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AN INDUCTIVE THEORY OF INTERORGANIZATION COORDINATION IN CRISES

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ABSTRACT

Coordination in an interorganizational field (IOF) refers to representative decision-making and communication between coordinating unit(s) and member units. On the other hand, an IOF consists of decision-making units coupled with each other by directive- and report-information flows. Centralization or decentralization is one important dimension of decision-making structure, and is defined by the number of representative decision unit(s) in an IOF. Also crucial is the concentration-diffuseness dimension of the communication structure which refers to the distance between the representative decision unit(s) and member units. Then, while an organization is characterized by relatively high centralization and diffuseness, as well as by representativeness based on authority, an IOF will be either high or low in centralization and concentration. In addition, the representativeness of an IOF is based on contracts for the mandate or concession of decision-making rights.

After the discussion of the two Japanese earthquakes, the organizational responses to which are clearly distinguished along two dimensions of centralization and concentration, we obtain four types of interorganizational coordination by cross-classifying these two dimensions, i.e., centralized-concentrated type, centralized-diffused type, decentralized-concentrated type, and decentralized-diffused type. Some possible advantages and disadvantages are discussed. Furthermore, six determinant factors of these

types are tentatively identified on the basis of Wright's work. The discussion on these factors leads us, through inductive reasoning, to plausible relationships between the interorganizational coordination types and three disaster characteristics, i.e., the scope of impact, the type of disaster defined by its agent, and the type of disaster defined by the nature of the stricken area.

1. INTRODUCTION

In a differentiated society, interorganizational coordination is a critical necessity for achieving certain goals beyond the domain of a single organization. However, efforts to accumulate research findings on inter-organizational coordination in crises are quite few. Although inmature analytical models and inappropriate methods to analyze data were partly responsible for the minimal efforts, the few attempts to develop a typology of interorganizational coordination seem to have more directly hindered us from accumulating findings. Despite remarkable developments in models and methods for interorganizational analysis, there exists a need to develop a typology of interorganizational coordination (for an exception see the work by Wright, 1976, 1977).

A clear conception of coordination is essential for developing a typology; however, the concept of coordination is ambiguous in two senses. First, it is ambiguous because the substantial nature of coordination is left unclear. The discussion on organizational coordination by March and Simon (1958), Thompson (1967), Pugh (1979), Litterer (1973), Hage, et al. (1971), Van de Ven (1976), Dynes and Aguirre (1979) and the like, clarify only possible means of coordination. At the interorganizational level, the six meanings of interorganizational coordination listed by Warren (1971) are simply the indication of goals or results of coordination. Second, the concept of coordination is ambiguous because it has been used in either a too broad or too narrow sense. For example, Petit (1975) uses the concept in a very broad sense to include decision-making, planning, organizing, leadership, and control, while Corwin (1981) deals with it only as a subordinate concept to control. Futhermore, Haas and Drabek (1973) use the concept as a process which makes up the performance structure together with control, decision-making, communication, and so on. We usually have to learn the meaning or

nature of the concept from the context.

The purpose of this paper is to develop a heuristic typology of inter-organizational coordination, clearing up the ambiguities of the concept by illustrations from the description of two contrasting cases of earthquakes, both of which occurred in Japan in 1978.

2. CONCEPTS AND FRAMEWORK

(1) Interorganizational Field

The unit of analysis in this paper is an interorganizational field (IOF) (Warren, 1967). An interoroganizational field is characterized by (1) the weakness of formal authority structure and (2) the representativeness authorized by contracts (Yamamoto, forthcoming). Litwak and Hylton (1962) designated (1) the existence of partial conflicts and (2) the lack of formal authority structure as the factors differentiating an IOF from an organization. But since the existence of conflicts is the raison d'etre of an organization as well, whether they be total or partial, it is not necessarily characteristic of an IOF. Also the lack of formal authority structure, although it is a matter of degree, is slightly inaccurate when we take into account the administration levels such as state, regional, and local levels indicated by Klonglan and others (1976). Therefore, it is better to say that the formal authority structure of an IOF is weak rather than that it is lacking. Turk (1977) indicates that group representativeness is the base of interorganizational relationships, while organizationl relationships are based on authority. However, representativeness is also an essential process for an organization, because representativeness is the process to organize the differentiated parts into a unity (Shiobara, 1976).

The difference is solely in the basis of representativeness. The inter-organizational representativeness is based on contracts among organizations, while the intraorganizational representativeness is based on authority.

(2) Coordination

The concept of coordination is used in a broad sense and defined as the process of integrating differentiated activities in a system toward a certain common and overall objective (Yamamoto, forthcoming).

Simon (1945) indicated three steps of coordination: (1) planning a comprehensive course of actions, (2) communicating it to the members, and (3) being accepted by the members. Planning a comprehensive course of actions is the decision-making itself, and communicating and being accepted are a matter of communication. Thus, following Simon's discussion, we consider the substantial activities of coordination are (1) to make an overall decision and (2) to communicate it to the members.

At the organizational level, an overall decision is usually made by persons at the higher echelon of the formal authority structure. The legitimacy of decision role is ensured by authority. However, at the interorganizational level, it is secured by contracts among organizations as mentioned above concerning representativeness. In other words, decision-making in an IOF is the representative decision making authorized by contracts for the mandate or the concession of rights of making decisions.

The other substantial activity of coordination, communication, relies heavily on authority in an organization. As indicated by Barnard (1938), information should come from an authorized person or position and be acceptable by the members who receive it. However, in an IOF, the effectiveness of communication activity is largely determined by the quality of communication, such as the speed and the accuracy of communication, because

of the weakness of formal authority structure.

Two characteristics of an IOF, the weakness of formal authority structure and the contractual representativeness, imply the existence of the coordinating unit(s). Because of the weakness of formal authority structure, an IOF cannot be coordinated in the indirect fashion as in an organization, but must be done through mediation of coordinating unit(s). The contractual representativeness presupposes the existence of the other party who is mandated or given the right of making decisions. Although the classifications by Reid (1969) and by Mott (1970) include the type of coordination lacking a coordinating unit, this rarely happens in the case of disaster. As Thompson and Hawkes (1962) indicate, planned or unplanned coordinating unit(s) necessarily follow(s) a disaster. Thus, coordination in an IOF is considered to be composed of representative decision-making and communication between coordinating unit(s) and member units.

(3) The Basic Framework

A social system is an entity of actors or units coupled with each other. An actor or unit, whether it may be an individual or an organization, is a decision maker. Its structure, which is fundamentally composed of four functions, can be seen in Figure 1 (Murakami, et al., 1973).

Environmental information enters into cognition through detection, so that the actor or unit can understand and patterned the information and the situation in terms of the frame of cognition, or the frame of reference. This personally-understood or modified information is then transferred to evaluation. Evaluation is the choice of the possible means or responses according to the frame of evaluation. The frame of evaluation is composed of values, norms, beliefs, and the like, based on the experiences of the actor or unit, and provides the value-ordering of possible means and

responses. This frame of evaluation enables the actor or unit to choose the subjectively best possible means or response within limits. The chosen means or response must be modified in the form of operational information in direction (Murakami, et al., 1971).

The couplings in a system are set up by information flows. In an organization or in an IOF, the couplings are fixed through the flows of two types of information. One is a report, and the other is a directive. Furthermore, the couplings in an organization or in an IOF are characterized by the partial use of functions in a unit's structure. For instance, a certain unit exclusively detects environmental information, and the other unit exclusively recognizes the information. Thus, we can illustrate the structure of an organization or an IOF as in Figure 2 (Yamamoto, 1979).

In Figure 2, Unit 1 is coupled with Unit 2 through reporting activities, and Unit 3 with Unit 4 through directing activities. Illustrated in a different way, Figures 3 and 4 show the couplings through reporting and directing activities, respectively (Yamamoto, 1977).

(4) Centralization and Concentration

In report-couplings, when the information from various boundary units always reaches the one same unit, the unit is called a cognition center, and the system as a whole can be regarded as centralized in cognition. In directive-couplings, when the information always comes from the one same unit, the unit is called an evaluation center, and the system as a whole can be regarded as centralized in evaluation. Thus, an organization is defined as a system in which the couplings are always centralized both in cognition and in evaluation, and a cognition center and an evaluation center are usually identical with each other. Both centers which are identical are called a coordinating center. An IOF is different from an organization in

that the couplings in it are not always centralized and that the two centers are not always identical. Because of the weakness of formal authority structure, an IOF can have a separate cognition- and an evaluation-center. When two centers are separate, we regard an evaluation center as a coordinating unit because evaluation or decision making presupposes cognition and because cognition itself is not necessarily a substantial activity of coordination.

On the other hand, as seen in Figures 3 and 4, there are two types of communication channels in both report- and directive-couplings. One type of communication channel is basically composed of the sender and the receiver of information, and the other is a communication channel having an intermediate unit between the sender and the receiver. Some units between the sender and the receiver transmit the incoming information to other units without any modification. These units are not intermediate units. An intermediate unit interprets and selects the incoming information and responds to it in some way prior to transmitting it. When there is no intermediate unit in a communication channel, the communication structure is regarded as completely concentrated. As the number of intermediate units increase in communication channels within a system, the communication structure of the system approaches a diffused state. In an organization, the communication structure is usually diffused according to its formal authority structure, while that of an IOF varies according to the contracts.

Thus, the degree of centralization is measured by the number of coordinating units in an IOF and represents its decision-making structure. The degree of concentration is measured by the number of intermediate units in the communication channels, and represents its communication structure by indicating the communication distance between the coordinating unit(s)

and the member organizations in an IOF.

3. CASES

In 1978, Japan had two earthquakes which strikingly contrasted with each other in that one was an urban, wide-scope disaster and the other a rural, narrow-scope disaster. In addition, organizational responses were also contrastive. The data of these two cases came mainly from The Institute for Future Technology's project of "Reliability and Effectiveness of Actions for Earthquake Disaster Prevention." The methods of data collection were the non-structured interviews and the interpretation of several governmental and research documents.

(1) Izu-Oshima Kinkai Earthquake

Izu-Oshima Kinkai Earthquake (IOK) struck Izu Peninsula of Shizuoka Prefecture, one hundred miles west of Tokyo, with a magnitude of 7.0 at 12:34 p.m. on the 14th of January, 1978. The damages and casualties were limited to two small towns; Kawazu and Higashi-Izu--that is, the disaster had a narrow scope. The stricken towns can be characterized as being rural areas with a great deal of experience and knowledge about earthquakes. The area is noted for being earthquake prone and several earthquakes have occurred since World War II. The backgrounds of the areas are summarized in Table 1 in comparison with the area stricken by the Miyagi-Ken Oki earthquake (see Table 1).

Within two hours after the major shock, Shizuoka Prefecture, some municipalities, and both towns set up the Emergency Operation Center (EOC). The prefectural EOC headquarters opened a branch at Shimoda City close to both towns. Two days after the major shock, the prefectural EOC headquarters decided to set up an on-the-spot EOC at Kawazu Town. At the on-the-spot EOC,

the head of which was the Treasurer of the prefectural government, meetings were held involving representatives from the EOC's of the two towns, the Self Defense Force, police departments, fire departments, and other related organizations. The purpose was the coordinating of the activities on the spot. Information from every organization on the spot came into this on-the-spot EOC and most decisions were made at the meetings. Only additional requests and reports were sent from the on-the-spot EOC to the Shimoda branch or the prefectural EOC headquarters. The communication between them was one-way traffic. Thus, the organizational response in the case of IOK can be figured in a simplified fashion as seen in Figure 5.

(2) Miyagi-Ken Oki Earthquake

Miyagi-Ken Oki Earthquake (MKO) occurred with a magnitude of 7.4 at 5:14 p.m. on the 12th of June, 1978. The earthquake affected three prefectures: Miyagi, Iwate, and Fukushima. Among them, Miyagi prefecture had the most severe damages and casualties. Sendai was the city most severely devastated. Sendai is the biggest city in northern Japan and the capital of Miyagi prefecture. In comprarison with the case of IOK, the MKO had the wider scope in that it affected broader areas. The major affected area was an urban locality with a large population and many private and public facilities. Furthermore, people in Sendai had believed an old saying that "Sendai city never suffers from earthquakes because the ground of Sendai is solid enough to withstand an earthquake." Therefore, the public administration organizations in Sendai had less elaborated earthquake emergency plans than in the IKO situation.

Within 15 minutes, Miyagi prefecture and Sendai city respectively set up their EOC's. Up to July 15, the municipal EOC had four meetings on possible rescue- and rehabilitation-activities, while the prefectural EOC

had two meetings. One of the meetings held by the prefectural EOC involved the municipal EOC and the local offices of national organizations such as the Self Defense Force, the Ministry of Agriculture and Forestry, and the Ministry of Construction. In this meeting they simply exchanged information on what the situation was and what they had done. The purpose of the meetings was not to coordinate several organizations but to collect information and to comprehend the situation. For three days after the major shock, the major effort in each EOC headquarters was to collect information. However, little information was gathered through the cross-organizational meeting because participation by other organizations was weak. Information gathered by the prefectural EOC headquarters came mainly through several levels of the local offices of the prefectural and the national governments, and of the municipal and town offices. The operational decisions were made in each organizational unit on the spot. For example, at the place of an oil leak, the company which owned the oil tanks, the fire department of Sendai city, and the Maritime Safety Agency of the national government each established their own on-the-spot EOC independently of each other. Although they had a cross-organizational meeting on the spot as a result of a request from the national diet, no further similar meetings were held. Thus, Figure 6 represents the organizational responses to MKO in a simplified fashion (see Figure 6).

4. PATTERNS OF INTERORGANIZATIONAL COORDINATION IN CRISES

The description of the two cases show that the discriminant factors between the two interorganizational coordination pattern in these instances are (1) the number of decision-making centers, and (2) the distance between the sender(s) and the receiver(s) of information. In the case of IOK, there

was only one substantial on-the-spot decision-making center. This decision-making center functioned as a cognition center as well. Since it was located on the spot, the distance between the sender(s) and the receiver(s) was minimum. In contrast, in the case of MKO, the decision-making centers were scattered throughout the stricken areas. One organization even had several decision-making centers, such as those observed in police operations in Sendai city. The distance between the sender(s) and the receiver(s) of information was large. There were many intermediate units between them. Therefore, using the two concepts defined above, we can say that the IOF in the case of IOK was a centralized-concentrated system, while the IOF in the case of MKO was a decentralized-diffused system.

These two dimensions of a system structure produce four types of IOF. These types are, at the same time, patterns of interorganizational coordination in that the classification is based on two substantial activities of coordination (see Table 2). Each type can be illustrated, as can be seen in Figure 7.

The centralized-concentrated pattern of coordination is good both for the speed and the accuracy of communication resulting from its concentrated structure of communication (Guetzkow, et al., 1958; Shaw, 1954, 1964), and for the making of decisions from an overall viewpoint resulting from its centralized structure of decision making (Drabek, 1968; Barton, 1970). However, a highly centralized structure of decision making tends to result in (1) stifling of initiative and creativity, (2) organizational rigidity, and (3) ineffective supervision (Olsen, 1968). Therefore, the centralized structure will be inappropriate for performing non-routine or highly technological tasks. Reid (1969) and Mott (1970) also designated the same problems for a centralized structure. According to the studies of small

groups (Geutzkow, et al., 1955; Shaw, 1954, 1964), a high concentration in communication structure often leads to the problem of overloads in communication flow.

The centralized-diffused pattern of coordination enables decisions to be made comprehensively resulting from its centralized structure, and lessens the problem of communication overloads as a result of diffusiveness. However, high centralization leads to the problems indicated above, and the diffusiveness poses a problem of decreasing speed and quality of communication. The decentralized-concentrated pattern of coordination is good for the speeding-up of decision-making and communication. However, because of its high decentralization, it is likely to have problems such as the overlapping of activities, authority conflicts between coordinating units, and focusing on partial concerns instead of overall objectives. Its high concentration also tends to lead to communication overloads. As indicated through these discussions, the decentralized-diffused pattern of coordination is most problematic in making a comprehensive decision and in communicating effectively.

Wright (1976, 1977) empirically studied, using disaster phenomena, the relationships between the two types of interorganizational coordination; system- and network-coordination, and four factors; the amount of tasks, the size of IOF, the amount of experiences and knowledge, and the variety of necessary resources. System coordination ultimately presupposes the existence of a single coordinating unit in an IOF, while network coordination means the absence of any coordinating unit in an IOF. However, since an IOF consists of organizations and each organization has at least one coordinating unit in it, network coordination does not mean the absence of a coordinating unit, but a situation where there are as many coordinating units as the number

of component organizations. Therefore, Wright's distinction between system- and network-coordination corresponds to the distinction between the centralized and decentralized coordination in this discussion. Thus, according to Wright's findings, the amount of tasks, the size of an IOF, and the variety of necessary resources are positively related to the degree of decentralization, and the amount of experiences and knowledge is positively related to the degree of centralization.

Since little empirical research is available on the dimension of concentrated and diffused coordination, we are obliged to rely mostly upon inferences in stating further implications. First, the greater the amount of tasks, the greater the amount of communication. The greater the amount of communication, the more probable the intervention or mediation by intermediate units in the communication flow in order to avoid communication overloads. Therefore, the amount of tasks will be positively related to the degree of diffusiveness. Second, the size of an IOF is measured by the number of its component organizations. The more component organizations an IOF has, the more vertically differentiated it will be (Blau, et al, 1971). The more vertically differentiated an IOF is, the more will be the number of levels or units in the communication channels.

Therefore, the size of an IOF will also be positively related to the degree of diffusiveness. Third, the great storage of experiences and knowledge implies that intermediate units in communication channels are fairly familiar with interpreting and selecting information from the spot, and with partly operationalizing it for themselves. Therefore, the greater the storage of experiences and knowledge is, the greater the possibility of intervention or mediation by intermediate units and the more likely the IOF is to be diffused. Fourth, if the variety of necessary resources is high,

an IOF is likely to expand its size because the IOF takes in more organizations in order to mobilize the resources. Therefore, the variety of necessary resources is also positively associated with the degree of diffusiveness. In addition to Wright's four factors, I take into account two more factors: the complexity of the tasks and the average size of component organizations. The high complexity of tasks implies the necessity of specialized knowledge in making decisions and the increased speciality in the information communicated by each organization. That is to say, it leads to the specialization of decision-making roles and the decreased possibility of intervention or mediation by intermediate units because it is hard for intermediate units to understand information. Therefore, the complexity of tasks is positively associated with the degree of decentralization and of concentration, respectively. The component organizations are likely to increase their autonomy as their sizes are expanded. The great autonomy of component organizations tends to associate with a high degree of decentralization and of diffusiveness.

As indicated in the case description, the IOK and the MKO earthquake contrasted with each other in that the former was a non-urban, narrow-scope disaster, while the latter was urban, wide-scope disaster. In the case of urban disaster, the size of an IOF established in a post-disaster period and the sizes of component organizations such as police, fire department, local government, and the like are likely to be larger than those in the case of a non-urban disaster. In addition, the large scale and high density of life-line functions, facilities, and population result in large scale damages and casualties. Therefore, the amount of tasks posed by an urban disaster tends to be relatively larger than those by a non-urban disaster. These points show that the pattern of inter-organizational coordination in

the case of an urban disaster is likely to be the decentralized-diffused type.

In the distinction between a wide-scope and a narrow-scope disaster, a wide-scope disaster necessarily poses the larger amount of tasks, and accordingly is followed by the larger size of an IOF because the number of organizations involved increases. Therefore, it can be inferred that the decentralized-diffused type of coordination will be employed in a wide-scope disaster.

Furthermore, in distinguishing by agent between a natural disaster and a man-made disaster, the man-made disaster, such as a chemical disaster or a nuclear accident, is likely to pose the more highly complex or specialized tasks. In addition, since the man-made disaster is fundamentally the dissensus type of disaster, it would be hard for a single unit in an IOF to coordinate all of the other component organizations. Therefore, man-made disasters tend to elicit the decentralized-concentrated type of inter-organizational coordination. See Figure 8 for a summary of these discussions.

Wright found that system coordination, the centralized coordination, is better for response-efficiency than network coordination, the decentralized coordination. Smart and Vertinsky (1977) indicate that the implementation of decisions depends upon (1) the distance between decision units and implementation units and (2) the ability of organizational units to adapt themselves to new states of the system. They stress that large distances between decision units and implementation units should result in a low quality of information exchanged, the isolation of the decision unit, and eventually in a low decision quality. The studies of small groups (Gilchrist, et al., 1954; Guetzkow, et al., 1955; Lawson, 1964; Shaw, 1954, 1964) have clarified that the concentrated structure of communication was

superior to the diffused structure in the speed and the correctness of solving a problem when the problem was simple. However, when the problem was complex, the diffused structure of communication was found superior in both the speed and the correctness of the solution. According to these findings or discussions, it can be inferred that the centralized-concentrated type of coordination will be the more appropriate one for responding to a disaster with simple tasks. In contrast, when the complexity of tasks is high, the centralized-diffused type would probably be better. Furthermore, from the viewpoint of decision quality and implementation, the centralized-concentrated type will be the best. However, since the way of measuring the degree of response-efficiency or effectiveness has not yet been settled, it is too early to discuss which type of interorganizational coordination will be the best in all cases.

5. CONCLUDING REMARKS

Four types of interorganizational coordination were obtained by crossing two dimensions; centralization-decentralization of decision-making structures and concentration-diffusiveness of communication structure, and some determinant factors of the types were discussed. The former dimension has a close relationship with the quality of decision-making, and the latter with the quality of communication. Both qualities determine the quality of coordination, because coordination is substantially performed by making decisions and communicating them.

As concluding remarks, three shortcomings and three problems to be solved will be addressed. First, the discussion was based simply on two cases. The more general applicability of this discussion is unknown. It is necessary to take into account a wider range of cases to remedy this

weakness. Second, many inferences in our discussion were based upon findings in studies of small groups and organizations. The presupposition that an IOF is fundamentally similar to small groups and organizations can be supported by the basic framework introduced in this discussion. However, to legitimize this presupposition, more empirical research focusing on actual similarities and differences will be necessary. Third, authority will be one of the most important factors for the better qualities of decisions, communication, implementation, and accordingly of coordination. Even if the formal authority structure of an IOF is weak, this cannot be a reason for playing down this factor. In spite of its importance, this factor was almost ignored in our discussion because of the following reason. The possible way to understand an authority structure of an IOF will be by making distinction among national, prefectural, municipal, and local levels of administration, as suggested by Klonglan, et. al., (1976).

However, this distinction is not necessarily a promising means in a disaster study because:

(a) it tends to presuppose that organizations at the national level have the maximum authority and organizations at the local level have the least, and this is not always true,

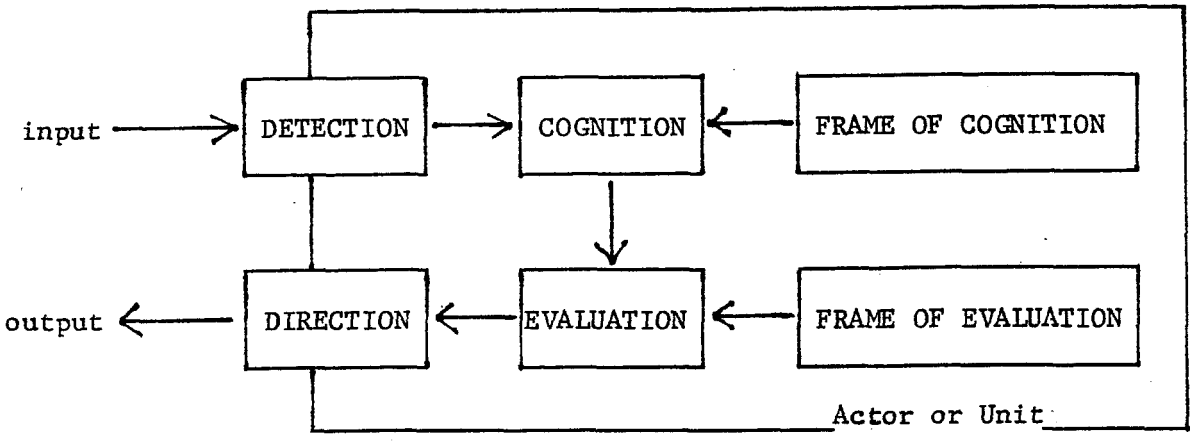
(b) it cannot successfully identify the private organizations with the levels, and

(c) it is difficult to be used in a cross-national study.

Therefore, a current matter requiring priority work is to ascertain empirical truth about the authority structure of an IOF, for example, by the blockmodel analysis (Kilijanek, et al., 1979; Knoke, et al., 1979; Yamamoto, 1981).

The first problem to be solved is to add more determinant factors in an effort to develop a more complete theory. The studies by Kilijanek (1980), Weller and Kreps (1970), and some others provide a great help in solving

this problem. Second, it is important to take into account the time dimension or the stage model of a disaster. Third, although the member organizations of an IOF were referred to as component units or organizations in this paper, it is problematic to identify the units in actual research settings. The component units need to be standardized for research purposes. This presently is more of a problem in Japan than in the United States.



*This is based on the Figure I-5 by Murakami et al., 1973.

Figure 1. Structure of an Actor or Unit as a Decision Maker.

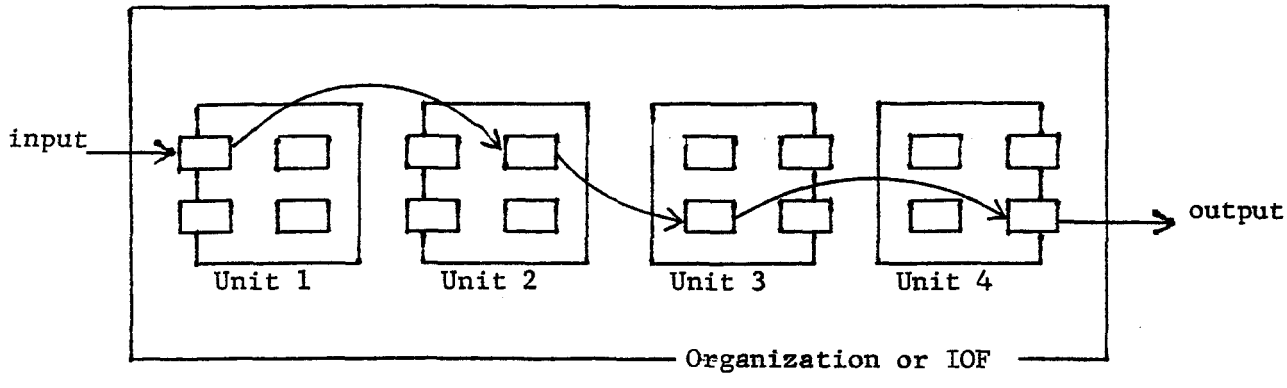


Figure 2. Structure of an Organization or an IOF.

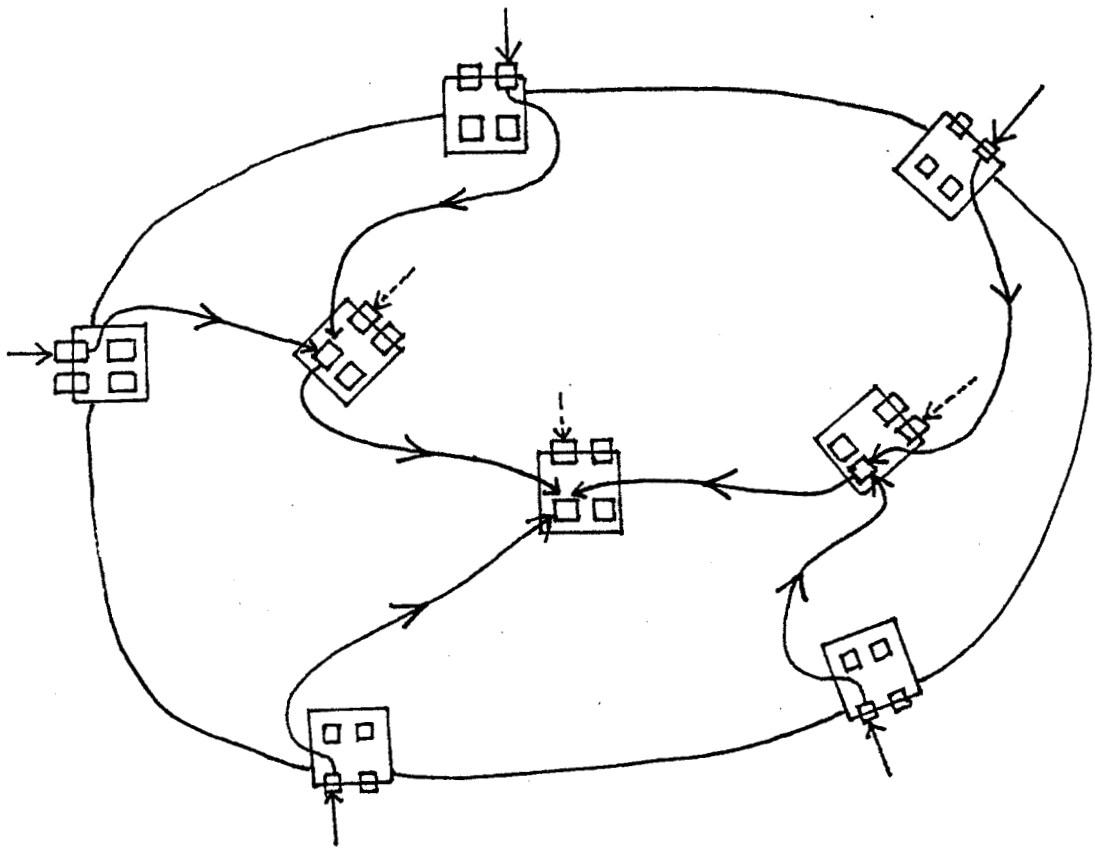


Figure 3. Report-Couplings.

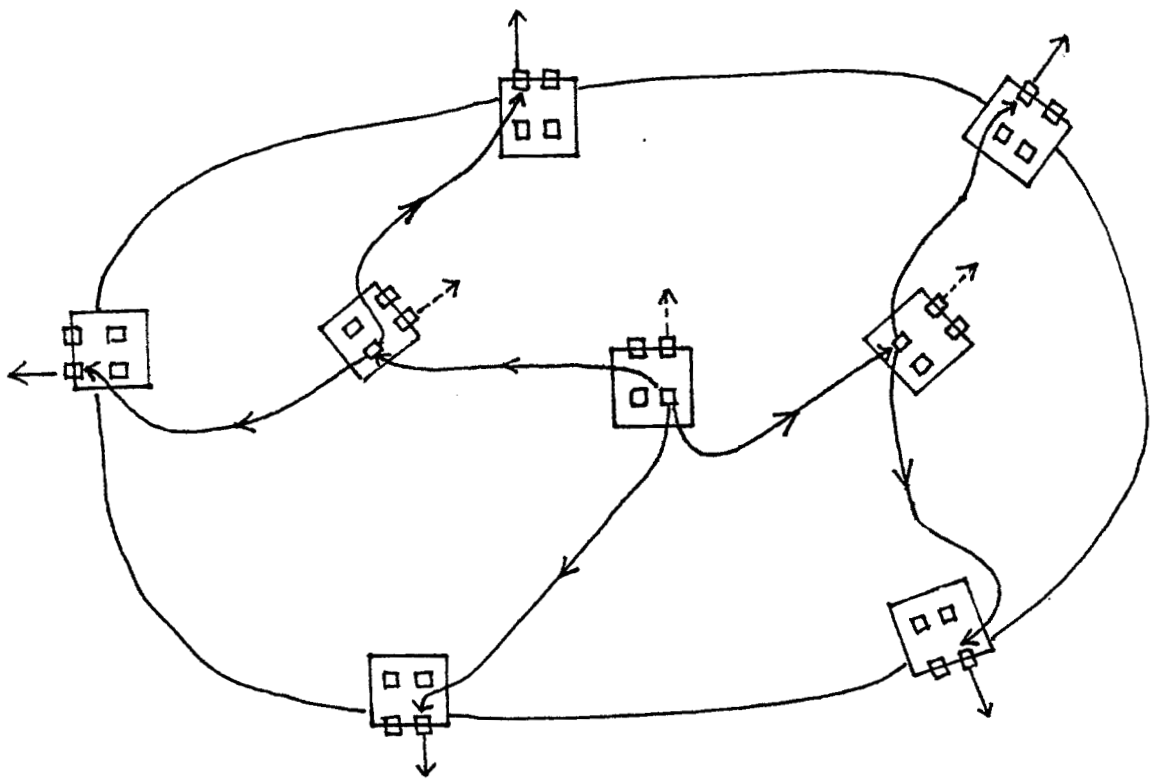


Figure 4. Directive Couplings.

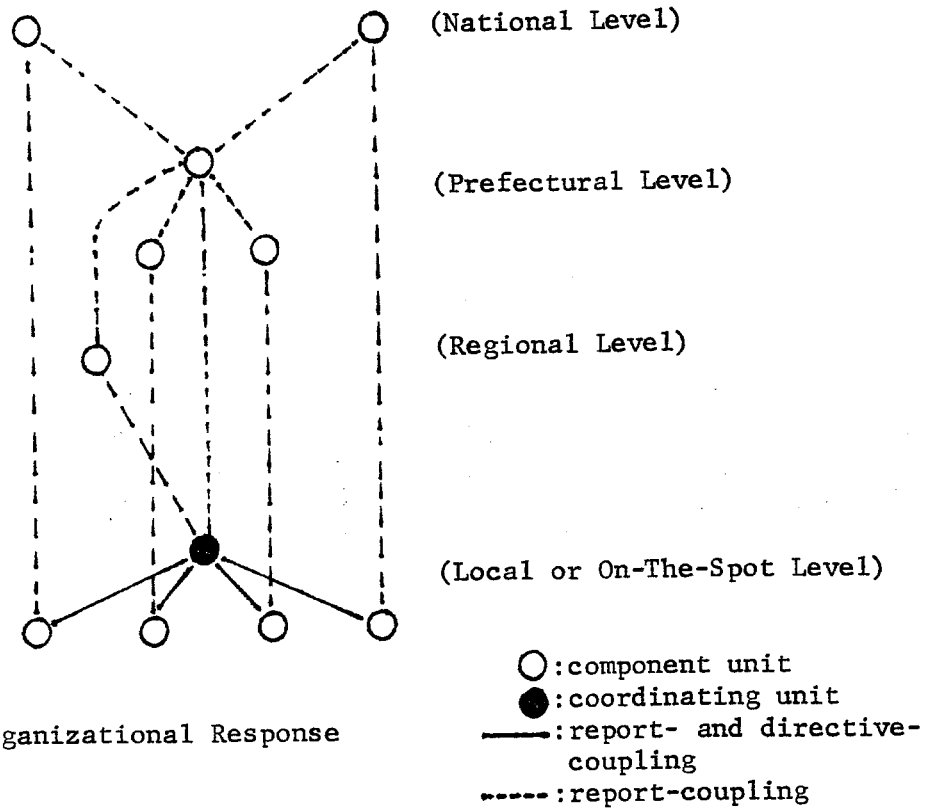


Figure 5. Interorganizational Response to IOK.

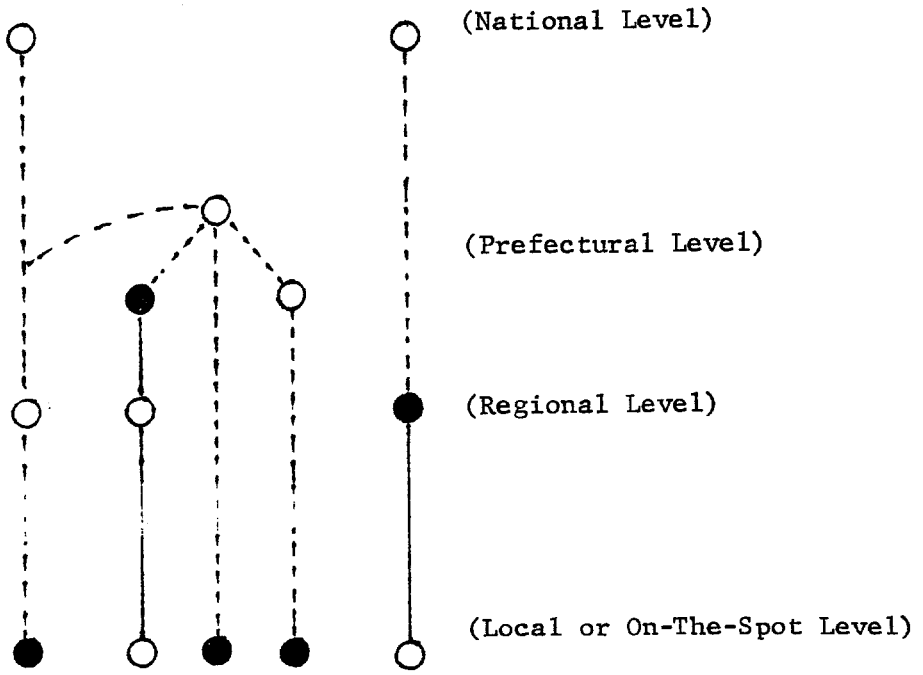
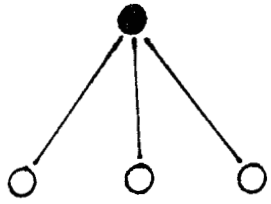
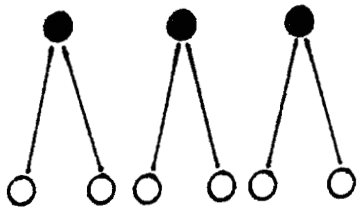


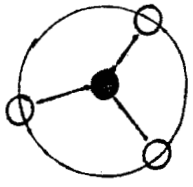
Figure 6. Interorganizational Response to MKO.

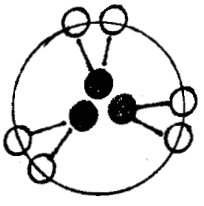


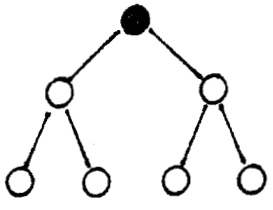
Type I : Centralized-Concentrated Type.



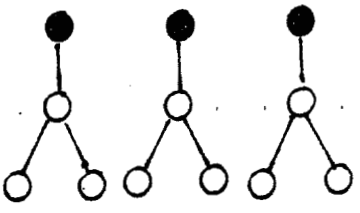
Type II : Decentralized-Concentrated Type.



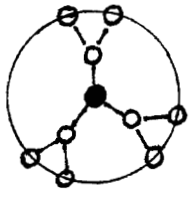


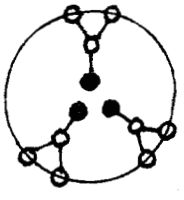


Type III : Centralized-Diffused Type.



Type IV : Decentralized-Diffused Type.





○:Component unit
●:Coordinating unit
——→:Report- and Directive-coupling

Figure 7. Patterns of Interorganizational Coordination.

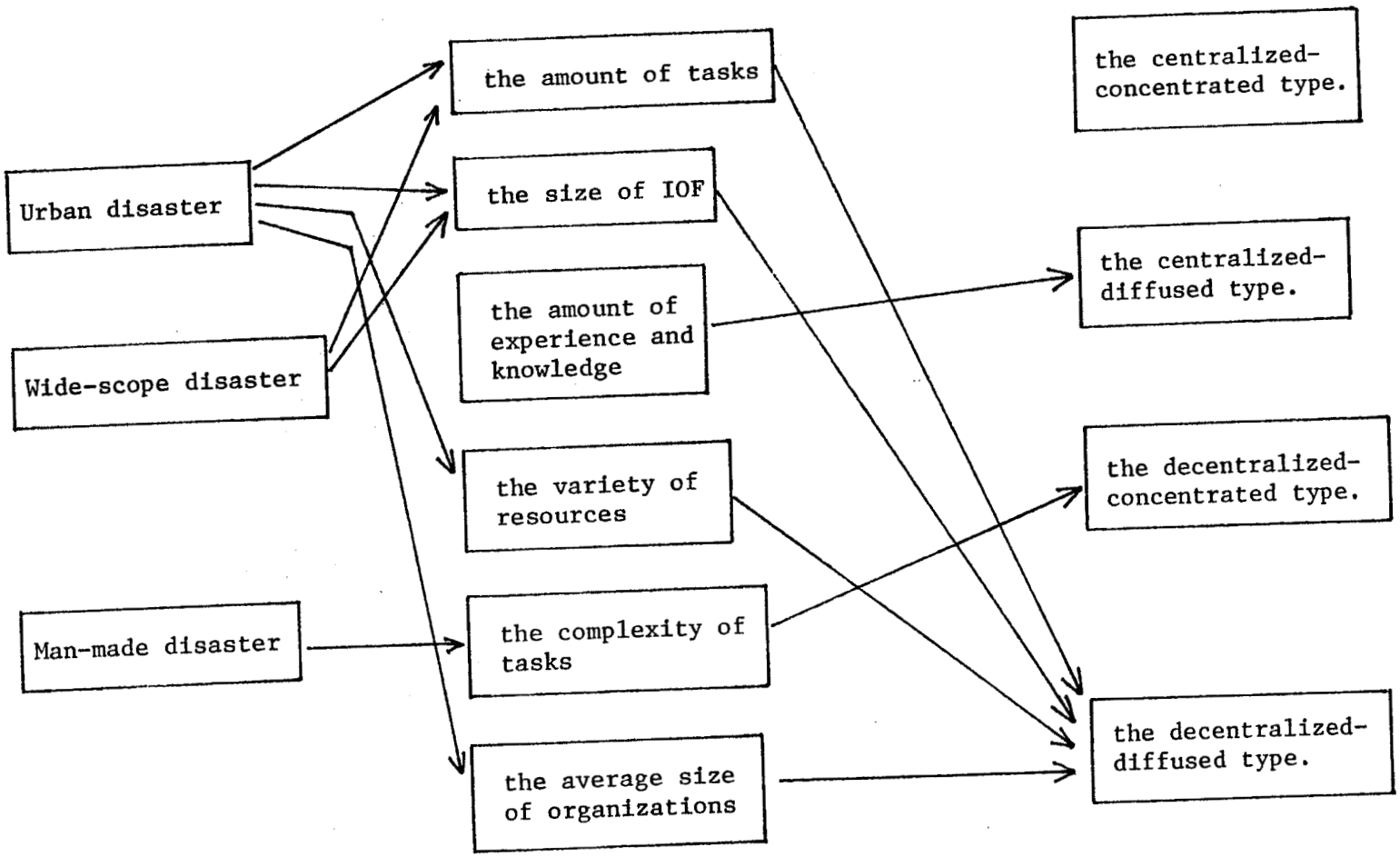

Urban disaster
Wide-scope disaster
Man-made disaster
the amount of tasks
the size of IOF
the amount of experience and knowledge
the variety of resources
the complexity of tasks
the average size of organizations
the centralized-concentrated type.
the centralized-diffused type.
the decentralized-concentrated type.
the decentralized-diffused type.

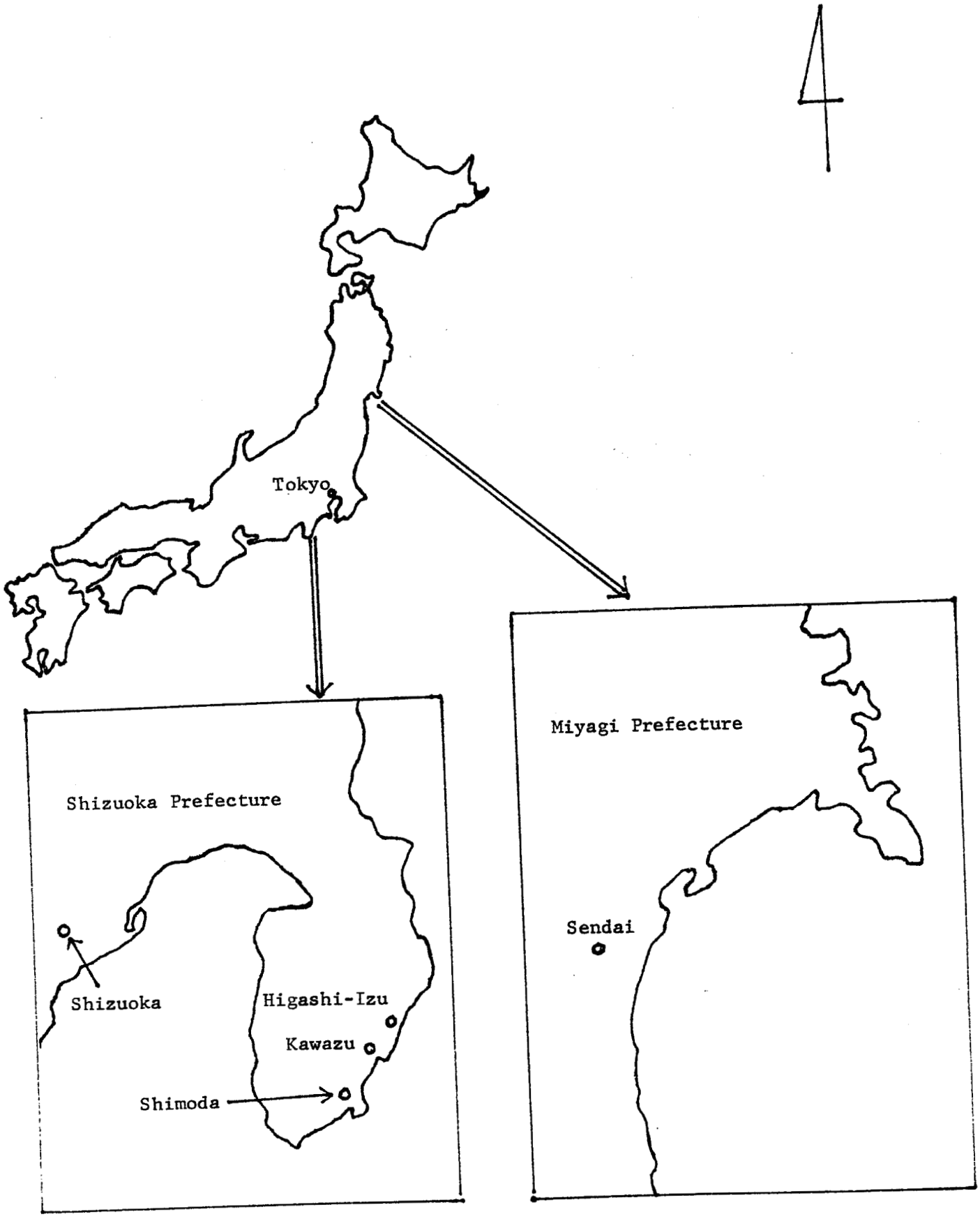
Figure 8

	Izu-Oshima Kinkai	Miyagi-Ken Oki
Earthquake.		
(1) Magnitude.	7.0	7.4
(2) Distance from the Seismic Center.	approx. 20 km	approx. 100 km
(3) Depth of the Seismic Center.	2 km below the sea level.	30 km below the sea level.
(4) Time & Date	12:24 p.m., January 14, 1978 Saturday	5:14 p.m., June 12, 1978 Monday
Community Characteristics.		
(1) Population.	approx. 10,000 (Kawazu Town)	approx. 630,000 (Sendai City)
(2) Political.	small conservative town.	prefectural capital.
(3) Economic.	primary industry and tourist industry.	tertiary industry with many local headquarters of private and public organizations.
(4) Social.	kinship relationship. the old type of social organization.	functional relationship. mixed of old & new type of social organization.
(5) Geographical	150 km west of Tokyo.	700 km north of Tokyo.
Preparedness & Experience.		
(1) Preparedness.	high	low
(2) Experience.	many	few

TABLE 1

		DECISION-MAKING STRUCTURE	
		Centralized	Decentralized
COMMUNICATION STRUCTURE	Concentrated	Type I The Centralized-Concentrated Type.	Type II The Decentralized-Concentrated Type.
	Diffused	Type III The Centralized-Diffused Type.	Type IV The Decentralized-Diffused Type.

TABLE 2. Classification of Interorganizational Coordination.


Tokyo
Shizuoka Prefecture
Shizuoka
Higashi-Izu
Kawazu
Shimoda
Miyagi Prefecture
Sendai

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