collection of information - from other organizations. The increased involvement of other "non- emergency" organizations then creates the need for coordination of activity and for new patterns of communication among parts of the community that previously had no reason to communicate.

The need for coordination and the development of new forms and channels of communication have been termed "response generated" demands as opposed to "agent generated" demands. In other words, they are demands which arise because of the response itself and not because of the agent. (This distinction, however, is frequently overlooked during the emergency and is often ignored in disaster planning which assumed that the demands being made on the community organizations derive from the disaster agent itself. The combination of agent-generated demands and response-generated demands creates a new an generally unfamiliar complexity to social relationships within the community.)

In terms of the previous comments about slow and gradual onset disasters, a sudden onset disaster would involve Type I and II organizations in rapid mobilization, quickly followed by Type III organizations and the rapid emergence of Type IV while gradual onset would involve a more deliberate sequential pattern of I, then II, the III and perhaps then IV organizations.

Research Focus: Many of these ideas are already reflected in the literature so that some of the research focus would be on the elaboration and replication of those notions; the time phasing of organizational involvement has not to my knowledge been studied directly; much more needs to be done on response generated demands.

Possible Empirical Examples: This category would encompass most disaster cases occurring in urban areas in developed countries and perhaps in most developing countries. It is important to note that the same "agent", such as cyclones, might create several different disaster types within communities which are in close geographical proximity.

DEPENDENT COMMUNITY DISASTERS

In certain ways, these disaster types are extensions of the previous type, except that the local community response is compounded by outside assistance. This perhaps implies that, in such situations, the capacity of a community is "weak", incapable or perhaps even non-existent. That may be the case, but in actual experience it would seem that higher levels of government as well as other extra-community non-governmental agencies make a "prior" determination within their domains to provide "assistance". That definition of "obligation" overrides and precludes determination of need. There may be examples of where community organizations are overwhelmed but nearly always that assessment is made by organizations external to the community as a matter of course in justifying its involvement. Such external involvement, of course, may be "requested" by local officials, at times perhaps by uninformed and inexperienced officials. In any case, the differentiation of this type from the previous type is marked by extensive organizational involvement by extra community organizations.

Three different dependent community disasters can by identified. In all of the subtypes, the assumption is made by organizations external to the community that the local response capacity is weak, damaged or non-existent. The three subtypes are 1) Conflict Dependent 2) Client Dependent and 3) Proxy Dependent.

1) <u>Conflict Dependent</u> - Perhaps a better term would be "violent" conflict or the concept of civil "strife". Certainly, conflict is a common feature of every community, however, conflict usually operates within a context of some normative limits. e.g. within the "governmental process. There are many occasions when violence, or force or threat of force is used as a method of conflict directed toward some political end. There are many complex issues in conceptualization which will be slighted here but the simple observation will be made that aspects of violence often become institutionalized to the extent that units external to the community see themselves as "necessary " to support the local "deteriorating" and perhaps polarized community organizations. Such external interests may serve to strengthen perceptions of unfairness and can lead to further divisiveness. Increasing divisiveness is then seen as justification for additional external assistance. The pattern of organizational involvement is, by its very nature, "emergent" and a frequent outcome is the creation of a dual assistance system, somewhat isolated from one another and at times "opposed" to one another.

2. <u>Client Dependent</u> - A rather common pattern of disasters, especially in developing countries, are what can be called client

dependent disaster. The assumption is made that the local community is unable or incapable of dealing with the range of disaster demands. Thus, high levels of government assumes that such communities have to be supplemented or "strengthened". In certain instances, this assistance could be the result of disaster preplanning but in most cases, the judgment is made case by case, so that the pattern of organizational involvement is almost always emergent.

3. Proxy Community - These disasters are defined most frequently by media, national and international organizations relating to gradual and perhaps chronic demands which over time have lowered the capacity of community systems to act as a responding unit. To a large extent, the "response" community are "surrogate" composed of fragments of previous social structures. Those fragments may come from the consequences of other disasters. The interest here, however, is not on tracing the complex casual links but on the notion that, at some point in time, a "catchment' area develops and is identified as containing aggregates of people who have been earlier "disenfranchised". i.e. hold citizenship in no viable community. These circumstances result in the creation of an "ad hoc" community or "surrogate" community, an amalgam of many local, national and international elements of social structure which cumulate. That process creates a new "community" with the primary function of responding to immediate disaster needs as well as to develop longer term "solutions", perhaps the re-establishment of some "real" community.

Research Focus: Certainly one common thread among the three sub- types is the emergent system which characterizes the disaster response, in large part because prior disaster planning is likely possible only by external agencies, consequently, the pattern of response then centers around the needs of the external agencies, rather than the clients. In effect, the emergent systems are likely to be rather paternalistic. Perhaps instances which do not fit the pattern of paternalism should be especially sought out to study.

In conflict dependent, the dual system might best be studied from the viewpoint of the community conflict literature and in terms of political and social movements. There is some literature of the differences in the functioning of emergency organization in conflict and consensus disasters. There is also some literature on forms of "deviant" behavior in the contrasting situations as well as the emergence of new "accommodating" leadership roles. Not a great deal is known of the longer term consequences of community violence and the adaptation which family units make to that, although considerable insight might be derived from "wartime" situations.

In the proxy community, a research focus could be directed toward the continuities of social life which persist among the 'victim" population(s), continued patterns of migration, the reinfranchisement process, the integration of local and external elements in the social "construction" of the community, differential patterns of response by different international agencies and by differing organizational philosophies, the shifting

FIGURE 2

Types of Community Disasters, Defined by

Organizational Involvement

Autonomous Community

Disaster

Accident

Dependent Community

Conflict

Client

Proxy
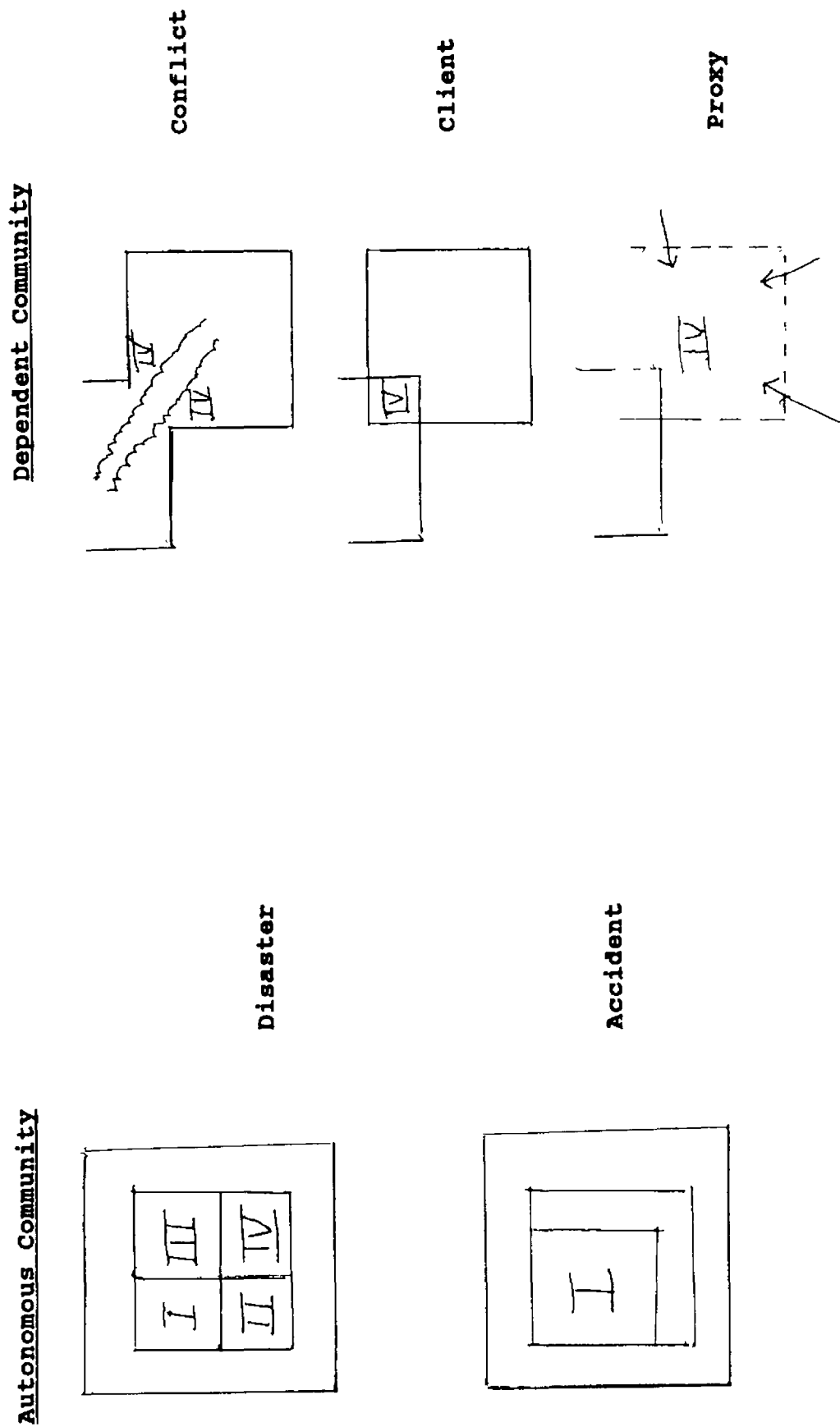
pattern of community needs in relationship to external political considerations, etc.

Possible Empirical Examples: Many examples could be drawn form major disasters in developing countries. Conflict-Central Mindanao, Sri Lanka, Lebanon, Sudan, El Salvador. It would seem to be that most "famine", drought, and perhaps refugee situations should be studied from the viewpoint of the "proxy dependent" community, at other times as client dependent and perhaps on occasion as autonomous community disasters. There is no reasons to assume that they should be any different than any other "agent" in having differential effects. It is quite possible that a more detailed typology of proxy community could be developed by examining existing "case' studies. Such research might result in more complexity or perhaps the category does not reflect a core of reality. There is some literature on the creation of "intentional" communities and there is also a scattered literature on relocation and resettlement which provide certain hypotheses.

A RESEARCH FOCUS ON OTHER SOCIAL SYSTEMS

Although the previous discussion has focused on the community and variants of it as a key analytical unit for analysis, there are obviously other choices. Several others could be mentioned:

Mass Assault   -   informal and spontaneous behavior, involving search and rescue, debris clearance, etc; activities which center on "unorganized" helping

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Family              -   adjustment of risks, preparedness
                        actions, decisions to evacuation,
                        collective interpretations of warnings

Task Subsystems - search and rescue, "damage" assessment,
                        emergency medical services, warning,
                        evacuation, coordination

Organizations    -  the relationship between political and
Interorgani-        administrative systems; the question of
zational            the consequences of emergency response
Political           being placed in security, welfare, or
Administrative      "political sectors
Systems
National Systems
International Systems
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Keeping a focus on the interrelationships between systems is especially important when doing individual psychological research and in the use of questionnaires directed to individual respondents. For example, many studies of warning messages seem to assume that people only get messages from the mass media and therefore the primary explanation of whether on heeds warning messages is whether they understand certain "words". Obviously warning is a very complicated social process in which information and confirmation of warning as well as decisions to take preventative action occur. Questionnaires directed to individual respondents often do not measure that social context and therefore "conclude" that heeding warning is a consequence of individual

rationality and knowledge. Similar errors are made in studies of victims. Most studies would show that "victims" will respond that they are not bad off but the people over there are much worse off. The people over there will report that they are o.k. but the people over there (whom you have just questioned) are the ones in really bad shape.

The point to be made is that individual responses always have to interpreted in some social context, not as some inherent personality attribute or not even as some inferred cultural trait, such as "fatalism". Thus research which looks at the individual patterns of interaction in terms of reference group theory is much more likely to understand behavior. Perhaps the primary point is that studying system interrelationships is essential. As a general principle, behavior at lower level system, such as the individual, can seldom be explained without understanding of the social context in which that individual apparatus. That is also the lesson provided by studies of hazard perceptions. Hazards are perceived differently by people in different social systems and there is no "objective" measure which will supplant that fact. This is why the earlier emphasis has been on the importance of normative judgments in defining disasters.

A RESEARCH FOCUS ON SOCIAL PROCESS

While the previous discussion has focused on social structure-various social units, that focus centered on a particular time frame of the disaster occasion the emergency. By implication, that formulation implied the possibilities of viewing the disaster

occasion along some continuum of social time. In general, there is a common vocabulary which has emerged which includes mitigation, preparedness, emergency response and recovery. Those stages should not be measured in chronological time but as a characterization of types of activities and processes which hold the potential for reducing the negative consequences of the disaster occasion. Mitigation refers to activities and processes which reduce the occurrence of a disaster occasion. Preparedness refers to activities and processes which minimize disaster impacts and damages. Response refers to actions to provide the most efficient and effective behavior in fact of a actual threat or threatening impact. Recovery has reference to those processes and activities intended to move the unit back to a re-establishment of routine social life. The various "stages" are intended to exhibit some continuity and are, in potential, circular in nature, since recovery can involve mitigation attempts.

The advantage of such a formulation is that it structures social reality in terms of processes and consequences. From a researcher's point of view, however, there are a number of important questions about the continuity of the stages. Can mitigation be successfully implemented during the recovery period? Does disaster "preparedness" have any influence on the emergency response"? There are all researchable questions.

In addition to maintaining a focus on social units and on social processes, there are other conceptual possibilities which allow certain topics to be dealt with some degree of completeness. For example, it can be useful to take a social systems approach in

the consideration of such topics as warning, since that process involves actions by organizations that monitor threats in transferring information to organizations that prepare warning messages which then communicate those messages to "populations". This population interpret those messages in differential ways and then this evokes various forms of social interaction and, as a consequence, certain behavioral responses. This is a complex social process involving several stages as well as different levels of social structure. It can best be treated as a middle range theory so missing knowledge within the theory can be more easily identified. There would be other "middle range" theories centering around concepts such as evacuation, relocation, mass assault and converge and, organizational change, interorganizational coordination and longer term community changes which hold the possibilities for clarification.

Finally, there are always opportunities in disaster occasions to test theories and concepts derived from completely different contexts. For example, when the Disaster Research Center started organizational research, the initial models used were drawn from the existing organizational literature. Those models were found to be too static to deal with organizational behavior in disaster. Consequently, this lead to the development of other conceptual-izations, such as the typology of organizational involvement introduced earlier. If more general theory has validity, then they should have application in the disaster concept, for example, family decision making theory should "work" in the decision to evacuate and family "adjustment" theory should be applicable in

understanding the recovery process at that level. Perhaps the point is which is being stressed is this, since disaster behavior is human behavior, good theories of human behavior should be applicable in disasters. If they are not, then they are not good theories.

SOME FINAL COMMENTS

In large part, researchers look at problems which is already in existence, and to study past solutions to look to the part. Disaster relevant organizations find problematic the _last_ "big" disaster which happened to them. Researchers, then, often are asked study _past_ problems, those identified by disaster related organizations. In developing a _future_ research agenda, we cannot afford to focus our attention exclusively on "past" problems. We need to focus on the future-future disasters and future types of organizational response to those agents. The very concept of developing countries implies change and, in some instances rather rapid change. This suggests that attention only to "past" disasters will not be adequate for the that future. Most developing countries are becoming industrialized and urbanized, since that is inherent in the concept of development. Increased technology will bring on new threats, now unknown in more traditional societies. Technological advances also add complexity to old threats. In any case, it may be important to anticipate future disasters rather than focusing on the "past".

In addition to the development of a research agenda, some continuing thought needs to be given to the process of how research

is translated into action, especially into planning action. While this is a generic problem, there are differences between the transfer of technology and those of new and different ideas. As it stands now, there is a considerable body or research on the social aspects of disasters which is widely "known" within the research community and also in some policy communities which is not now being applied. For example, a number of problems concerning warning systems are based not on technological "faults" but on the reluctance of officials to issue relevant information, predicated on their belief that people will "panic". One direction of research might be to explore images of "disaster" behavior among various governmental and non-governmental agencies. Those images range from deep grounded notions of the inability and incompetence of people to deal with threat and/or danger. This attitude is often compounded by notions that the functions of government are to "control" the erratic behavior which they assume always accompanies disasters. This notion of the necessity to "control the "people" and the rather standard view of the inability of social structures to cope with disaster problems is distributed differentially in various levels of government and in some societies more than in others. In any case, one item in a final research agenda might center the acceptance and utilization of social science research by governmental agencies. Those research findings "challenge" conventional wisdom but, in practice conventional wisdom usually prevails.

Finally, there are important reasons why disasters in developing countries should be the object of particular research attention from the social sciences. This is not just because disasters are more frequent and more damaging in developing countries and thus provide a good research field. More recently, international agencies have begun to consider the relationship between disasters and development. If they take that relationship seriously as a program guide, it is possible that disaster "assistance" will be directed toward enhancing community self sufficiency and self reliance, rather than encouraging technological fixes and vast engineering projects which have been the pattern of development assistance in the past. The conceptualization of disasters as failures of social systems suggests that those systems contain the elements necessary for future disaster "prevention".

SOME NOTES ON THE RESEARCH ENTERPRISE

The basic argument to be made is that research on disasters does not require any new methodologies. The full range of methods used and useful within different disciplinary traditions are adaptable and relevant to the subject matter relating to disaster. Of course, individual researchers will have preference for particular methods based on their own methodological orientation. For example, my own preferences suggest that the most useful focus is at a community organizational level and with data collection where there is a considerable dependance on semi-structured interviews with organizational informants. While there is no unique disaster "methodology," there may be some cautions concerning field work which are worth noting here.

1. Many conventional concepts widely used within various disciplines may be too static to be useful and will "blind" the observer to actual social reality. Most social science concepts are "constructed" on a static reality. One of the more fruitful areas of research involves "emergent" behavior--that is, behavior which has no predisaster existence. Conventional concepts will often exclude these emergent behaviors as being irrelevant.

2. While there is a place for attitude studies about many aspects of disaster, one should be especially cautious about using them as behavioral predictors. The correlation between attitudes and behavior is likely to be much lower in disaster situations than

in most other areas of social life. Asking people how they think they will behave in certain disaster situations is almost useless. It is obviously better to ask people how they _did_ behave in certain situations.

3. While much of the interest in disaster is in "negative" outcomes, it is also useful to inquire about "positive" effects. For example, asking questions about the anxiety of children subsequent to disaster impact might also be combined with questions about changes in "obedience" to parental suggestions. Including such questions will make the interpretation of data more complex.

4. If people tell you something, that does not necessarily mean that it is "true." There are a number of myths about disaster which now constitute popular truths since they are so widespread. Systematically collecting these myths is not necessarily science nor is presenting such results statistically an increase in critical knowledge.

5. Since the effects of disaster may seem to be random, random sampling is not necessarily the optimum sampling method. Disaster effects are, however, socially connected and other sample methods, for example, snowball sampling, are more likely to capture those critical social relationships.

6. Sampling points and data sources are important. One widely cited disaster study on the negative effects of disaster was based exclusively in legal briefs of victims who were participating in a class action suit seeking damages. So it was not difficult to imagine that their reactions would be especially negative. No information, however, was presented on the size or social location

of these "victims" within the entire population of the impacted community.

7.   Conventional disaster statistics provide little understanding, especially if used comparatively. Neither the number dead or injured or the monetary loss of property are accurate indicators of social impact, without knowing other dimensions about the community in which those losses took place. Consequently, compilations of national and especially cross national statistics are not likely to provide any useful information or knowledge.

8. While disasters would seem to adapt themselves to research designs which utilize Time I/Time II contrasts, one will soon discover the lack of availability of Time I data which can be used as base line to contrast with Time II variables. The types of predisaster data important to the social sciences are seldom maintained as a part of routine statistical reporting.

9. Since disasters can best be studied as social processes, it is important that the data collection be appropriate to time period. Since disaster studies are difficult to organize and fund, "planned" studies of the "emergency" period may be done a year after the actual end of that period. Given such a time delay, it might be better to structure such a study on the recovery process.

10.   Since disasters are fragile opportunities to collect data, there is considerable urgency to get into the "field." However, urgency is seldom a good reason for poor theory. Ad hoc studies are likely to produce ad hoc results. This can be avoided if some preliminary planning is done with the development of

several alternative data collection instruments which can be adapted when the opportunity for research presents itself.

11. If funding is obtained, it is likely to be directed toward issues which are administratively important to the funding agency. In general, it is likely to be poorly conceptualized. Part of the negotiating process requires a background knowledge of the literature so that the initial idea can be more adequately conceptualized. At times, reformulation may be difficult and perhaps impossible. Given that situation, some attention should be given to collecting some data that will be theoretically important. Half a loaf is better than none, and perhaps even several slices are still important.

12. Field work during the emergency period may appear to be difficult but there are, in fact, a number of decided advantages over "normal" field work. Conditions within the impacted area are not as chaotic as the media usually presents. In fact, there is usually the overwhelming appearance of normalcy amidst even considerable physical damage. One decided advantage is that the usual barriers to access to informants are reduced. Traditional bureaucratic barriers of access to persons in "protected positions" are reduced, providing much easier entry. In addition, if the research is presented as an opportunity for respondents to pass on "their" experience so others might learn, people are willing to share their experience. In other words, the conditions in the emergency period are such that social barriers are reduced and that expressive behavior is enhanced. This provides optimum conditions for gathering information. While time restraints might prevent

obtaining complete information, earlier physical presence provides a form of research legitimacy which sanctions future data collection.

13.   On the other hand, while the emergency period is characterized by an unprecedented openness, the recovery period often is characterized by considerable community controversy. This, at times, makes certain types of data collection more difficult and even makes researchers vulnerable to various political and legal pressures.   While there is not absolute protection against such problems, a continuing knowledge of dynamics of community life will suggest ways to minimize research problems. Community conflict about disaster related issues is, of course, an interesting arena for research.

FOOTNOTES

1. This is based on a prior paper presented at a Seminar on Research on Socio-Economic Aspects of Disaster in the Asian Pacific Region, held in March 1989 at the Asian Disaster Preparedness Center, Asian Institute of Technology, Bangkok. I wish to thank the staff of ADPC, especially Brian Ward, Director, and Everett Ressler, then Program Officer as well as the participants in that seminar. Support was provided by the U.S. National Science Foundation.

2. While the typology here is used to understand different kinds of disasters, it has other uses. For example, Dynes (1970) used the typology to discuss organizational functioning and mobilization and Kreps (1989) has developed a theoretical structure to explain the relationship of organizational domains, tasks, activities as well as human and material resources in involvement in emergencies.

3. Another category of disaster can be added for completeness called noncommunity disasters. With that category, two sub-types can be identified--sector/network disaster and "noninstitutionalized" disaster. These both represent conditions where there is limited consensus on the extent of social harm as well as limited institutionalization of concern within existing community organizations. Since these are limited cases, they will not be discussed here.

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