A menu of possible educational responses in the context of disasters

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The paper is addressed to public and private organizations that include education among their interventions to relieve and mitigate the effects of disasters. The paper focuses on two questions to sharpen discussion of what educational responses are most appropriate:

Who do disasters affect most?; and

What can be done after the disaster event?

Each disaster event is unique, and educational needs vary according to a complex set of variables that include prior calamities, age, gender, social organization and internal conflicts of the victims, as well as the social and political context of the country in which they are located. The variety of situations is too great for the short review proposed. To simplify the problem, the paper focuses on the position of relative power within the community or society of the group that is to be helped through education; and on the severity of the disaster in terms of its impact on the social organization of the community.

The term "education" is reserved in this paper for activities designed to produce learning, in which there is a "teacher" or person responsible for the design and evaluation of the process, and a "learner" in whom the changes will be incorporated. We generally understand by "education" activities in which there is a defined set of elements to be learned, and prescribed procedures and materials for teaching. Excluded from the term "education" is all that learning which takes place daily without benefit of formally designated teachers, instructors or trainers.

MAJOR TASKS FOR EDUCATION

Each society (or self-contained community) relies on educational institutions to insure the continuous resolution of three major problems. These are:

- the production and accumulation of wealth, which includes not just goods but also the means to produce them;

- the management of the system of relationships involved in that process of production;
- and the legitimation of both the means of production and accumulation, and the management of the process.

Schools and training organizations are created to generate skills and attitudes essential for productivity among workers. These organizations also prepare both public and private sector managers whose task is the regulation and enhancement of the process of production and accumulation. Programs also are designed for the socialization of the young into accepted adult roles in society, and the socialization of adults into specific positions (Dale, 1982).

These three problems must be resolved continually in every society, and in the process of their resolution are generated the institutions, norms and customs we know as culture. The successful resolution of these problems is a requisite for development.

There are at least three reasons why education does not always contribute to resolving these problems. First, for all its antiquity, we know relatively little about how education actually contributes to the production and accumulation of wealth, the management of production, or the association of youth and adults. The causal relationships escape our full understanding. They remain ambiguous, particularly after 30 years of research have generated much contradictory evidence (see Bock, 1982; Streeten, 1981; Weller, 1981).

Second, we are increasingly aware that societies are not consensual organizations, but instead bundles of contradictions, in which groups of persons vie for access to and control over resources. Education that contributes to the enhancement of one group, might be unfavourable for another. We also now recognize that the State is seldom a benign presence mediating in a disinterested fashion a conflict between quarreling brothers, but is instead the (sometimes autonomous) instrument of one of the competing factions and at other times the arena of conflict between them (Carnoy, 1984).

Third, although it is possible to plan education to achieve certain objectives favorable to the State, the nature of societal contradictions insures a reaction to government policies that sooner or later reduces the effectiveness of those policies. For example, many developing countries sought universal primary education promising that this would result in greater social equality. In most cases, not only was universal enrollment not achieved, but in addition social injustice was increased as ruling class groups expanded educational opportunities proportionately more for themselves than for subordinate groups (Boudon, 1974; Galtung, 1972).

But despite our limited understandings, education is still seen as a critical instrument for the reproduction of a given social order. Under conditions of stability, education (it is believed) helps reproduce structures that favor production of wealth and, in capitalist societies, its accumulation and concentration. Because of the central importance of education, in all countries the State carefully regulates all its major aspects.

THE DIFFERENTIAL IMPACT OF A DISASTER AGENT

Disasters can act to break down those social structures that contribute to the production and accumulation of wealth. Whether the winds of war or of Hurricane Carla, the flooding of refugees or of a raging river, disasters can weaken the social fabric. They can also help to strengthen that fabric, however, and lead to more rapid development. What is involved is a dialectical relationship between the effects of the disaster agent on the resource base of the community, and the reactions of the community and its social environment.

Social systems in wealthy or resource-rich communities tend to be over-determined, that is, the product of an overlapping complex of reinforcing factors. Changing or removing one factor has relatively little or no effect on the community. In poor communities, on the other hand, there is less likely to be a reinforcing web of duplicating factors. As a consequence, loss of human life and human injury can have a tremendous impact on the capacity of the community to recover.

Most communities in developed countries have a surplus of human and material resources, and disasters have little permanent effect. For example, Haas (1977), and Bates *et al.* (1983) have presented evidence to show that a disaster accentuates but does not change the development trend of a community. In terms of long-term growth, it is not possible to distinguish between disaster-affected and disaster-spared communities (Dacey and Kunreuther, 1969; Wright, 1979). There is no evidence in the U.S. that a disaster event can destroy a community, or lead to a breakdown in law and order (Dynes, Quarantelli and Kreps, 1972). Disasters generally change little; post-disaster behavior in a community is not much different from pre-disaster behavior (Quarantelli, 1979).

The evidence from poor countries, on the other hand, is that disasters can have dramatic effects on the future of a community, not just in terms of destruction of material property or even loss of life, but especially in terms of the long-term development path of that community. Floods from tropical storms in South Asia, earthquakes in Latin America, drought in the Sahel and southern Africa all have been accompanied with fundamental changes in the communities they have affected. Both in terms of economic growth, and in terms of social and political development, these communities are much different now than they were before the catastrophe. Furthermore, some of the effects of disasters are becoming more severe in developing countries (Shah, 1983; Swedish Red Cross, 1984), in part because as Quarantelli (1979) has noted, the impact of disasters on social organization is felt more severely in highly centralized societies.

But the outcomes for poor communities need not be negative: they can be made to be positive (Cuny, 1983; Fernandes, 1979; Winchester, 1981). Just as it is possible for the intervention of well-meaning development agencies to impede the restoration of an upward development path of a disaster-struck community by creating patterns of depend-

ency (Lachenmann and Otzen, 1981), so, too, it is possible for a community to establish an upward path of development even though prior to the disaster the community's future may not have looked promising. The point to be made here is that while disasters have little lasting effect on over-determined communities of the United States (or other rich parts of the world), they are important (but not mechanically deterministic) factors in the development future of poor communities.

Over-determination of the life of a community is a function of two factors: the degree of internal integration of the community; and the extent to which it is integrated into a larger system. Most communities in the United States, for example, are both internally integrated (e.g. with shared language, shared values, shared economy), and are linked vertically into state and national governmental systems as well as penetrated by non-governmental systems (corporations, private associations, etc.). These linkages ensure the learning required for reproduction of the community under normal circumstances, and provide back-up mechanisms to alleviate the effects of disasters. Some U.S. communities, e.g. extremely poor neighborhoods in urban areas or isolated rural hamlets, may be neither internally integrated, nor linked to either public or private systems. These communities are "marginalized" — a term as appropriate for some U.S. communities as for those in urban and rural areas in the Third World (Kates, 1980). The disaster that is only disruptive in an over-determined community, may be highly disorganizing for a marginalized, non-integrated community. The level of determination of the community is one explanation of the differential effects of disasters.

A second explanation for differences in the long-term effect of disasters is found in how the various groups in a community react to the disaster event. Most communities are composed of competing factions that vie with each other for access to and control over resources. Because disasters often affect the balance of power between competing groups in a community — for example, by destroying the physical resources of one group more than those of another, or by affecting more the human resources of a given group — they can be perceived as an opportunity for change (Quarantelli, 1979). These opportunities will be seized more often in less integrated communities than in those that are over-determined.

For convenience, in the discusssion that follows I will refer to only two categories of groups, those that were relatively "dominant" in the affected community before the disaster, and those who were relatively "subordinate." By domination I mean simply control over the use of all kinds of resources. Those who dominate have relatively more control, or power, than do those who are subordinate.

A SCHEME FOR CATEGORIZING EDUCATIONAL RESPONSES TO DISASTERS

We can now discuss a simple framework for considering the different ways of organizing education to respond to a disaster. One dimension of the framework is the distinction between communities in terms of degree of impact of the disaster. The two categories are "disruption" and "disorganization." The other dimension of the framework refers to which group is the intended beneficiary of the educational response. Its two categories are "dominant" and "subordinate." As education is an intentional activity, its organization will respond to the objectives of the group doing the organizing. The framework is therefore a four-cell matrix that looks at the purposeful activities of two groups in two contexts generated by a disaster agent. Where possible I have referred to illustrative research, but most of the model is speculative and for that reason is stated in normative rather than empirical terms.

Table 1. Major objectives of educational responses according to severity of disaster and group making response

Severity of disaster	Group	
	Dominant	Subordinate
Disruption	1. Recuperation	2. Renegotiation
Disorganization	3. Reorganization	4. Structural change

1. Education to serve the dominant in a context of disruption

Disasters disrupt the functioning of communities in several ways: by destroying physical capital (including land) important for the production process; by interrupting communications vital for the management of the process; and by reducing the labor available for production through injury or death or lost time as workers attend to the rehabilitation of their homes and possessions.

If the production system of the community is intact (for example if farms can still be worked, and machinery still operates), and if the loss of skilled workers is not too severe, the task facing the dominant group is the recuperation of the previous system. Damaged physical capital is replaced by purchase or repair, and lost human capital is replaced by training. The training that should be offered ought to be specific to the tasks of repairing the damage caused by the disaster agent. Repairs to the physical facilities of the existing educational establishments may be required. This will be sufficient to restore the community to its previous level of function.

Training should be varied according to the four phases of recovery outlined by Haas (1977) — emergency, restoration, reconstruction, and commemoration. Neither schooling nor training are indicated during the emergency phase, as all resources have to be devoted to mitigating the physical effects of the disaster agent's work.

In the restoration phase, training programs should focus on immediately necessary skills, such as first aid, communications, distribution of supplies, medicines, and shelter, and security. The training to be given in this period

is that necessary to repair the damage done by the disaster.

This training will be of two types: training to prepare people to restore conditions necessary for production; and training necessary for the management of the process of production. The second generally is the more important. The degree of importance of training in management (or leadership during the crisis period) is a function of the degree of integration or over-determination of the community. Highly-integrated communities, such as those frequently described in literature on disasters in the United States, are unlikely to need much training to supplement the normal managerial systems. In less-integrated communities, however, this training will be more important.

If there was no prior preparedness training, it will be important for the dominant group to establish crash training programs to identify or develop leaders in the community. It will also be important to provide basic training in security (i.e. maintenance of law and order) and in emergency medicine.

In the reconstruction phase, emphasis should shift to skills required directly in the production process itself, and to legitimation of the new social system. New workers must be trained, or workers must be trained on new equipment or using new production technologies introduced from outside the community. Outside aid may introduce new forms of capital in the community, and stimulate an economic boom requiring new kinds of skilled labor and management (Dudasik, 1982).

Training in health should shift from emergency care to training in health maintenance and disease prevention, and to long-term objectives such as family planning. In the emergency and recovery phases the community has to be able to provide treatment to affected individuals. In the reconstruction phase more attention can be given to family and community health issues.

While during the restoration phase training focused on leaders and managers for the community, in the reconstruction phase the emphasis shifts to education of followers. Both training and schooling include efforts to develop an explanation of the current situation and possible future of the disaster-struck community, and a system of shared values. This ideology must both legitimate the system of management of the community, and the system of production and accumulation of wealth.

In the commemorative phase, the suffering of the community (and especially its less-privileged members) is rationalized through public events and the curriculum of formal schooling. Heroes of the disaster are presented in ways that justify the present status quo of the community.

Who actually should — from the perspective of the dominant group — receive education also changes as the community moves through the phases of recovery. In the restoration phase, training is given principally to the primary producers, and to candidates eligible for community leadership. In sex-biased societies, men are more likely to receive leadership training while women are assigned to subordinating positions in food preparation, nursing, care of children, etc. In many communities women are primary producers as well, and training should be provided to them to restore their out-of-home contribution to the community. From the perspective of the dominant group the education of children in the restoration phase should be of low priority, except in terms of activities that will affect the capacity of existing schools, and with respect to the education of their own children.

In the reconstruction phase more attention is given to training programs for women, who are assigned implementation roles in rebuilding. In many societies women are not likely to be entrusted with responsibility for programs linked with legitimation, but they and adolescent youth may be participants in socialization programs. Only after the emergency is over can attention be given again to schooling, and the education of young children. Table 2 below summarizes the various kinds of educational responses that are appropriate.

The research available is too limited to indicate what happens when the dominant group fails to make the appropriate educational response to the situation generated by a disaster. We do not know the relative importance of each of the kinds of responses possible, nor do we know the degree to which they must be carried out in the order specified. We know only that failure to use education to

Table 2. Educational responses by dominant groups for recuperation from disruption

Disaster phase	Type of educational response necessary
Emergency	None
Restoration	- training for mitigation of effects of disaster
	- best given prior to disaster
	- emphasis on law and order, provision of vital services
	- principally for male adults
Reconstruction	- training for recovery of production
	- links with outside communities
	- emphasis on production, prevention rather than curative health, basic services
	- given to adult and adolescent members of community
	- relegitimation of authority of dominant group
Commemorative	- long-term legitimation and reproduction of social order through schooling of children as before disaster

From Haas *et al.* (1977).

restore the position of dominance held prior to the disaster leads later to situations in which the dominant group uses violence to maintain its position. This clearly was the case in Guatemala and Nicaragua, where the State's educational response following massive earthquakes in the 1970s was minimal. Neither training, nor restoration of schools, was carried out at a level sufficient to restore the system to its pre-disaster levels. As a consequence, peasant groups began to solve their own problems and, in the process, to develop organizational ability and leadership skills, and beliefs that legitimated their autonomy. Belated attempts by dominant groups to re-assert their control met with resistance (Cuny, 1983; Wijkman and Timberlake, 1984).

2. Education to serve the subordinate in a context of disruption

The disruption caused by a disaster may be an opportunity for an oppressed subordinate group to lighten the burdens laid on it. Peasants may see the disaster as a welcome relief from constant extortion by local landlords, police or military. Urban workers may treat the disaster as an unexpected if unpaid holiday from the factory, and an occasion to rebuild community ties loosened under the strain of feeding their families. Leaders of subordinate groups may see the disaster as a temporary suspension of the constant ideologization of their followers by the dominant-controlled media, schools, churches and government functionaries, and a chance to focus their attention on the real causes of their unfavorable position in society.

There are two ways in which education can favor the re-negotiation of relationships of domination. First, training programs established by outside agencies may, if sufficient in scope and quality, change the mix of skills and abilities of the subordinate group sufficiently to alter local labor market conditions. For example, peasants with marketable skills might abandon rural areas to work in the cities, making themselves less vulnerable to exploitation by rural landlords. The new skills of a community might enable it to be less dependent on services previously available only through the dominant group (e.g. when a peasant group learns accounting).

But re-negotiation requires more a second kind of change as well. The subordinate group must acquire an increased solidarity that permits it to insist on new relationships even in the face of threats and actual reprisals by the dominant groups. This solidarity will depend on raising the awareness of members of the subordinate community about their situation. The conditions of the disaster, especially in those cases where the privileged position of the dominant group is revealed sharply, can serve as the impetus to this conscientization (Freire, 1971). This consciousness raising should be aimed principally at adult men and women. Table 3 summarizes the kinds of educational responses that are appropriate for a situation of renogotiation.

Table 3. Educational responses by subordinate groups for renegotiation given a distruptive disaster

Consciousness-raising using problematization, thematic analysis techniques
No attention to schooling

3. Education to serve the dominant in the context of disorganization

The degree of disorganization of a community by a disaster is the result of the interaction between the severity of the trigger mechanism (e.g. how hard the wind blows) and the degree of integration and over-determination (or preparedness) of the community prior to the disaster event.

Disorganization is thus in part a function of the prior level of organization of the community. Dominant groups eager to maintain the social structure use preparedness training to build in the over-determination that is necessary to insure the stability of the community.

When a community is not prepared, or when a hazard is so severe that preparations are inadequate, the conditions for reproduction change. A disorganized community is one in which prior structures of authority and responsibility no longer stand, in which the dominant can no longer expect adhesion by the subordinate to (or voluntary acceptance of) their rule. Not only is the system of production damaged, but so too is the system of management of that system, and there is serious questioning and disregard of the social order. Looting, for example, is an indicator that subordinate groups no longer (if they ever did) accept the legitimacy of the prior civic order, and that the security forces of the dominant are no longer to be feared.

The dominant group has to carry out the following tasks in order to re-organize the community as it desires. First, it has to restore conditions of order, to reduce further loss of life and especially property and to prevent opposing groups from acquiring their own coercive power. Second, in order to reduce reliance on the use of coersion (which is destructive) the dominant group has to re-establish its own legitimacy. Third, either because of the severity of physical and human destruction by the disaster agent, or because important leaders have joined the forces of opposition, the dominant group must develop a new system of management. Fourth, and more or less at the same time that it is rebuilding its management capacity, the dominant group must train new workers for the productive system. Paraphrasing Haas (1977), the tasks could be termed: security; resocialization; re-domination; reproduction.

In severe disasters that lead to social disorganization, the dominant group cannot assume that subordinate groups will continue to submit, nor can it assume the existence of requisite attitudes and skills for production. To re-establish its hegemony, the dominant group must rebuild (rather than just recover), and as a result the emerging situation may be something other than reproduction of the previous state of affairs.

The principal focus of educational activities should be adults, and both men and women. People will have to be

resocialized into acceptance of the political regime, and the new system of consumption and distribution. This socialization has to "explain" the disaster in terms that justify the re-establishment of a social hierarchy with the dominant on top (Fernandes, 1979); it has to develop an attractive vision of a possible future society; and it has to specify the behaviors and sacrifices necessary for achievement of the promises of the vision.

The major difference between the kind of education given for re-socialization, and that for consciousness-raising, is the extent to which the organizers attempt to control the process. Consciousness-raising techniques used by subordinate groups in a context of disruption are intended to "problematize," to raise questions that weaken the adhesion of subordinates to the dominant group, and increase within-group solidarity. This process can be relatively non-directive, i.e. it doesn't matter too much what kinds of criticisms and resentments are developed.

Re-socialization by the dominant group, however, must insure that it is not blamed for the effects of the disaster. Instead blame has to be focused on the victims themselves or on outside groups, and the solutions developed must be favorable over the long term to the dominant group (i.e. consistent with their vision of a good society).

Both groups may therefore begin with the participatory methods that have developed in recent years (e.g. Freire, 1971; Hall, 1979; Korten and Alfonso, 1981) which have been shown to be highly successful in motivating disaster victims and refugees to take action to solve their problems.

The training for production that will follow on or accompany this period of resocialization and reorganization will be similar to that used when disasters are less severe. In most cases, however, the technologies of production available after a severe disaster will be less sophisticated than those prevailing prior to the disaster, at least in the immediate situation, as a function of the degree of destruction of the existing capital of the community. A flood that destroys dams, dikes and paddies, for example, will require farmers to return to a simpler form of agriculture until the physical capital can be restored. Refugee camps often fall back on artesanal and handicrafts production to compensate for the loss of physical capital associated with the disaster. The work will be more worker-paced, rather than paced by a machine (in the case of factory production or mechanized agriculture) and requires a more detailed training process (especially for handicrafts requiring high levels of quality control or creativity).

It should be noted that changes in the kinds of production carried out in the community are likely to change the balance of power within the community, both between men and women, and in terms of social class. This can act in contradiction to attempts to re-establish the previous authority system. For example, training women in refugee camps to produce simple handicrafts that bring in cash from the outside can threaten the position of the dominance of men. The three kinds of educational programs (ideology, management and production) will have to be carefully integrated.

If refugees are to be returned to their country of origin, then training may be designed to improve upon traditional production practices. If refugees are to be resettled in a third country, then the kind of training to be offered should match employment opportunities in those countries. The kind and amount of training will be a function of the degree of similarity between the economies of the country of origin and the country of destination, and the prior experiences of the refugees.

Training for resettlement in a third country will require more than just skill training. In almost all cases refugees will have to learn a new language. In many cases there will be differences in culture as well that require learning new skills and attitudes. This is in addition to training that permits adaptation to the new political system. Most of this training can be done efficiently in school settings, using formalized materials, relatively large classes and school teachers.

In some cases it may be necessary to provide special training to develop entrepreneurial skills among the refugees, either because indigenous entrepreneurs are not present, or because the entrepreneurial context of the receiving country is very different. Training for entrepreneurs and small capitalists attends to both motivation for risk taking, and training in basic business management skills. Literacy training of adults will be important in schemes to increase employment in the modern sector. All this training also can be done efficiently in relatively formal, school settings, as well as through nonformal programs.

In communities that have suffered considerable damage to property, training in production skills will have two parts. The first will be training to enhance the physical reconstruction of the community. This will include construction of houses, drainage, water and sewage systems, and communication networks. In refugee settlements some training may be required for the construction of the camp. When this kind of training is accomplished (and the necessary construction finished) then training can begin for production.

In terms of the welfare of the community, schooling of children could be attended to after training of adults has been initiated, but most parents will push for immediate restoration of schools. The primary importance of schooling in the early post-disaster period in established communities might be to release parents for productive activities outside the home. It may be possible to delay schooling for children in refugee camps for a longer period of time when there are fewer demands on the time of adults in the community.

Schooling for established communities or displaced persons and refugees who will return to their own countries will be no different than that given prior to the disaster (except perhaps for improvements in quality). This schooling will most likely use the same teachers as before.

Children of refugees that will be resettled, however, will need schooling that prepares them for schools in the new country. Teachers from the country of origin will not be useful unless and until they learn the language of the new country. It will be difficult (and in some cases not politically tolerable) for the teacher-refugees to teach the national language or history of the receiving country. The high cost of providing an appropriate schooling for refugee children

Table 4. Educational responses by dominant groups for reorganization after a disaster

- Action research methods used for organizational development
- Emphasis on identification of leaders and establishment of community loyalty
- Training for production beginning with simpler technologies, for both men and women
- Language and cultural training for resettlement
- Literacy training for employment in the modern sector, employable adults
- Little attention to schooling of children, continuation of previous system

who will be resettled means that, except for language training, their schooling in the refugee camp will be of low quality and will have little value except as child-tending. These kinds of responses are summarized in Table 4.

We can only speculate on the implications of failing to make the educational responses indicated here. In those cases where the dominant group is able to re-establish its position after the disaster, failure to re-educate one or more subordinate groups may mean no more than that those groups are more disadvantaged and exploited in the national economy. Rural peoples are accustomed to receiving little in the way of educational services from central governments — failure to re-educate after a disaster may mean only more poverty and inability to compete with dominant groups.

4. Education to serve the subordinate in a context of disorganization

Regime corruption aggravated by post-disaster conditions is one possible cause of further social disorganization. A second is deliberate or unwitting support by external aid groups of programs that weaken the control of dominant groups.

Given a severe disaster, a sufficient degree of inattention by the government to the affected area and population, and a relatively high level of political consciousness among the affected subordinate population, that group can respond to the disaster with an educational program that has as its principal objective structural change, or the establishment of a new social and economic order. This may take the form of emphasis on local self-reliance and economic autonomy, or on increased participation in the national political process in the form of a movement or party, or even a movement of secession from the State or rebellion against the regime.

In each case, the subordinate community has to carry out several educational tasks. First, consciousness raising in the general population has to go beyond the problematization stage that was indicated in a context of disruption, to the development of a program of action. This program, and its implications for contesting the control of the dominant group, will be justified through a new paradigm or "world vision" that makes sense of the current state of affairs and maps out the best path towards the selected future. In other words, the belief system promoted by the dominant group has to be replaced, permitting a new loyalty or adhesion. The first educational task will be the elaboration and diffusion of a new belief system.

The new beliefs must enable subordinate men and women to see themselves as capable of creating a new community. One approach is to link the new beliefs to the development of economic independence from the dominant group. In this case the second educational task is training not only in production, but also in all the other tasks associated with economic growth.

A common solution has been co-operative formation, for which there is a variety of training programs. These vary in their emphasis on the ideology of co-operativism, and participation in management. In large co-operatives or worker-owned firms, for example, only a small number of persons participate directly in day-to-day decision-making. These persons must have entrepreneurial values and skills not unlike those of good managers in capitalist firms. Another small group must acquire skills in market analysis and sales. At the same time, however, these persons must share the collective values of the enterprise, and the total membership must be active in ensuring that the managers and sales staff follow their direction on general policies and long-term strategies. Training for worker-owned enterprises requires that each worker not only be highly motivated to produce for the collective, but also that s/he be willing to take an interest in general policy-formulation for the firm. In small co-operatives all the members may have to participate in day-to-day decision-making, and the demands of knowledge of basic business practice are much higher (as well as are the strains on the co-operative).

In order not to lose the surplus generated by more efficient organization, the self-reliant community must learn to defend itself against efforts by dominant groups outside the community to re-establish their control. Farmers need to learn not only how to use seeds and fertilizers, but also enough of the law to be able to protect themselves in the dominant group's courts.

Finally, the community seeking self-reliance must be able to integrate its productive enterprises into its political structure. This requires the development of a political system in which (if the community is to avoid merely reproducing the class system of the larger society) there must be a high degree of participation. This requires educating most adult members of the community in activities that in other communities are assigned out to specialists. For example, this could include training in community security, in health maintenance, in tax collection, in education, in community planning, in finance.

Much of this kind of training is included in programs of community development that seek some degree of autonomy for the community. The community development movement active in Latin America in the 1950s and 1960s failed in many cases because local communities could not

develop conditions of independence from dominant groups that would permit them to construct autonomous programs. External aid groups were insensitive or opposed to the communities' interest in autonomy. In recent years, however, there has been considerable interest in and use of techniques of development at the community level by groups committed to self-reliance. In Latin America much of what is called "popular education" today employs methods and holds objectives similar to those of the community development movement in other regions of the world (Gajardo y Werthein, 1984).

These methods can be summarized broadly under what is known as "participatory research" or "participatory education." As in action research, emphasis is on the identification by the learners of critical situations in their reality. These situations are analyzed to arrive at the underlying causes of the problems they pose for the learners (as a community). The learners then develop and test out solutions to the problems.

The participatory method differs from action research in the assumption that problems have causes outside as well as inside the community (or groups of learners), and that these problems are rooted in fundamental differences of objectives between competing groups (rather than in problems of communication or mutual understanding). This latter makes participatory research explicitly "political," and requires the researcher or educator participating in the process to be conscious of the political implications of his/her involvement (Brown, 1982).

Community development and popular education are methods to produce new communities, and as such eventually must affect all aspects, and all members, of a community. Even so, a subordinate group seeking to increase its independence given the opportunity presented by disaster-generated disorganization, will have to select its priorities carefully, or be overwhelmed by the forces that act to restore previous conditions. Given limited resources and time, first priority should be given to the training of men and women in leadership positions, and to those who can generate economic surpluses. Second, the subordinate community seeking autonomy must develop and impose a new belief system, so that it must devote more resources to ideological education than the dominant group would. It must either control the members of the community or win their adhesion: its choices are to use repressive security measures or to provide some ideological formation for all adults and adolescent youth. Third, although children have relatively little economic importance, they are important ideological actors, and the self-reliant community should concern itself with education of the young much sooner in the post-disaster process than the dominant group did. Education of children too must carry the new ideology (particularly as in the participatory method even children can be "teachers"), which will require either new teachers and materials, or careful monitoring of teachers leftover from pre-disaster schools. Table 5 summarizes the kinds of educational responses that are appropriate.

Disaster relief agencies can make a direct contribution to the development of self-reliance. These agencies can provide consciousness-raising training, material resources necessary for community formation, and protection against the efforts of dominant groups to re-establish control. Agencies that emphasize self-help in a community development context are most likely to be able to contribute to such a process. The viability of the new community will be tenuous for some period of time: the agency must be prepared to stay with the community through the critical period and until it has reached a minimal level of self-sustaining growth.

Table 5. Educational responses by subordinate groups for structural change

- Conscious-raising leading to action
- Development of productive activities and organizations that permit economic self-reliance
  - a. legal training to reduce exploitation
  - b. formulation of co-operative enterprises that capture and re-invest surplus
  - c. training in more efficient technologies
  - d. training in (social) marketing
- Political integration through training in participation
  - a. participation in decision-making in a variety of community organizations
  - b. joint generation of new value systems
  - c. training through job rotation in tasks of community maintenance
- Emphasis on literacy for all adults
- Heavy emphasis on schooling for all children with revisions of curriculum to increase student participation in community production process.

CONCLUSION

This paper has discussed the kinds of educational responses that would be most appropriate following a disaster. according to the severity of the impact of the disaster on the social organization of the affected community, and according to the will of different groups within the community. The discussion has emphasized differences between sets of responses, perhaps to the point of obscuring some basic educational elements (e.g. health, family planning, nutrition, child care) that may be common in all situations of disaster. Those and other kinds of educational responses also will have to be catalogued and met.

The intention of this paper has been to emphasize that disaster relief agencies should identify explicitly their client in the affected community. Blankets perhaps can be

distributed under conditions of political and value neutrality, but education can not. The fundamental purpose of education is the transformation of individual persons, a task that necessarily requires ethical choices on the individual level, and political choices at the level of the community.

Failure to make those choices explicit does not eliminate their effect. The unwitting relief agency may have the same impact as one that consciously chooses the same strategy. There is, therefore no release from the responsibility of making the choice. Education can help communities achieve an authentic development in which economic growth is accompanied by increased autonomy and self-determination. It can also, however, contribute to underdevelopment, and further dependency and exploitation through reproduction of unjust social structures. Particularly because relief agencies normally work under conditions in which decisions must be made rapidly, these issues have to be sorted out and resolved as general policy.

REFERENCES

Bock J.C., Education and development: A conflict of meaning, in: *Comparative Education* (Edited by Philip G. Altbach *et al.*), pp. 78—101. Macmillan, New York (1982).

Boudon R., *Education. Opportunity and Social Inequality: Changing Prospects in Western Society*. Wiley, New York (1974).

Brown L.D. and Rakkesh T., Ideology and political economy in inquiry: Action research and participatory research, *J. Appl. Behav. Sci.* **19**(3), 277—294 (1983).

Carnoy M., *The State and Political Theory*. Princeton University Press, Princeton, N.J. (1984).

Cuny F., *Disaster and Development*. Oxford University Press, New York (1983).

Dacey C. and H. Kunreuther, *The Economics of Natural Disasters*. Free Press, New York (1969).

Dale R., Education and the capitalist state: Contributions and contradictions, in: *Cultural and Economic Reproduction in Education* (Edited by Michael W. Apple), pp. 127—161. Routledge and Kegan Paul, London (1982).

Dudasik S., Unanticipated repercussions of international disaster relief, *Disasters* **6**(1), 31—37 (1982).

Dynes R.R., Quarantelli E.L. and Kreps G.A., *A Perspective on Disaster Planning*. Defence Civil Preparedness Report, Washington D.C. (December 1972).

Fernandes A., The relationships between disaster assistance and long-term development, *Disasters* **3**(1), 32—36 (1979).

Freire P., *Pedagogy of the Oppressed*, Herder and Herder, New York (1971).

Gajardo M. and Werthein J., Education participativa alternativas metodologicas, *Revista Latinoamericana de Estudios Educativos* **XIII**(3), 83—104 (1983).

Galtung J., Educational growth and educational disparity, *Prospects* **5**(3), 323—328 (1975).

Haas J., Kates R.W. and Boweden M.J. (Editors), *Reconstruction Following Disaster*. MIT Press, Cambridge, MA (1977).

Hall B., Knowledge as a commodity and participatory research, *Prospects* **IX**(4), 393—408 (1979).

Kates R.W., Disaster reduction: Links between disaster and development, in: *Making the Most of the Least* (Edited by Leonard Berry and R.W. Kates), pp. 135—169. Holmes and Meier, London (1980).

Korten D. and Alfonso F. (Editors), *Bureaucracy and the Poor: Closing the Gap*. McGraw-Hill, Singaport (1981).

Lachenmann G. and Uwe O., *The World Refugee Problem — A Challenge to Development Policy*. German Development Institute, Berlin (1981).

Quarantelli E.L., Some needed cross-cultural studies of disaster behavior, *Disasters* **3**(3), 307—314 (1979).

Shah B.V., Is the environment becoming more hazardous? — A global survey 1947 to 1980, *Disasters* **7**(3), 202—209 (1983).

Streeten P.P., Development ideas in historical perspective, in: *Changing Perceptions of Development* (Edited by R.P. Misra and M. Honjo), pp. 39—68. United Nations Center for Regional Development, Hong Kong (1981).

Sutphen S., Lake Elsinore disaster: The slings and arrows of outrageous fortune, *Disasters* **7**(3), 194—201 (1983).

Swedish Red Cross, *Prevention Better than Cure*, Stockholm (1984).

Weiler H., Education and development: From the age of innocence to the age of scepticism, *Comparative Education* **14**(3), 179—198 (1978).

Wijkman A. and Timberlake L., *Natural Disasters; Acts of God or Acts of Man?* Earthscan, London (1984).

Winchester P., From disaster to development: Notes from India, *Disasters* **5**(2), 154—163 (1981).

Wright D., Rossi P.H., Wright S.R. and Weber-Burden E., *After the Clean-up; Long-Range Effects of Natural Disasters*. Sage Productions, Beverly Hiils, CA (1979).