ongoing damage assessment. PIO Semple did not have the answer.

Semple was doing a wonderful job of maintaining contact with the news media, giving on-camera interviews whenever requested, answering questions as an official spokesperson nearly continuously. However, this did not leave much time to plan dissemination strategies, or to talk with the local townspeople, or to gather hard-to-find information about the emergency response operations. This brings up the next two major findings.

2) <u>Information networks change in an EMO network in ways that create management problems for the PIO.</u>

In Coalinga there were two rumors that the PIO had to deal with. One was that the governor of California would be visiting the disaster site that day (May 3). The other was that the search and rescue had not been completed and that there might still be people trapped in the extensive rubble littering the streets of Coalinga.

In both cases the rumor was tied to poor movement of information between members of different task groups working on the disaster relief effort. In the case of the rumor about the governor, somebody in the group of state-level personnel had access to the correct information. The information was not distributed so that the PIO could easily obtain or become aware of it. People

at the state level were not talking enough about their operations and plans, and they were not talking enough with the one person that was managing the local contact with the news media. This led to a widespread expectation that the governor would arrive. When it became clear that the senior state official that would arrive was not the governor but the newly appointed director of the California Office of Emergency Services, the PIO lost some credibility.

The point here is not simply that there was a rumor that could have been avoided, but that the rumor began and was sustained because of poor linkages between task groups at different governmental levels. In emergency response operations that include task groups from a single governmental entity (such as a large city fire department) the linkages tend to be strong and such problems rarely arise. On the other hand, poor linkage may be common to EMO network-run emergency public information operations.

The other rumor we noticed also illustrates the ways different task groups communicate and the consequences of poor communication. On the night of May 2 local townspeople were interrupted in their search and rescue operations on the Coalinga Plaza—an effort being directed by Lt. Oakley of the Coalinga fire department. The search was later taken over by members of the Fresno County sheriff's department. After the search was completed by the county-level personnel, the original members of the local search group were not informed that the search had resumed and been properly completed. This type of intergroup communication failure is probably fairly common where there is little management of communication in the transition from operations by volunteers to operations by nonlocal professionals.

Neither of these rumors was particularly bad. Nobody ran headlong into a fire while seeking an escape route from another blaze, nobody sat waiting

under the illusion of safety while their home in a hollow was overcome with poison gases. The rumors were not consequential in that sense, but they do point out that there are special problems in managing the information flow in an emergent multiorganizational network that are not a problem for other types of disaster management structures.

3) The PIO cannot be all things to all people, and cannot do all the information dissemination jobs equally well.

When we looked closely at the differences between the way PIO Semple managed the information demands placed on his operation by 1) the news media, and 2) the local townspeople, we found that he managed the media better. For example in postevent interviews we conducted in June, 1983, Semple was praised by some Los Angeles media personnel for being "available" and "helpful" and for giving the news media information about the community that was otherwise hard to find.

While Semple was helping the news media, various local townspeople were seeking to relieve their uncertainty about when they could return to their homes or go into their businesses and salvage their possessions. In these cases, Semple ended his encounters with the local townspeople by either returning to deal with the news media or insisting that he needed to do so. An example, from Stockdale (1987, p. 76), involves a dialogue among Semple (PIO), two townspeople (TPa, TPb), and a reporter (Rpt):

TPa: Robert, where is the Command Post supposed to be?

PIO: The Highway Patrol office, Tony.

TPa: The deputy sheriffs don't know that. Where are they supposed
      to go to get permission to get into the buildings? You told
      us Fourth and Elm, and over there they told us here.

PIO: Was that this morning Charlie?

TPb: That was just within the last fifteen minutes.

PIO: O.K., I haven't been in radio contact with the Command Post so I haven't had any . . .

TPb: [Interrupting] Couldn't you use carrier pigeons or semaphore or something?

PIO: Maybe we can turn to KOLI, 1470 on your dial?

TPb: KOLI, KOLI's not giving out any information!

PIO: They're broadcasting from the transmitter, out at the sewer plant.

Rpt: [Ending the interaction] Are you satisfied then, that everybody in town is accounted for?

There is a strong likelihood that the Coalinga PIO could have managed operations more efficiently. The use of status boards, described below, would have bought him some amount of time to better plan his activities. It is still doubtful that he would have been able to give the service he did to the news media and give full service to the local population as well. A solution to this problem would entail the use of larger staff and more reliable communication channels for emergency public information management and dissemination. Semple did have some support staff who took messages for him while interviews and news media tours were being conducted. They also acted as a general source of information on the whereabouts of some of the senior Coalinga staff. However, the support received was not sufficient to free the PIO for broader planning and emergency public information management tasks.

4) <u>The content of news media questions is going to change over time due to four factors</u>:

To talk about how the topics of interest to the news media change over time we must first talk about what those topics were. Above, when we discussed different types of information, we talked about the past, present, and future. These temporal referents are one way to talk about the news media's interest in information. Another is to look at the actual questions asked. Yet another way

to focus on what the news media wanted to know is to look at the referents embedded in their questions. For example, a question might be posed concerning which communities sent personnel and equipment to Coalinga. The question would then hold an implicit reference to the types of equipment as the question/answer sequence progressed. Below we address all of these ways of conceptualizing the news media's interest in information.

When we talk about the four factors that influence changes in news media questions we are generally talking about the content of those questions. By looking at the content we can see more general patterns of news media interest than if we looked simply at the actual questions that were repeated. Looking at the content is generally a better choice even though some of the news media's areas of interest lead reporters to ask questions that are nearly alike. We can see from Table 1 that in some cases the actual questions asked are quite similar within a topic (the topic categories are defined below), while at other times the questions are very different.

Topic Categories. We developed nine topic categories to help us understand the general trends in information content during the evolution of the emergency public information operations we observed (Table 2). These topic categories reflect a feature unique to the Coalinga disaster: the Coalinga Plaza area was a concentrated impact area, and the level of devastation in a ten city block area was extreme. This area was closed by the Fresno County sheriff's department upon their arrival on Monday night, May 2.

When we look at the amount of information the news media wanted about these topics from the Coalinga PIO we find some interesting patterns that tell us how the disaster information system must change in the transition from remedy to early recovery.

4a)   <u>News media questions will change as topics become exhausted</u>.

We looked at the way these nine topics changed over the course of our observations in Coalinga, and found that some topics that were salient for the news media at one time became unimportant later. The topic of injuries is a good example. News media questions about injuries declined fairly steadily over the six time periods we compared (Figure 1). Questions about injuries can be expected to decline when SAR is complete and when all the victims needing treatment have found treatment. What is not obvious about this finding is that when one topic becomes static (no new information is being created in that area), other topics are picked up to fill the void. From the perspective of the news media, the "news hole" must be filled, and so the flow of information into news media organizations must be <u>constant</u>.

The topics of injuries and preparedness fell in media interest during the time frame of our study, while the topic of recovery remained constant (Figure 1). Background and damages became paired during the first news media tour of Coalinga Plaza we observed, and the two topics stayed paired throughout the rest of our observations.

4b)   <u>News media questions will change as operations change</u>.

When the emergency operations moved from the remedy to early recovery stages news media questions about damages and background increased (Figure 2). This was because these topics were linked to each other and to continuing operations in which new information was being created. As the disaster response shifted to early recovery, the operations shifted to damage assessments necessary for applications for aid to the community. This shift drove the news media's demand for information, and the PIO had to be able to field questions in this area. Because this information had not been distributed throughout the disaster