Chapter 1

Disasters, Social Change and Development

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Introduction

On February 4, 1976 at 3:00 A.M., Guatemala was struck by a devastating earthquake which measured 7.5 on the Richter scale and lasted 33 seconds. Over 25,000 people were killed and 75,000 severely injured. In addition, more than a million were left homeless as their houses collapsed under the heavy impact. Whole towns were completely leveled, and hundreds more were so heavily damaged that normal life patterns could not resume without massive relief and reconstruction efforts. Almost immediately assistance began to arrive from abroad as foreign governments responded to Guatemala's plight and as hundreds of voluntary organizations rushed in to be of assistance.

This monograph reports on a study of the massive reconstruction process that followed these events. The primary objective of the research upon which it is based was to examine in detail the hypothesis proposed by Samuel H. Prince in his 1920 study of the Halifax ammunition ship explosion, that major disasters foster rapid social change (Prince 1925). A second, but equally important and compatible objective was to evaluate the effects of reconstruction programs on the recovery of Guatemalan households and communities. Since recovery is a form of change, and since reconstruction programs can bring about innovations and have long-range development impacts, then by evaluating such programs in terms

of their impact, social change is also being examined.

A third way to interpret the objectives of this study is to think of it as a study of the impact of a major disaster and of the accompanying reconstruction process on the development process going on in a developing country. Thus, throughout this study questions are asked about how various forms of aid and of aid organizations impacted upon the development process in Guatemalan society. Development is a change process, and therefore when impacts on development are examined, the causation of social change is being assessed also.

It is important to realize that the changes produced by disasters might impede or reverse the development process, speed up existing development trends or foster new ones (Bates et al 1963, Wiseberg 1976). Which direction is taken in the change process that occurs following disasters will depend upon the nature of the human interventions that take place during the relief and reconstruction process. Some interventions will have negative development impacts, while others will have positive ones. One of the objectives of this research is to examine different kinds of interventions in order to draw at least tentative conclusions concerning their relationship to development.

Social Change and Disasters

There are a number of theoretical reasons to expect that the Prince hypothesis is correct and that disasters and their accompanying interventions during the relief and reconstruction processes play a significant role in the social change processes going on in a society. First is the fact that large scale disasters, which affect whole large communities or

major segments of whole societies, put the social structure of that
system to the test. In particular, the power structure as expressed in
governmental institutions and in stratification systems is placed under
extreme stress. It is required to respond quickly and effectively to
an emergency which can neither be side-stepped nor ignored. There is
consensus that those in power are obligated to respond to the needs of
victims and to take steps to restore the social system to a semblance of
normal operation (Glantz 1976). Whatever weaknesses exist in the
structure of the system stand out in bold relief against the background
of crisis. Inefficiency, duplication, corruption, incompetence, inequity
and other deficiencies in the organization of the system are laid bare
for all to see. As a consequence, the political leadership of the
affected unit is put on trial, and their performance is measured against
the human needs exacerbated by the disaster and against humanitarian
values which come to the foreground in disaster situations (Wiseberg
1976, Glantz 1976).

A second reason disasters are likely to lead to social change is
that they create a situation favoring the formation of new associations
and new alliances by bringing together groups and categories of people
who, under normal circumstances, are isolated from or even hostile towards
each other. For a brief period following disaster, when emergency con-
siderations are dominant, a consensus develops and people normally in
conflict work together towards common goals. The divisions fostered by
culture, ethnicity, social class and urban-rural differences are tempo-
rarily set aside as a "therapeutic community" arises for a period (Fritz
1961, Hill and Hansen 1962). This period may provide a brief insight

into how these normal divisions and antagonisms which are built into
the social structure inhibit and limit the progress of the society
towards development goals. Later in the reconstruction process, the old
divisions are likely to reassert themselves, but the period of joint
effort may leave a lesson in the minds of some that changes their per-
ception of their society, and their aspirations for the future. Espe-
cially where pronounced inequities exist, and where poverty is the rule
of life, the concept that things can be accomplished by concerted effort,
when the power structure works with or for the people, may have long-
range consequences (Bates et al 1963).

Still a third reason to expect an impact on development is the
fact that groups from outside the society flock in to help and at the
same time to promote their own agendas which may be aimed toward pro-
ducing change in the society, using disaster assistance as a tool. These
outside organizations include those from other parts of the impacted
country as well as those from abroad. They often bring with then new
ideas and different patterns of organization and operation than are present
in the victim community and they transmit these through association with
disaster victims. There follows a period of cultural and technological
transfer which is often accompanied by changes in values and attitudes.
This cultural diffusion can hardly escape leaving its mark on the disaster
stricken community or society.

Furthermore, the kinds of assistance offered and the way it is
organized and delivered may serve to create dependency and weaken the
capacity of the society to develop after the helping agencies leave or

it can strengthen the society's leadership infrastructure and fuel the

engine of development (Carmack 1978, Franke and Chasin 1980). Similarly,

technological transfers may be inappropriate to the resource base of

the country and compound the problem of dependency or even lead to greater

disaster vulnerability in the future, or they can build upon the tech-

nology present in the society and lead to greater technological inde-

pendence, and greater disaster resistance in the future (Cleaver 1979,

Glantz 1976).

The process of offering aid may also reinforce the existing social

order in the society by delivering aid through channels and by techniques

that reflect existing inequities, thus benefiting those in power more

than those who lack it, or it can ignore that social order and in the

long run produce changes in the power structure and stratification system

(Berg 1975, Lappe and Collins 1977, Carmack 1978). Existing leaders

and persons of authority may be strengthened or new leaders may be de-

veloped and new constituencies be created by the process through which

outside agencies offer aid. When such agencies leave, or shift their

activity away from reconstruction to more traditional development activ-

ities, they may leave behind a legacy which has heightened conflict

among factions or which has strengthened some and weakened others, or

they may have created a new system for cooperation in a long-range develop-

ment process (El-Khawas 1976).

There is also the fact that disasters offer opportunities for out-

side agencies and groups to gain a toe-hold in the society and to develop

a constituency for future activities. In the Guatemalan case many out-

side groups came to Guatemala for the first time and after the reconstruction

process was over remained to carry on various activities, some of which were aimed towards development, and all of which had some form of social change objective. Many left only when political instability associated with guerrilla and anti-guerrilla activity forced them to do so, often under the threat of violence, presumably based on opposition to their influence on the change process going on in Guatemala.

Along with the outsiders comes a flood of resources, sometimes greater than have ever been available during a short span of time in the history of the impacted country. These resources include money, material, expertise and manpower beyond what could ordinarily be invested in the development process. Although their avowed purpose is to provide emergency relief and to support reconstruction, these activities can not be carried on without impacting upon the development process. When the reconstruction programs are complete, they leave behind the effects of this tremendous investment on the society in question, not to mention the ripple effects that this investment has during a period following the disaster.

Finally, change can be expected following a disaster because disasters destroy the capital, both physical and human, of the impacted community. These must be replaced, and when they are, especially in the case of physical infrastructure, the capital equipment is updated. In short, what may happen is that worn and outdated buildings, machinery and equipment will be replaced by new more modern substitutes. This may have a long-range impact on the productivity of the society or, as pointed out above, it may completely change its dependency relationship to the world system in which it exists.

For all of the reasons listed above, it is reasonable to expect social change to intensify following a major disaster and perhaps also to expect new directions of change to emerge. In an underdeveloped society experiencing a large scale disaster, where the international community responds with massive aid, it is almost inconceivable that there would be no impact on the development process in the society. Such a disaster as occurred in Guatemala is one of those tremendously significant historical events which represent water sheds in the development of a social system and have long-range historical ramifications.

Theoretical Perspective

As a guide to the research to be reported here, it was necessary to employ a theoretical perspective which simultaneously takes into account a conception of disaster and disaster related social phenomena, and a conception of social change and development. This perspective begins with the notion that the disaster agent, in this case an earthquake, which stems from the natural environment, interacts with a socio-cultural system to produce the disaster itself. In a sense, the physical agent is an independent or causal variable which acts upon an existing human system and thereby produces the resultant consequences, which are perceived as the disaster itself. The damage and loss suffered by homes and public buildings, as well as the injuries and loss of life which occur, are the effects of interaction between the natural phenomenon, the earthquake, and the response of the human sociocultural system to it (Berg 1975).

This means that the actual destruction suffered is as much a product of the human system and the artifacts it employs as the physical phenomenon which produces the impact. In one society people may live and work in aseismic structures and experience a 7.5 Richter Scale earthquake as an unpleasant and perhaps freightening shaking of the earth which causes minor damage and inconvenience, while those living in a different society which employs a vulnerable physical infrastructure, will see their houses collapse, and many of their fellow citizens killed or injured. The difference lies in the relationship between the human system, its material culture, and natural environmental forces (Berg 1975).

In a similar fashion, everyone in the same society is not exposed equally to loss from the same disaster agent. Different segments of the same society may employ quite different material cultures, or may be differentially situated geographically with respect to natural hazards associated with the disaster agent. For example, the poor may live on hillsides or in ravines where earthquake produced landslides expose them to secondary impacts stemming from the earthquake, or they may live in dwellings that are more fragile and dangerous.

For these reasons it is to be expected that in the Guatemalan case, the amount of damage and loss suffered by people, proportional to their existing resources would vary according to such social variables as social class, ethnicity, rural-urban residence, and type of community. These variables express dimensions of sociocultural structure likely to make a difference when the physical impact interacts with the human system.

It is also to be expected that secondary and tertiary impacts which follow the actual physical event, the earthquake, will produce different social and economic consequences for different groups of people. For example, a food shortage following a disaster will have far different significance for those who have large financial resources, and connections to the modernized distribution system, than to those who are destitute and isolated.

It is apparent from these considerations that a disaster is not a single event with only a single moment or interval of impact, but because of the dependent events it produces, there emerge waves of secondary or tertiary impacts that work their way through the social system as that system responds to the event. If food shortages occur as a result of the disaster, these will produce their own impact, and if looting occurs in response to food shortages, a tertiary impact is felt, and so forth, until the sociocultural system readapts to the set of environmental conditions that prevail around it.

An earthquake, such as that of February 4th in Guatemala, therefore is a triggering event which interacts with a sociocultural system and produces consequences for the human population and its organized social life. But these consequences themselves produce consequences which reverberate through the system for considerable time following the original impact. They are like aftershocks produced by the larger system containing the society and its physical environment as interacting parts.

Once the initial physical shock is over and an emergency focused and then a reconstruction focused social system forms out of internal and external aid sources that converge upon the disaster scene, a new set

of independent variables enters into the disaster equation. These relief and reconstruction inputs in the form of money, material, personnel and human organization begin to act upon the system and upon its environment in an attempt to mitigate and ameliorate the human consequences of the disaster. As they do so, they begin to stabilize the relationshp of the sociocultural system to its environment and to restore its material culture and social organization to a state in which it again provides an adaptation of the affected human population to that environment.

These relief and reconstruction inputs, most of which enter from outside the affected segment of the social system, represent a new set of causal or independent variables or influences which act upon the sociocultural system and also upon the environment, changing them in-ternally and altering their relationship to each other as time progresses beyond the initial impact phase. The changes referred to, once the destructive force of the disaster has altered the affected system, may be changes which merely restore the system and its relationship to its environment to its predisaster condition or they may be such as to permanently alter the system and its relationship to its environment.

At this point it is important to recognize that there are two change phases being referred to. One refers to changes wrought by the disaster agent in interaction with the sociocultural system. Such changes are measured in terms of damage and loss, or disruption of normal social and economic functioning. The second set of changes moves the system from this disrupted and devastated condition towards a state of normal or near normal functioning. This is like saying a disaster has a course

like a disease. First, there is the alteration in the functioning

of the organism as it is affected by a microorganism and it descends

into a state of illness. If followed by the proper treatment inputs,

antibiotics for example, the organism begins to recover and if it sur-

vives, arrives at a state of relative health.

But disasters, like illnesses, may leave permanent marks on the

sociocultural landscape, and the society may never "fully recover."

Unlike diseases, the disaster recovery process may result in permanent

alterations in the sociocultural structure which are judged to be

positive improvements in the system and its relationship to its environ-

ment. These permanent alterations which result in the system being

different than it was before the disaster, even though recovered in the

sense that the damage and loss, and the social disruption caused by the

disaster have been repaired, are what Prince was referring to as social

change.

Obviously such changes may be judged to be positive or negative in

terms of a set of values used as criteria of evaluation. The concept

"social and economic development" employs such a set of values to judge

the desirability of change (Goulet 1979). The values chosen as the

basis of evaluation may vary from one society to another, and from one

individual to another and are essentially matters of ideology. But if

social change is to be evaluated in terms of its long-range desirability,

there is no escaping the necessity to choose criteria upon which to do

so, and there is likewise no escape from the responsibility that such

choices place on the choice maker. Such criteria are of necessity

arbitrary, even though they are supported by a well accepted, and
rounded ideological position. Neither ideologies nor evaluation
criteria based on them are absolute but matters of sociocultural defini-
tion (Berger 1974).

Notwithstanding these observations, the concept social and economic
development is useful as a means of articulating a set of values related
to what are judged to be positive as opposed to negative social changes
in a society, in terms of its own accepted ideological position. It
is even useful to evaluate change in terms of development on the basis
of international standards, if on the one hand the standards are recognized
as being relative and not absolute, and on the other hand are stated
clearly and unambiguously so that proponents and opponents can know what
they are arguing about.

For purposes of this study, changes will be regarded as developmental
if they meet several criteria which are based on a minimal set of assump-
tions. The assumptions are as follows. First, it is assumed that
sociocultural systems exist to satisfy the biological needs of the popula-
tion of human beings who make them up. These biological needs are
satisfied by providing an adaptation to an environment in which there is
a particular set of resources and resource limitations. In order for
the population to survive over a long period and for the sociocultural
system to meet its biological needs through providing an adaptation to
its environment, it will have to establish a relatively stable relation-
ship to that environment which does not destroy or deplete it and thereby
threaten future biological adequacy. In short, it is assumed that the
survival of the sociocultural system as a system in relative balance

with its surrounding circumstances is desirable.

There is an additional assumption which is made. It is assumed that the satisfaction of human biological needs should be such as to allow the individual to reach his or her full biological potential for health and well-being and to survive in such a state for a normal life span without threat of preventable diseases, injury or violence. It is tempting to add assumptions concerning psychological and social well-being to this basic assumption of biological rights, but to do so would introduce ideological controversy as well as scientific imponderables. If the biological assumption alone is made, there is a greater likelihood of agreement on what constitutes development.

Under this assumption, development amounts to achieving a higher level of adjustment of a sociocultural system to its environment and a higher level of satisfaction of human biological needs. Furthermore, the reduction in such things as preventable diseases, malnutrition, infant and maternal mortality become measures of development as do such things as increases in life expectancy (Heriot 1979). More importantly, changes in the human sociocultural system known to be associated with producing such trends become measures of development. For example, improvements in sanitation are known to affect morbidity and mortality. Therefore changes of this sort which do not have the side effects of depleting resources and creating long-range impacts upon the environment which will feed back upon nutrition or other biological needs are also measures of development. Similarly, improvements in housing which can be demonstrated to be associated with improvements in health and

human biological welfare, and not to be counter-productive with respect to other segments of the system, are developmental. More important to the study of disaster is the idea that improvements in aseismicity with respect to manmade structures of all kinds which do not at the same time result in resource depletion and future economic vulnerability which will have negative biological effects such as lowered nutrition, due to environmental damage, are clearly indices of development.

The argument with respect to developmental change becomes complex and indirect when consideration is given to changes in human organization as opposed to the products produced by that organization. Houses have significance for biological well-being. They also have significance for social status and for aesthetic and psychological satisfaction. But perhaps more importantly, they are produced by human systems utilizing a technology. Certain types of structures are built using a given technology and that technology implies a form of social organization. Both the technology and the social organization it implies undoubtedly have long-range impacts upon the sociocultural system's ability to adapt to its environment and to satisfy human biological needs. Those technologies which depend least on externally produced products and resources and which employ local products and resources in a manner which does not threaten long-range resource depletion and environmental damage are probably more likely to produce development, or at least to prevent a decline in level of development. Furthermore, those forms of human organization which are self-sustaining and which can seek more adaptive solutions to local problems of adaptation are also more likely to produce

sustained development or to prevent decline.

Therefore movement in the direction of local independence from external resources, or from avoidable dependence on foreign technologies, and towards the use of local human organizational resources are also believed to be evidences of development. This means that evidence of increasing dependency which results in resource depletion, or in lower levels of adaptation to environmental conditions and an eventual lowering of human biological well-being are evidences of a declining rather than rising level of development.

All of these comments have great implications for the change processes that follow disasters and especially for the roles play by human intervention programs carried out by disaster relief and reconstruction agencies.

In particular they raise questions concerning the relationship between the type of aid offered, the manner in which it is delivered and the production of social change in the impacted society or community. Programs designed to offer disaster assistance, whether emergency or reconstruction oriented, deliver particular kinds of assistance. This assistance is delivered under a particular set of conditions using criteria that act to select recipients. In addition, aid programs employ specific technologies and human organizational patterns as delivery systems. Each of these separate aspects of disaster assistance programs has significance for social change and development. They also have significance for the relative effectiveness of aid programs in mitigating the effects of a disaster.

Several questions immediately arise concerning the relationship between the form that aid takes and disaster recovery. For example, what kinds of aid are needed to mitigate the effects of specific types of disasters in particular sociocultural settings? How do various types of aid inputs affect the development process? What conditions should be set on the delivery of different types of aid, that is, what criteria should be employed to determine who will receive what types of aid in what amounts? How do different criteria relate to speed and effectiveness of aid delivery in terms of meeting program objectives, and how do they affect long range development? What type of human organization should be used to structure the delivery system for different kinds of aid and how does that structure impact upon recovery and upon development?

These questions raise issues concerning how the aid process itself is organized and how that organization is related to the process of disaster recovery and to social change and development. Translated into more concrete terms they touch upon substantative issues such as those selected for illustration below.

1. What should be done about temporary shelter following an
    earthquake in a country such as Guatemala? Should the
    government, or outside agencies, obtain and deliver tents
    or other similar temporary shelters? Should refugee style
    camps be established to house victims? How much money
    should be expended upon such activities considering the
    need for long range permanent housing reconstruction? Can
    the people provide their own temporary shelter, or could low
    cost materials be provided which will allow victims to erect
    their own? What are the implications of each of these
    options for the short range emergency situation and for the
    long range recovery process?

2. Is food aid needed following a disaster such as the Guatemalan
    earthquake? Is fo, for how long is it needed and what in

particular should be distributed? Should it be given away
free or should it be sold at regular or subsidized prices?
How should it be distributed, and who should receive it?
Does food aid have long range negative impacts on agricultural
development? Does it produce dependency or is it essential
to mitigate the negative nutritional effects of post-disaster
situations? How do the way food is delivered and the types
of food chosen for delivery relate to these issues?

3. What should be done about permanent housing following a massive
disaster such as the Guatemalan earthquake? Should victims
be removed from the disaster scene to temporary centers while
housing programs are organized and executed, or should they be
left where they are and given assistance in rebuilding on their
own? Should short range individual temporary houses be built
to house victims for the period during which permanent housing
programs are being organized and executed? Or, should only
permanent housing be considered? Should programs supply build-
ing materials only and depend upon victims to do the actual
building of housing for themselves? Under what conditions
should people be given housing assistance free? Should they
be required to pay at least a nominal sum for it? Should
housing programs designed to build whole houses in a pattern
similar to constructing a housing development be conducted
entirely by agency personnel or those they hire, or should
victims be required to supply management and labor in the
process of construction? What effects do these various
alternatives have on future earthquake vulnerability, and
on development issues?

The numerous questions asked above translate the abstract concern

over the impact of aid programs on recovery and ultimately on development

into a host of practical issues that face those who manage various aspects

of disaster relief and reconstruction in developing countries. The

implication behind them is that every choice that is made has its costs

and its benefits, and as a consequence, has significance for the future

welfare of the impacted system. Underlying these practical questions are

a series of general theoretical issues or concerns that trouble those

who manage or participate in disaster relief operations in the developing

world. These issues express an awareness of the significance of the

relationship between disasters and development and at the same time state

fundamental problems involved in the value orientation or philosophies
that guide the design of aid programs.

The Issue of Cultural and Technological Appropriateness

The development literature as well as the literature on disasters
is full of references to how important cultural appropriateness is to
the process of planned intervention. This literature emphasizes the
principle that intervention programs should take the local culture into
account when planning and executing interventions in order to avoid
cultural disruption brought about by introducing foreign patterns that
do not fit into the local context (Manners 1968). The tastes and pre-
ferences, as well as forms of social organization expressed in local
institutions, according to this view, should be respected and protected.
If this injunction is ignored it is believed that sociocultural dis-
organization will emerge within the system and the level of adjustment
between the community being assisted and its environment will be lowered
or the level of life satisfaction of the people being affected by the
intervention will be reduced.

The inappropriate diffusion of foreign patterns into the local
culture of a developing country by outsiders from the so-called developed
world is regarded by many as cultural imperialism (Carmack 1978). Further-
more, it is sometimes observed that such diffusion frequently transmits
patterns that are known to have been not all that successful in the de-
veloped world from which they came. They therefore perpetuate mistakes
made in the development process elsewhere.

In the Guatemalan earthquake, the charge was often heard that
foreigners from the developed world who came to Guatemalan villages
to help in reconstruction left them looking like villages in the countries
from which the foreigners came rather than like they were before the
earthquake. Thus it was said that one could see a Swiss village here,
a German one there, and an American one in the next town because those
who came to help transferred their own cultures and did not take the
housing culture of the communities they were assisting sufficiently into
account. While this charge is exaggerated, it puts into capsule form
the concern of many field workers over cultural appropriateness. The
houses built in reconstruction, according to this view, should look
like Guatemalan houses, and the reconstructed village should look, and
for that matter, function like a Guatemalan village after reconstruction
is complete.

Along with the concern over cultural appropriateness goes a concern
with what is called in the literature "appropriate technology." In the
case of technology the concern is not so much for a match between aid
and value preferences and tastes, or with conformity to local standards,
as it is with fitting the technology which is introduced into the local
environmental resource base and into the larger technological system
present within the community (Baker 1976, Goulet 1975). A technology
is judged to be appropriate when it can be readily supported by the
surrounding technological base of the society with only minor adjust-
ments, and when the economic and natural resources are also present
to support it. There is one more condition used to judge technological

appropriateness. The technology must not do damage to the ecosystem or bring about disruptive changes in the social organization of the society by producing technological unemployment in a system unprepared to offer other sources of income.

In the case of technological appropriateness during reconstruction, the issue in Guatemala was often expressed in concerns over methods of house construction and housing form. For example, some agencies built housing using concrete blocks with steel reinforcement employing mass production techniques. Critics charged that such technology was inappropriate because it required financial inputs that could not be sustained by the economy of rural villages and did not fit the natural resource base. Instead, critics felt that modified forms of adobe construction which would be safe in an earthquake were more appropriate both technologically and culturally.

These issues of appropriateness are concerned, of course, with fitting aid into its sociocultural context and, if carried to their ultimate extreme as criteria to guide the aid process, lead to a conservative position with respect to change and development. If all aid were totally in conformity with existing culture and fitted perfectly into the predisaster technological context, then the process of reconstruction would leave the disaster stricken community exactly as it was before the disaster, without either significant change or development. As a matter of fact, this is what some believe should be the goal of disaster assistance (Carmack 1978).

Both cultural and technological appropriateness as goals come

squarely up against other goals that enter into the relief and recon-

struction as well as the development process. For example, the desire

to prevent future disasters by improving the aseismicity of housing,

obviously calls for a change in housing patterns and this demands a

change in housing technology. The ultimate question is how far should

such changes go, and how close can they conform to the ideals of cultural

and technological appropriateness and still attain improvement in

aseismicity, or for that matter, along other dimensions such as develop-

mental improvements in sanitation and health conditions.

As shall be seen in later discussions, the idea of cultural

appropriateness is not quite that easy to come to grips with. It

requires the observer to be able to separate what is cultural from what

is economic and political in making judgements concerning appropriateness.

The form that a person's house takes, or that virtually all of the

housing in a village takes for that matter, may be more a question of

the economics of poverty than cultural preference. Besides this,

cultures always contain hierarchies of values, which are at times incon-

sistent. A person may like the looks of an adobe house, and prefer the

way it responds to the climate, but at the same time place greater

importance on personal safety in an earthquake. What is therefore

culturally and technologically appropriate becomes a complex rather

than a simple matter.

Dependency, Paternalism and Rising Expectations as Issues

The dependency issue also looms large in the literature on develop-

ment and is of considerable concern to those engaged in disaster

relief (Lappe and Collins 1977, Franke and Chasin 1980). Dependency refers to a complex set of phenomena involved in the social organization of a society and in its relationship to other societies in the world system. As a concept it is difficult to separate from the notion of the "division of labor" on the one hand, and from what can be called paternalism in the relationship between individuals and their government or their employers on the other. In the relationship between nations, dependency is often referred to as colonialism.

One thing that makes an understanding of dependency difficult is the fact that all differentiated societies which employ specialization in the production of goods and services contain a division of labor which makes each individual dependent on others for the things he or she needs to maintain his or her life style. This division of labor also makes one segment of a social system dependent on other segments of the same system for inputs. This sort of situation is what is called structural "interdependence" and is the inevitable consequence of social differentiation (Wallerstein 1976). A similar differentiation at the level of the world system exists among societies that exchange inputs and outputs with each other in a global system of differentiation and specialization brought about by historical processes and by the unequal distribution of resources around the world.

Interdependence implies some form of more or less equitable exchange of inputs and outputs among the units of a larger system. Dependency, however, refers to a pattern of unequal exchange between trading partners such that one dominates the other and in effect dictates the terms of the exchange (Cardoso and Faletto 1967, Frank 1979). At the level of nations,

dependency refers to one country depending on another as a source of

goods and services which can not be produced domestically when the

dependent nation gradually loses more resources to its exchange partner

than it receives (Dos Santos 1970). Or to put it another way, it refers

to situations in which an unfavorable balance of payments emerges because

products produced using higher levels of technology are purchased using

raw materials or products produced using low technology as the basis for

payment. Guatemala is said to be dependent on the United States and

other developed countries because it purchases expensive industrial

products such as steel, automobiles, television sets, refrigerators,

machinery, and processed food products from it but sells back coffee,

sugar, bananas, cotton and beef. The Guatemalan products sold to acquire

foreign exchange are produced using very low paid labor which in effect

subsidizes both the consumers of these products in the United States

and the wealthy in Guatemala who control export agriculture and consume

the imported industrial products bought abroad. It is believed by

many who write on development that the dependency of a country like

Guatemala on foreign industrial imports obtained in exchange for agri-

cultural products and raw materials is at the root of the rural poverty

which prevails in the country (Friere 1970, Furtado 1972, Frank 1979).

If the disaster relief and reconstruction process increases dependency

on foreign industrial products, for example to produce houses, and

to maintain community services, it may lead in the future to greater

levels of poverty in rural areas.

But dependency also can be interpreted to mean that a person or

group of persons lack the skills and the political or economic power to

meet their own needs and therefore must depend upon others to look after their welfare. It is in this context that the term "paternalism" arises. In the case of disaster relief some argue that if the government of the stricken country or agencies from outside the country take it upon themselves to supply aid without requiring a contribution of some sort from the victim, then victims will become dependent on the aid source and will not be able or willing in the future to contribute to their own welfare (Furtado 1972). This is of course the same as saying that charity breeds dependency, and robs the recipient of his or her independence, at the same time failing to take advantage of the recipients' own resources to help solve their own problems.

In the development literature it is argued that if food programs are established to feed people, they will cease feeding themselves and become dependent on food programs (Lappe and Collins 1977). This means that such programs will perpetuate themselves but at the cost of increasing dependency. It is also said that if, after a disaster, refugee style housing centers are built and victims are moved out of the rubble into them, and these centers supply food, water, medical attention and other needs for the victims, they will become dependent on these services and will not be active in helping themselves. As a consequence, recovery may be delayed, or for some who become perpetual wards of the state, never arrive.

The dependency-paternalism issue enters strongly in the design of disaster relief and reconstruction programs and is at the base of debates over the conditions under which aid should be offered (Lappe and

Collins 1977). Should aid be given away free or should it require a
financial or labor contribution from the victims? Should it be distrib-
uted, whatever the basis, only according to need or should the amount
of loss suffered in the disaster be considered also? How should
distribution programs be managed? Should they emphasize local partici-
pation in planning and execution, even at the cost of delays and
inefficiency or should they emphasize quick efficient response by well
organized external agencies?

Finally, the issue of "rising expectations" may loom large in
both development and disaster relief operations. This term refers to
the tendency of people who live in underdeveloped countries, largely
in a state of poverty and therefore have very little, to grasp at any
straw that promises to better their situation. Anything which promises
improvement tends to raise their level of expectations even when the
promises made by development or relief agencies are beyond the capacity
of those agencies to respond.

Outsiders who go into communities in underdeveloped countries are
often optimistic about what they can accomplish, and about the ease
with which things can be done. They are often so eager to establish
themselves, and at the same time so sympathetic with the people they
serve that they make commitments which are beyond their capacity to
deliver. The tragedy is that people who are desperate are eager to
believe that things can improve and their "level of expectations"
often jumps way ahead of what can be attained. This of course leads
to frustration and discouragement, but also to increased future demand

for assistance and often to hostility when it is not delivered.

If disaster programs, which are always temporary and relatively short term because they are geared to a disaster situation, make sudden improvements, in housing for example, thus demonstrating what can be done about housing, they are likely to leave behind a higher level of expectation for future public programs than existed before the disaster. If the programs executed require resources beyind what are likely to be available in the future, when outside disaster related aid ceases to pour in, the level of expectation in housing will have risen beyond the capacity of the domestic economy to support it. Nevertheless the demand for services will linger and the public sector of the country involved in housing will have difficulty satisfying the demands of its citizens. This may mean political trouble.

The Issue of Victim Participation Versus Disaster Professionalism

Both the cultural and technological appropriateness issue, and the issue of dependency are closely tied to the question of how the relief and reconstruction process should be managed, and who should participate in it. Also related is the problem of differentiating and integrating emergency assistance and long range reconstruction.

The entire question of how to organize the relief and reconstruction effort revolves around the fact that several kinds of organizations with quite different missions and philosophies as well as funding sources operate both separately and in relationship to one another in complex disaster situations. Because of the variety of actors in the disaster

relief and reconstruction drama, there is never a single dominant
philosophy of aid which guides the disaster oriented social system.
Furthermore, there is rarely a single authority center in effective
control of what is going on in the field, even though attempts may be
made to assert such control by relevant governmental authorities.

Broadly speaking there are at least seven different kinds of
organizations, institutions or groups that enter into the complex
process set in motion by large scale disasters: (1) regular govern-
mental institutions from the victim country that have normal non-
disaster missions, (2) foreign governments and their field representatives,
(3) disaster relief oriented organizations from the victim country
and abroad, (4) development agencies from the victim society and
abroad, including PVOs, (5) religious groups, both domestic and
foreign, (6) private enterprises, both domestic and foreign, and
(7) opportunists, adventurers, and "individual volunteers."

Each of these groups has its own agenda and usually its own standard
operating procedures for carrying out that agenda. Each also has its
sponsoring constituency to which it is responsible, and usually its
own permanent personnel whose careers are tied to particular jobs,
intervention philosophies, and operating procedures. Finally, each
has its own clientele or type of clientele to whom it normally delivers
particular kinds of services.

If all of these types of organizatons were examined carefully,
they could be classified along a continuum between those who emphasize
the execution of programs by a bureaucratically managed professional

staff who perform services or execute programs for a clientele (without much client participation except as a recipient of goods or services), and those who emphasize grass roots participation in program design, management and execution.

Generally speaking, those organizations whose role in disasters is highly tied to the delivery of emergency services fall at the bureaucratically managed end of the continuum and those whose primary role before becoming involved in disaster was development tend to fall more towards the grass roots participation end of the scale. This is quite understandable when one considers the fact that many emergency activities can hardly wait to organize grass roots participation before they meet urgent, life threatening needs. On the other hand, development activities have long range time perspectives and can well afford to proceed with all deliberate speed.

Problems arise in disaster situations, however, at the interface between emergency and reconstruction activities. These two processes are not distinct in the real world, and activities carried on by both emergency and reconstruction-development agencies are often mixed with respect to which process they relate to. As a consequence, a debate arises over how certain types of aid should be managed and delivered, not to mention the fact that there are arguments over whether it should be delivered at all. Temporary housing and emergency food are examples of types of aid where emergency relief and traditioanl development agencies are likely to disagree. The disagreement stems directly from the different views held by the two types of organizations concerning

the dependency issue, and the issues of cultural and technological
appropriateness. To emergency agencies, the appropriate aid is that
which saves the most lives, and mitigates the most suffering, or which
restores normal services in the shortest amount of time. Questions of
cultural and technological appropriateness, and of dependency seem
irrelevant while a life threatening emergency is in progress. Once the
initial emergency period is over, however, and activities turn to such
questions as housing and the restoration of urban services and public
institutions, these questions crop up as relevant issues. As emergency
organizations begin to deal with these issues they are likely to come
up against development agencies that begin to question their actions.

There are further divisions within the agency community over who
should manage the aid process, and how it should be managed. For
example, the governmental bureaucracy of the affected country, and the
local government in individual communities are likely to see themselves
as the appropriate managers, especially of reconstruction programs.
But voluntary agencies with either emergency relief roles, or
reconstruction-development roles to play are likely to seek autonomy
at both the national and local community levels.

There is the additional fact that foreign development agencies in
a country like Guatemala where there is an elite group in power, and a
large mass of poor peasants, are likely to see the peasants as their
clientele and not the government. Furthermore, there is the definite
tendency of such agencies to distrust the authorities, who are blamed
in part for the plight of the poor. Foreign development agencies

therefore tend to want to work directly with the poor without having
their aid pass through the hands of the political power structure. The
reasoning is that if the power structure, or the government bureaucracy
controls aid, it will not reach the people who need it, but will benefit
the dominant group in the society. When such organizations refer to
local management and participation they mean participation by ordinary
citizens and not by local governmental officials. When the governmental
apparatus of the stricken country refers to such matters, however, it
means the normal machinery of government.

In the Guatemalan case there was an awareness on the part of voluntary
agency and foreign governmental personnel, as well as officials of the
Guatemalan government, of what had transpired in Nicaragua only a few
years before. There the Somosa government had exercised centralized
control of the aid flowing into the country, and charges of corruption
and mismanagement were well known. Everyone, but especially outside
aid sources, was determined to avoid a repetition of this situation.
Therefore foreign agencies were even more than normally concerned with
maintaining control over their own programs and with working more
directly with victims rather than funneling aid through local authorities.

As shall be seen in a later chapter, the Guatemalan government,
through its Emergency and Reconstruction Committee, was also sensitive
to the Nicaraguan situation and to the need to avoid undue centralization.
It therefore granted more than usual autonomy to outside agencies, and
emphasized grass roots participation. In interpreting what happened in
Guatemala between 1976 and 1980, the fact that the shadow of events

in Nicaragua hung over the scene can not be over-emphasized.

Even though this was the case, considerable variation among agencies occurred in how much emphasis was placed on local participation. There are important questions still to be answered concerning the long-range effects of such participation on the social change and development process. For example, the question arises, "If local participation means skirting the local power structure, and developing new leadership, what implications does this have for the long-range stability of the political organization of the society?" Also, there is the question of whether aid conducted and managed at the "grass roots" level might change the stratification system of the community by favoring the lower stratum at the cost of the higher one. This of course raises the ultimate question of whether development can take place in Central America without such a change.

It is apparent from this discussion that the manner in which aid is managed in a massive disaster situation has implications for structural changes in the society being assisted. These structural implications are both political and economic in nature and are directly connected to the development process. They therefore must be monitored in any study of disaster reconstruction in the developing world.

Summary

The theoretical orientation discussed above and the practical issues drawn from it, will be used as a guide to conducting the analysis of data gathered over a five year period on the Guatemalan earthquake and the reconstruction-development process that followed it. The general

theoretical orientation can be briefly stated as follows:

1. A disaster is a result of interaction between a socio-cultural system which has particular social, cultural, political, economic and technological characteristics and a physical agent, in this case a 7.5 Richter Scale earthquake.

2. The resultant damage and loss suffered and the degree of disruption of the sociocultural system is a product of this interaction.

3. The disaster focused social system which forms out of those who offer aid has its own organizational characteristics as a system and this new emergency-reconstruction system interacts with the now dis-organized victim community or society, and produces changes in it, hopefully in the direction of mitigating and ameliorating the effects of the disaster.

4. The effects of the interaction between the victim community and the disaster focused social system will produce changes in the victim sociocultural system. These changes may be developmental and lead to higher levels of adaptation of the victim community to its human population and to its natural and geo-political environment or they may be in the opposite direction.

5. To decide upon which direction the society is moving in and also to understand the dynamics of the change process, it is necessary to attend to certain broad issues raised by scholars who study development and by those who shape the disaster relief process. The most important among these issues are: (a) the cultural and technological appropriateness of aid and of aid delivery systems, (b) the issues of dependency, paternalism, and rising expectations, (c) the question of centralized professional management of aid processes versus decentralized, grass roots participation and management.

These general issues imply a whole series of particular questions concerning the type of aid offered and the way it is organized and managed which involve choices made by agencies in shaping their programs.

The objective of this monograph is to examine concrete aspects of the reconstruction process in Guatemala such as emergency shelter, housing,

level of living or community level services to evaluate the kinds of changes produced by different program types in terms of these issues. It will not be possible to measure cultural or technological appropriateness, or for that matter, dependency directly. Instead, indirect measures must be employed and judgements made concerning what these indirect measures mean in terms of these dimensions of change. In the long run, the question of whether development has taken place must be answered by each reader in terms of how he or she interprets the findings reported in this monograph.

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