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SOCIAL AND BEHAVIORAL FACTORS IN THE IMPLEMENTATION OF LOCAL SURVIVAL AND RECOVERY ACTIVITIES

William W. Chenault
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August, 1967

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Summary

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SUMMARY

Recovery management must make special provision for the fact that human resources are not passive elements in postattack planning. Survivors must be motivated to support and participate in those postattack activities required for economic recovery. That is, if postattack plans are in fact to be implemented, they must be designed to take account of social and behavioral, as well as economic, factors in the postattack environment. Therefore, this report takes a socioeconomic approach, attempting to combine the insights of economic and behavioral analysis in a single treatment of the recovery problem.

A review of previous studies of the social-psychological effects of disaster suggests that survivors would respond to disaster by reordering the priorities they assign to primary group and secondary group activities. Concern for the family -- its feeding, shelter, and protection -- would tend to be the most critical source of motivation, and successively more remote concerns -- the private home, real property, economic status, etc. -- fall farther down the hierarchy of motivating values. To the extent that the more important needs are perceived to be met by existing resources or policies, individual attention focusses on successively less important sources of individual concern, implying that people experiencing different direct effects of disaster (and of recovery policies) will respond best to different policies that appear to meet their individually defined needs of the moment.

Disaster studies also indicate that postattack communities will evidence increased solidarity as survivors express reaction to common experiences through familiar or locally oriented social, political, and

economic organization. Three gross categories of postattack communities are identified by reference to the disaster itself -- communities experiencing massive direct effects, communities adjacent to the first class and experiencing lighter direct effects, and peripheral communities relatively remote from areas of detonation . In broad outline, the responses of populations in the three categories are suggested.

A major resource for recovery is the heightened degree of solidarity in surviving communities, but a potential problem is raised by the fact that local solidarity may produce undesirable effects on the achievement of national economic recovery. That is, certain postattack activities may be, or appear, most appropriate in a local context, whereas other locally performed activities may be required for the recovery of a nationally interdependent economic system. A major objective of recovery management, therefore, should be the use of energies arising out of local organization and solidarity to pursue recovery activities that are critical in the economy-wide, or national, context.

Such an approach to recovery management presupposes that postattack planners take account of the different social characteristics, developmental or historical backgrounds, styles of public action, and similar factors that would directly or subtly influence the responses of different communities to disaster and to various postattack policies for implementing recovery. These social factors are briefly illustrated in separate discussions of five communities in different sections of the country.

A wide range of possible economic incentive policies is reviewed; and numerous interactions among those policies, and between them and social factors affecting implementation, are noted. Although a number of recommendations regarding economic policies are advanced, the review also illustrates that a manageable set of alternative incentive policies

must be developed before these policies can be related to social factors in a detailed fashion. Two requirements for further development of economic plans are: (1) an unequivocal articulation of economic recovery goals for the nation, and (2) a comprehensive description of the recovery activities required to achieve those goals.

The report concludes that social or behavioral and economic approaches to planning should be developed in a common framework that allows simultaneous consideration of factors in both areas -- in short, a socioeconomic approach. On the basis of work pursued to date, five basic orientations for such postattack planning are advanced:

1. Meeting maintenance requirements. Planners should take account of the fact that, until maintenance requirements are perceived to be met and future supply insured, survivors will be motivated to meet these basic needs, perhaps by pursuing activities not consistent with recovery activities.

2. Using the family and community as building blocks for postattack socioeconomic planning. To maximize the motivation of survivors, planners should give special attention to the most pervasive "national" forces motivating survivors and providing them bases of social organization.

3. Emphasizing priority of undamaged areas. Undamaged communities represent organized resource bases for recovery, and planners should exploit this resource carefully, lest automatic attention to badly damaged areas and populations should result in weakening or alienating those surviving population clusters whose organization and capabilities are required for rebuilding the society.

4. Allocating recovery functions among national, local, and intermediate levels of authority. Clear and explicit assignment of functions should reduce ambiguity and confusion, encourage national-level coordination, and produce that distribution of authority and functions which is necessary for the implementation of recovery policies.

5. Identifying recovery goals. Only by specifying the total set of goals for recovery management can criteria be established for evaluating planning.

These planning orientations are elaborated on pages 83-87 of this report. They represent a minimum set of basic considerations that should be incorporated in a comprehensive socioeconomic approach to planning recovery policies that can be implemented in the postattack social as well as economic environment.

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Two fellow scientists have contributed substantially to this project. Mr. Thomas L. Glenn largely wrote the fifth section, which discusses economic factors and policies in relation to the implementation of recovery activities. Dr. Monroe B. Snyder, the Director of the Program under which this research was conducted, provided a number of fruitful suggestions about the organization of the research and frequently brought relevant materials to the attention of the authors. The contributions of these scientists are gratefully acknowledged. Responsibility for the report, of course, rests with the authors.

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SUMMARY

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SOCIAL AND BEHAVIORAL FACTORS IN THE IMPLEMENTATION OF LOCAL SURVIVAL AND RECOVERY ACTIVITIES

I. INTRODUCTION

Much of civil defense research and planning is based on the implicit assumption that postattack economic behavior would reflect traditional economic and humanitarian motivations, that personal and group motivations would continue to be related to economic organization and production as they are in the preattack society. Thus planners have, to date, often focused on the major problems of determining who and what survives, what production is possible, and what goods should be produced; the question of whether survivors would in fact perform the activities required to implement recovery plans has received little attention.

Yet the problem of implementing survival and recovery activities at the local level can be seen as essentially a matter of motivating survivors to accept, support, and take part in the activities required for national economic and social recovery. The exploration of this thesis, and of its implications for the effective implementation of societal recovery plans, is the purpose and substance of this paper.

Our analysis proceeds from prior work by economic analysts, who have produced both practical and theoretical descriptions of many facets of the postattack economic problem, including descriptions of attack effects on production, key industrial sectors, supply-demand relationships, sources of investment, surviving wealth and compensation for loss, and various factors in labor force mobilization. While some of these analysts (notably

Winter, 1966, and Dresch, 1966) are aware that social and behavioral factors have implications for economic analysis, no comprehensive approach to postattack analysis or planning has yet combined the insights of the economists with those of the behavioral scientists. This report is an attempt to begin that combination.

The Socioeconomic Approach

Studies of social vulnerability and disaster behavior indicate that the effects of massive, widespread disaster are likely to include the disruption of customary institutions that support or facilitate the economic behavior and organization of preattack individuals and groups (see, for example, Nordlie and Popper, 1963; Vestermark, 1966; Chenault and Nordlie, 1967). Much evidence now supports the proposition that effective recovery planning must take account of the postattack social and behavioral environment in which survivors must be motivated to implement plans and policies.

Recovery management, then, must make special provision for the fact that human resources are not passive elements in postattack planning. Plans capable of implementation in the postattack situation must be broader than those based primarily on economic analysis; they must be based on what we shall call socioeconomic analysis, to represent the combination of economic analysis and the behavioral analysis of the social arena in which implementation will take place.

Conclusions from Previous Research

A number of conclusions drawn from previous work serve as points of departure for the present study. Those conclusions relate to (1) the nature of a national recovery effort, (2) the distribution over the nation of physical

attack effects, (3) the focus on the local community, and (4) the inadequacy of forced compliance, using police or military power, as a guarantee of implementation.

(1) The nature of a national recovery effort. It is a truism that the American economy is a complex mechanism whose units are interdependent on a national scale, just as it is apparent that a nationwide division of labor is associated with efficient production levels. The recovery of such a complex mechanism would necessarily be approached first in terms of national requirements for production and a national view of economic organization. It follows that the nature and direction of many recovery activities will be determined by national, not local, requirements.

(2) Distribution of physical attack effects. Different local areas will experience different kinds and, especially important, different degrees of physical damage from a massive nuclear attack. The provisional concept of emergency operations of the Office of Civil Defense (1967) describes nine categories of local damage identified as Basic Operating Situations. These categories, given in Figure 1, represent the presence of a low fire hazard, a moderate fire hazard and a high fire hazard, each condition in combination with low levels of radiation, moderate levels, or high levels.

The categories in Figure 1 are more detailed than we need for the purposes of this study, in which attack effects are treated largely in terms of their distance from survivors and localities. We distinguish three levels of attack effects: (1) some recoverable areas will experience heavy blast, fire, and radiation hazards; (2) other areas, adjacent to the first class, will experience some heavy, but generally moderate to light, damage and will probably require a brief period in various types of fallout shelter; (3) a third class includes areas peripheral to or relatively remote from areas physically damaged. As

	NEGLIGIBLE FIRE	CONTROLLABLE FIRE	UNCONTROLLABLE FIRE
NEGLIGIBLE FALLOUT	1 NEGRAD NEGFIRE	4 NEGRAD LOFIRE	7 NEGRAD HIFIRE
MODERATE FALLOUT	2 LORAD NEGFIRE	5 LORAD LOFIRE	8 LORAD HIFIRE
SEVERE FALLOUT	3 HIRAD NEGFIRE	6 HIRAD LOFIRE	9 HIRAD HIFIRE

Figure 1. NINE BASIC OPERATING SITUATIONS

From Concept of Operations under Nuclear Attack, Federal Civil Defense Guide, Part G, Chapter I, Appendix 1, June 26, 1967.

we point out in Section II below, these physical distances will have certain counterparts in terms of the psychological and social impact of disaster.

(3) The focus on the local community. Despite the requirement for a national orientation in determining what activities must be pursued, those activities will necessarily be undertaken in local areas where resources, plants, facilities, and people are actually located. These communities -- towns, cities, counties, and other political subdivisions -- are the foci of social organization in the country. Therefore, even though the postattack economy will be basically national in its organization and interdependence, the postattack society will consist of a network of interdependent local communities. Within the context of social organization afforded in substantial part by the community, individuals must be motivated to implement policies and perform activities dictated by national economic interests.

Previous disaster research (see Chenault and Nordlie, 1967) has indicated that communities of disaster-struck individuals tend to define their needs and activities in the immediate context of the community. The tendency of nuclear disaster to isolate communities, coupled with the policy of organizing immediate responses in local contexts, will tend to reinforce the solidarity of social organization at the community level. Since nationally oriented recovery activities must be performed by people motivated to act within community contexts, the study of implementation must focus on these local environments and attempt to determine how people operating in those contexts can be motivated to accept and support a national recovery effort.

(4) The inadequacy of forced compliance. The ultimate expression of federal authority is military power. However, it is the stated policy of the national government to give highest priority to the military mission of the Armed Forces and to employ them for civil defense purposes only on a

residual or if-available basis. Furthermore, it is doubtful whether a very widespread employment of force to secure participation in recovery activities is feasible. Of course, such an approach is also at variance with traditional norms and would therefore automatically provoke some resistance.

The Approach of This Study

To develop guides for socioeconomic policy suitable to effect implementation of local recovery activities, we have posed a series of questions to structure our approach.

First, what are the essential characteristics of the social environment in which postattack policies must be implemented? Section II of the report presents an overview of the national postattack situation followed by discussion of individuals' and communities' responses to the disaster, and it identifies general implications for effective implementation policies.

Second, what are the dimensions in which we can view those social differences between communities that will influence their separate responses both to disaster and to policies for meeting it? In Section III, we describe community differences affecting implementation.

Third, when the social styles of communities differ, how will these differences be reflected in a community's approach to recovery actions? In Section IV we illustrate how a complex of subtle historical, sectional, and cultural factors would be expected to affect approaches to implementation in a range of American communities.

Fourth, in light of divergent expressions of social forces in different communities, experiencing different physical effects of disaster, what relationships among economic factors affecting local implementation can be

determined? In Section V we describe a number of economic approaches in relation to individual and community responses to disaster.

In Section VI, we draw implications from these analyses for the development of socioeconomic policies which will be responsive to forces at work in the postattack environment and therefore more likely to be effective. Emphasis is placed on certain values and institutions that may serve as building blocks on which to erect, eventually, a comprehensive set of socioeconomic policies for implementing postattack policies and plans.

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II. THE SOCIAL ENVIRONMENT OF RECOVERY IMPLEMENTATION

The behavioral and social effects of disaster tend to vary according to the degree of destruction, the survivors' immediate experience of attack effects, and the resulting levels of personal loss. In analyzing these varying effects, a carefully defined, specific attack would be of doubtful utility as a framework; the hypothetical attack on which this analysis is based is therefore cast in terms which are general but which delineate the environment sufficiently to permit examination of the fundamental forces at work within it.[1] We assume a heavy attack, distributed over most of the nation and creating three broad ranges of effects on the surviving communities. In this situation, one class of communities has been struck directly, experiencing major hazards from blast, fire, and radiation. A second class of communities, adjacent to the first, consists of those experiencing light to moderate physical damage and probably a period of danger from fallout. The third class of communities would be those peripheral to the damaged areas or fairly remote from points of detonation, with little or no physical damage. Within this broad range of effects, it may be assumed that the degree to which behavior and social conditions would differ from the ordinary, and

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[1] For some purposes, of course, the size and pattern of the attack and the defensive posture of the population have direct effects on policy options with respect to motivation and implementation. For example, the case in which people or capital equipment survive disproportionately has important implications for per capita income, the resources available as incentives, and the capability to compensate for personal loss. To introduce such potentially diverse effects of attack variables, however, would complicate the analysis before the basic picture of social environment had been drawn. Later refinements of this approach could take account of different attack variables in drawing more specific implications for socio-economic policy: such refinement might, incidentally, be developed in terms of the five habitable types of areas defined by OCD.

the degree to which normal political mechanisms could cope efficiently with recovery, would vary with the size and destructiveness of an attack. For ease of reference, we shall refer to the three classes of communities as "central," "adjacent," and "peripheral."

In this section of the report, we first briefly characterize the national, local, and personal effects of the attack and we then describe, in greater detail, the likely social and behavioral effects of disaster on individuals and on surviving communities.

Nuclear Attack Effects on the Country

A recent report by Dresch and Ellis (1966) highlights the following "obvious and direct economic effects of a severe attack:"

1. Tremendous destruction of property, primarily housing and commercial, service, and industrial facilities.

2. Disruption of transportation and shortage of fuel for motive power together with an associated disruption of regional specialization and significant breaks in geographical continuity.

3. Drastic reorientation of effective economic demand.

4. General disruption of normal interindustry flows, with chronic bottlenecks resulting from shifts in demand, uneven loss of capacity, and other disruption of usual sources of supply both for finished and for semifinished and producer goods.

5. Shortages of technical and professional manpower in some fields. (Dresch and Ellis, p. 23.)

Less direct and less physical effects, the authors continue, would include financial chaos, weakened market and pricing systems, and "sweeping

changes in status of individuals and groups, regions and industries" (p. 24). For a very heavy attack Dresch and Ellis foresee a wide range of effects with direct influence on postattack behavior and social organization. Thus:

> In the heaviest attack, the loss of familiar landmarks, relationships, and dependencies would be unsettling to survivors. For many people, these would include the complete loss of any semblance of a metropolitan environment, the loss of even minimal residential privacy, of ready means of both local and long-haul transportation, of economic and financial stability, of a regular place of employment and even a regular occupation, of habitual forms of recreation, of normal medical care, of familiar sources of supply even for necessities, of normal support from parents, relatives, friends, and local groups and agencies, and the loss or compromise of trusted sources of information and counsel. Businessmen in particular, but others as well, would experience disturbing and subtle changes in familiar institutions and in such bases for mutual trust as methods of establishing or verifying credit, of dealing with others in remote places, of expediting or tracing shipments, or estimating delivery dates. All would suffer from the dehumanizing effects of widespread death, destruction, and suffering, from loss of confidence in traditional leadership and authority, and from loss of the comfort of traditional group loyalties and associations. The transient and temporary nature of many interim measures and makeshift arrangements would be unsettling to many people and would permeate all daily activities, including work, school, shopping, eating, sleeping, sanitation, and personal care. (pp. 16 and 21.)

The same authors further emphasize that the postattack period would be characterized by "widespread readjustments of status, status symbols, and values" that would be "evidenced not only in drastic changes in wealth, income, prices (or exchange rates if no ordinary price and market system prevailed in the postattack period) but in political attitudes, social

and cultural values, and interpersonal relationships." During the recovery period, they continue, deeds, titles, and debt relations would be in doubt. "A major problem would be that of establishing some legal and cultural bases for contractual relations and for mutual trust, even in the most minor commercial transactions." In the face of these probable facts of postattack life, the authors assert, "traditional economic motivations would be too sluggish to operate in allocating resources and would be supplemented by more direct controls or replaced by some type of detailed decision making and scheduling systems" (p. 21).

The study by Dresch and Ellis has been cited at length because their general view of postattack conditions corresponds closely to the argument that we have also advanced (Nordlie and Popper, 1961; Vestermark, 1967; Chenault and Nordlie, 1967). We share the belief that the potential effects of nuclear attack go far beyond those normally associated with wartime disaster, and our studies have emphasized that customary organizational responses do not sufficiently take account of either the direct or the subtle implications of such conditions for the design of policies and countermeasures. We agree with the authors' statement that, although economic analyses have indicated no insurmountable obstacles to economic recovery per se, under most postattack cases "recovery management is critically important, and many political and social problems would threaten survival if not dealt with promptly and effectively" (p. 16). Those problems are best approached through analysis of individual and community responses to disaster.

Individual Behavior under Conditions of Disaster

Nordlie and Popper (1961) and Chenault and Nordlie (1967), among other studies, have discussed the matter of individual responses in some detail. Here we extend those earlier treatments to describe responses as

they could appear in the three categories of postattack communities we have identified earlier.

The immediate effects of disaster on individuals are reflected in re-ordered value systems in which people shift the priorities assigned to familiar values. Values associated with the primary group tend to become dominant; values associated with secondary groups -- for example, social or job status -- become relatively less important and hence less influential as sources of motivation. Time perspectives contract as people focus on activities immediately relevant to primary values. People attach relatively greater importance to concrete appraisals of the immediate (localized) situation. During this period, threats are defined first in terms of their implications for the primary group, next with respect to their secondary effects on primary group welfare. As these threats appear to be met or to recede, survivors again focus attention on secondary groups' activities -- working, education, social interaction, etc. At this and at every stage in the response period, survivors of nuclear attack will tend to support authorities who appear to be pursuing policies that meet the threats they perceive to be most important at the time.

Differing effects on persons and families would produce different priorities for different people. Thus, in the "central" areas, survivors would place greatest emphasis on "saving" themselves and their families -- on survival activities. Furthermore, they would evidence a strong urge to evacuate the damaged and still dangerous areas. After immediate blast effects had receded, they would place greatest emphasis on relief -- food, clothing, and shelter. When these concerns had been met, they would focus on what they had lost and, therefore, on policies and actions designed to replace and repair lost property and other symbols of security, independence, and status. Throughout the period of evolving responses, survivors would,

in the majority of cases, concentrate on primary group and personal well-being. They would characteristically relate their successive interests in food, shelter, property, and work activities to the needs and desires of the primary group.

In the areas adjacent to those with heaviest damage, the emphasis, although also on primary group values, would focus on less basic needs. After a period in shelter, survival needs would be expressed in terms of providing food and safeguarding existing shelter. Here the socially divisive potential of the focus on the primary group would be first evidenced. In an area of moderate physical damage, inhabitants would turn soon to the protection and repair of preattack property. While initial responses of a humanitarian nature would doubtless be in evidence, there could soon occur a widespread fear of the inroads that "outsiders" (evacuees, etc.) were making on traditional activities. Fears for the ownership of existing housing, shelter, and facilities would probably first be expressed in these areas, and conflicts or fears of conflicts would quickly become a social concern. Furthermore, survivors in these communities would more quickly rally to the defense of the preattack order. In terms of the policies pursued to promote recovery, they would have more left to protect and therefore be more "conservative."

In the third set of communities, the "peripheral" ones, the differences in behavior already noted between the heavily and the lightly damaged areas would be still more noticeable and, on balance, would be expressed in the same direction. Here the event of national disaster would be known, and resulting anxiety would again lead individuals to focus on primary group interests. But the measurable impact of disaster would be experienced largely in economic terms -- sources of income in doubt, government welfare services interrupted, and fears for the effects of the disaster on the ownership

of wealth and the worth of existing property. More than in the other areas, people in the peripheral or remote areas would tend to identify disaster effects with governmental actions and policies to meet the crisis. They would be the most "conservative" or "defensive," generally, in their approach to postattack and recovery policies. To these populations, recovery would mean simply preserving the preattack social system. Again it is important to note: The effects of disaster, even when expressed in terms of recovery policies and their effects, would still be interpreted first or most basically in terms of effects on primary group interests.

The primary group, of course, is not the only group involved in the value priorities of individuals. A given survivor may also be a member of a religious group, a political group, a businessmen's association, a labor union, a professional association. For a given individual, the sum of his secondary group affiliations represents in large part his place or position in the society. The larger groups, at least, also represent channels of communication to individuals and reflect value priorities to which recovery planners should be sensitive. However, in all three sets of communities the primary group is by far the most pervasively influential source of basic concern and attachment, and policies directed toward it would be likely to influence most members of most secondary groups.

The Community Response to Disaster Conditions

Research on previous disasters, coupled with the fact that nuclear disaster would have different effects in different localities, suggests that recovery planners should direct attention to the local community, and to ways of motivating and organizing such communities for recovery. Equally important, the qualities of the social structure in American communities, and their place in the national system, make them inevitable foci of efforts to organize and implement a recovery effort.

With respect to nuclear attack, communities have, separately, a common property: Most of the inhabitants of a given community would experience similar effects of disaster. Survivors would have witnessed similar levels of physical destruction, similar levels of radiation threat, similar prospects for food shortages, similar needs to find new shelter (except near target points, perhaps), similar interruptions of public services, and so on.

Because nuclear disaster would temporarily restrict mobility, communities would tend to be relatively isolated in many areas of the country and would be forced to rely on, and organize, their own resources. During the recovery period, shortages of transport and fuel would continue to inhibit mobility, thus increasing the social solidarity of the local community. This situation would have some direct and many subtle effects on local, state, and national politics and policy-making.

Disaster itself has tended in the past to produce community solidarity. Fritz (1961), Chenault and Nordlie (1967), and others have described the "therapeutic" effects of disaster. Facing a common threat, communities have tended to respond as "communities of sufferers" exerting common efforts to meet the perceived threat. This tendency may in fact produce hostility toward or suspicion of "outsiders" who have not experienced the immediate threat to the community.

Such solidarity would be reinforced as well as reflected by the actions of authorities. Many and often overlapping local authorities customarily transact the public business of the community. But because they face common problems, typically operate as parts of a political party or structure, and are personally acquainted, local authority figures would tend to act in common as the community coalesced in the presence of disaster. Because they would be there on the spot, while outside or

non-local authorities would perhaps be unable to provide post-disaster assistance, the local authorities (or emergent leaders who replaced them) would tend to continue to be influential in the immediate post-disaster period. As a result of their early association with the public disaster response, their influence in later periods will be substantial. Thus spontaneous solidarity will tend to be formalized as political and social solidarity.

The community responses to disaster in areas central to the attack, adjacent to target locations, and on the periphery or remote from damaged areas would reflect the same series of concerns noted in the preceding discussion of individual responses. That is, depending on the personal impact of the disaster, people and communities would primarily emphasize survival needs, next the demand to replace what had been lost or protect what had survived. Particularly with respect to housing and shelter, the post-disaster period could see the development of conflict between people and communities who had lost personal property and those anxious to protect their surviving property and accommodations.

On the basis of attack effects alone, therefore, individuals and communities will place conflicting demands on national policies. To formulate recovery policies that ignore those differences would be to risk that the policies would not be implemented. In the following section we introduce a number of additional dimensions along which community differences would be evidenced, attempting thereby to indicate ways in which policy-makers can be sensitive to critical differences among communities.

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III. COMMUNITY DIFFERENCES AFFECTING IMPLEMENTATION

Robert Wood, of the Department of Housing and Urban Development, was recently quoted on a dilemma facing national planners concerned with societal development and community renewal in the preattack environment. "But every city is different," he said, "Seattle is different from New York, Boston from Los Angeles." Even in the relatively well-ordered preattack society, community social forces and local values and institutions often undermine, distort, or prevent the application of central government policies at the local level. As Wood went on to say: "They can't work these programs by themselves -- but we can't run them from Washington either." (Quotations in White, 1967, p. 82.)

Postattack planners will face the same dilemma. Just as preattack communities have characteristic ways of meeting problems, so will they respond to disaster in ways that express local styles and orientations. The increased social solidarity of the local community produced by an attack will tend to accentuate the distinctiveness of community responses to national policies pursued in the postattack recovery period. With respect to national programs, communities will not have resources or perspectives needed to operate them; they will require guidelines and coordination from higher levels. But central programming that does not take account of local variations in cultural and institutional tendencies would be a grave error in a pluralistic society accustomed to operating within a federal framework.

The following discussions describe some dimensions of variation among communities. The social, cultural, and political characteristics that determine regional and local styles have been built up, in some cases, over many years of history. In other aspects they are largely a product of community size, physical location, and more current processes of population

composition, movement, and interrelationships. We have categorized a number of the most important factors under four headings:

- Size and composition of population
- Spatial areas and population movement
- Location within the total society
- History of growth and familiar patterns of relationships

Size and Composition of Population

The size alone of a community's population base is an important determinant of the character of its social system. The way in which the population is differentiated indicates the significant human groups and the important cultural "names"[2] in the community, which in turn are related to habitual patterns of human encounters and relationships.

In analyzing a cross-section of American communities, populations can be classified as basically: (1) homogeneous -- a pervasive sameness is emphasized in the culture and holds down the appearance of clearly defined groups and differentiating names; (2) segmented -- division into a few major, holistic, and all-embracing (for example, ethnic) groupings is apparent; or (3) heterogeneous -- there is a pluralism of identifiable groups which tend to be more fragmented and specialized, less all-embracing of individuals in the population.

Although every community system is unique in character, some generalizations emerge. In a community which is relatively small and/or undifferentiated, people tend to encounter one another as "whole" individuals,

[2]We refer here to the important distinguishing labels in the culture -- denoting ethnicity, religion, profession, occupation, and other designators of roles and behavioral expectations -- together with the implications of good and bad, higher and lower status, etc., connoted by them.

relating to one another on a personal basis and concerned, in those relationships, largely with identifiers of family, religion, and other belief-system affiliations. Particular talents and skills embodied in the individual person remain important in social relationships. As a community grows larger and is more segmented, human encounters tend to occur between persons who are perceived as representatives of categorical groups in the population. In the most heterogeneous settings these encounters are increasingly on a special-purpose, contractual basis.

Spatial Areas and Population Movement

Another factor determining a community's character is that of the space occupied by the population. Where there is much space (or at least the perception of open "social space") and no signficant internal barriers or constraints on population movement, a community increases possibilities for homogenization or the equalizing of access and opportunity. More and more people have the same potential for relating similarly to the physical environment and to one another. Generally, other things being equal, a more spatially-extended, less congested community is a more "open" community, providing equal, ready access to public facilities, accentuating restlessness and movement, and orienting people toward change and the achievement of new identity. (However, as we have seen in the growth of suburbias in the past two decades, this process may proceed not as the "opening" of a total community but as an escape from congestion by the more privileged, leaving behind an even more limiting and constraining spatial situation for the less privileged. Actually this process usually is accompanied by a breakdown of intergroup and interindividual communication -- and thus a breakdown of "community" in a given population.)

Limitations of space for a community's population we associate with constraints on equal access to the use of space, the limiting of movement,

and the insulation of segmented groups of people from one another. Public encounters between people in such a setting may be more frequent but they are also more fragmented and fleeting, while within private enclaves people shut out the public din as they associate more exclusively with others like themselves.

But physical space that is filled with people need not be limiting and constraining and thus narrowing of social experiences. In fact, some of our large and "future oriented" communities seek ways to open avenues to achievement within a physical environment that has been, and is being, intensively used and occupied. This orientation, in which change and movement and achievement are emphasized as aspects of conserving and cultivating a familiar physical setting, also expresses a significant bent in a community's character.

Location within the Total Society

This factor implies both physical (geographic) aspects and social and psychological ones. It is also related to the history of an area and its population. It is linked to people's motivations in residing in a given geographic setting, practicing self-government, and preserving institutions there. Basically, the picture we need to develop to analyze the significance of this factor for the character of local systems is one which shows the major transactions flowing between local systems, and between them and the total society's major centers of power and national decision-making.

With respect to central-government policy implementation, social systems within our total society vary in their physical and social "distance" and remoteness from our central power and coordination points (notably Washington, D. C.). Local systems also vary in the degrees to which they

guard relative isolation and independence or actively initiate external transactions with or without major qualms about their ability to "hold their own." There are also subcenters in this country which are subfoci of many regional relationships, as well as mediators of transactions between local social systems and the seat of national political and economic decision-making. These centers should be considered as natural rallying points and resource bases for regional recovery, which in turn could support both local-community and society-wide recovery.

History of Growth and Familiar Patterns of Relationship

The small-sized and/or relatively homogeneous community tendency is that which we identify with ruralism and the small-town way of life. The larger, more differentiated community is associated with urbanization. But in American society we often find the attempt to hold on to rural-type, personal relationships even in growing cities -- particularly in the South. These settings continue to emphasize the more traditional, all-embracing groups as the most significant identifiers of who people are and how one should relate to them. Along with the holding on to rural antecedents goes a hesitancy to distinguish between public and private roles and issues. The community leader tends more to be "identified with" (by the population) as an embodiment of private, personal value systems. Further, in Southern cities since the Civil War -- with the most all-encompassing population differentiation being between white and Negro -- there have actually developed two communities. The Negro community has been considered an inferior shadow of the white community, and the two side-by-side communities have largely been interrelated only in ways which preserve a time-encrusted imagery in which one population segment was servant to the other.

In our early-industrialized Northeast, on the other hand, in cities where many diverse Old World ethnic groups have congregated and circulated through the years, there is a long experience of different groups living in congested urban proximity and accommodating to one another in the give and take of public life. Holistic, ethnic identities have been maintained in private enclaves, where the Irish, the Poles, the Italians, etc., preserve their family and ethnic ties. But highly developed public roles have also evolved through which people accommodate as citizens, working out problems of the common welfare and at ease with human relationships based on formal laws and "contracts."

As we follow this urbanizing process westward, we find a tendency for the private ethnic enclaves to disappear and for new, specialized public roles to become even more important. In effect, there has been a tendency, moving westward, for the city as a melting pot to obliterate older distinguishing group labels. But then a new differentiation of the population attains prominence. Identifications with specialized professions and with social associations based merely on common interests become most consequential in community life. Here, too, there is familiarity and ease with contractual relationships, but generally more readiness to innovate and turn away from the past. However, in growing cities of the Southwest, large, visible segments of population -- notably Spanish and Negro -- have not easily been amalgamated or newly differentiated in specialized urban roles, while the personal relationships and group ties of a rural past tend to be retained.

Planning That Is Sensitive to Community Differences

Differences in character, style, and social structure among communities are expressed in some ways that social science can analyze and

planning can accommodate. Thus, if a centrally coordinated approach to postattack and recovery planning is to be adaptive to community differences along the dimensions suggested above, it will be necessary to gather data and devise implementation policies that take account of the following factors in community life:

- The types of groups and role players who command attention and can be of greatest consequence in mobilizing recovery resources in a given local area and region.
- The styles of public action that are characteristic in normal times and would be recognizable as familiar modes in the local system under disaster conditions.
- The forms that power relationships should take in legitimizing authority within a system and around recovery activities.
- The forms that relationships to external power and authority sources should take in order to be most accepted and legitimized.

In the following section, we illustrate how such factors might find expression in community responses to recovery policies following nuclear disaster.

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IV. ILLUSTRATIONS OF COMMUNITY DIFFERENCES AFFECTING IMPLEMENTATION

Postattack society can be viewed as a set of interdependent social systems which, taken together, constitute the whole society. Because disaster promotes community solidarity, those component systems are most significant within the contexts of local communities -- discrete bases of population in given geographic locales whose participants are held together by political jurisdictions and shared patterns of institutions. Those institutions typically reflect local styles of public action and problem solving in separate communities.

As a result of the interaction of local social forces, a community in a given area or region can be said to have a distinguishable "character" much as the human individual has a "personality." That local character reflects patterns of institutional and social roles that are occupied by people as they relate, in more or less consistent modes, to one another in social life. The local character of a community also reflects the culture of the community system -- the value priorities, important life styles, standards of good and bad -- that gives meaning to the actions and strivings of people as they participate in social life.

In the preceding section we described several social dimensions that reflect expressions of community character. The size, the nature and differentiation of the population, the location, and the history of a community combine to afford insights into local social processes as community systems go about the business of solving public problems and maintaining social equilibrium. Characteristic local tendencies can be assessed in the light of the recovery-related issues suggested in Section III: What types of groups and role players can be of greatest consequence in mobilizing

recovery resources? What styles of public action are characteristic and familiar modes? What are the legitimate forms of power relationship and authority within the system? How can external power and authority be legitimized in relating to the system from a central government level?

The following discussions are focused on particular American communities that are representative of types to be found in different regions of the country. Aside from their representative quality, the communities serve to illustrate the kinds of differences (among communities) that would affect the recovery effort at the local level. The geographic base for each community is a county, except in the case representing the Northeast, where it is a township. The purpose in each discussion is to characterize a type of local social environment and to indicate how localized social system variables would (or should) influence the nature and application of recovery policies and procedures.[3]

An Industrialized Community of the Northeast

The community we have in mind as exemplar of a type is of moderate size -- 100,000 to 200,000 population -- and is on the eastern seaboard in New England. The community is restricted in physical space, and people live crowded together in ethnic neighborhoods. There has not been sufficient physical space or economic affluence to allow a full-blown escape to suburbia. The population consists of many still-clearly-defined ethnic segments, some of which retain the use of Old World languages at home and in private clubs

[3]The data and ideas relative to American regions and local communities on which these discussions are based are further documented and elaborated in Engler (1964). The framework in which they are presented here has been drawn from our previous work on vulnerabilities of social structure (Vestermark, 1966) and from such discussions of the "social system of recovery" as that appearing in Chenault and Nordlie (1967, p. 36 and passim).

and associations. There is a sense of identification with place -- the locale of the community -- and even more with one's own subpart and ethnic segment of the community. This is a working man's community where older, relatively unskilled work remains a dominant form of activity. It does not have a large proportion of specialized professions in its population. Those who are present have more a local than a national or regional stature. Aside from a small group of proprietors, owners, and mangers -- and those few persons still identified as of the old "Yankee" strain -- there is no longer great class distance between the many differentiated ethnic groupings. The mayor, judges and other public leaders do not come from the "upper" elite but from the middle social ground. As public officials they are clearly identified as "our Irish mayor," "our Portuguese judge," "our French-Canadian district attorney," etc. But their public roles are seen as serving the welfare of the total community, and there is ease here with such roles -- in which authority resides in the office -- and with contractual relationships in general.

In mobilizing resources for recovery in this type of setting, people can probably be contacted most readily through population segments that have an ethnic, nationality-group identification. It is through such pluralistic groupings -- and associations based upon them -- that human resource inventories can best be made and people organized and oriented for action. For example, even veterans' associations and labor unions retain Old World ethnic ties (there is a "Portuguese War Veterans'" association). These types of groups should be assigned crucial functions in post-disaster community remobilization, perhaps backed by the "nationality" churches, which are less action oriented but help give additional coherence to sub-communities and can be supportive of citizen morale.

At the same time, it should be kept in mind that this type of community is used to public controversy and public dialogue. A town meeting

once operated here as a highly viable and functional mechanism for public deliberation and action. People who identify closely with, and articulate many of their basic value orientations through, segmented ethnic groups still will accept public, community-wide leaders and officials who administer laws and abide by the accepted "rules of the game" of community life. Such public authority, however, must permit controversy and work toward intergroup accommodation and the representation of diverse group interests and points of view. Recovery planning might anticipate, then, mechanisms like a deliberative community-wide council, representative of significant population and interest groupings, linked for action decisions with a board of officials who cover key functional, administrative areas in community life.

As to relationships to the community from an external center of authority, there are seldom real barriers of hostility to overcome in this regard. Such settings, even where they have been outside the mainstream of rapid socioeconomic development, have a great deal of local-institutional capital which gives them confidence in their ability to hold their own in resisting subordination to central authority. In fact, they may welcome an important role in recovery that links their destiny with that of other centers of population in the region and nation. Where such a community has been economically "backward," it may perceive, in relative terms, less deprivation than more affluent communities under postattack conditions. Furthermore, it may respond more readily than other types of communities to a vision of its growing importance in a new society-wide equilibrium in the postattack world.

A City of the Southern Seaboard

This community saw the early beginnings of Southern culture. In it are distilled many of the significant sociopolitical and cultural tendencies

of the Southeast. Larger, newer Southern cities may be arenas where greater change is occurring; but the following tendencies would be consequential in them, too, as they faced disaster and moved toward postattack equilibrium.

This typological community is around the 200,000 figure in population size. Historically, it developed in a central-peninsula setting as the scene of commercial activities through which trade from and to the surrounding plantations was channeled. Life on the land -- in the many plantation "worlds unto themselves" -- was dominant in the culture, and in these little worlds issues and relationships tended to be seen as above all highly personal. The central peninsula was merely the scene of commercial transactions, where men of property commuted to church and to sell their goods. As new groups migrated to the community, they might begin by taking up occupations in town, but all were soon absorbed by the land as they rushed to acquire plantations and become men of property, using the city only for commerce, religious participation, and seasonal residency. Negroes came here only in the subordinate -- almost subhuman -- category of slave and were shut off in the culture from becoming men of property (although some few obtained freedom in slavery days and lived as artisans in town).

With the shattering by the Civil War of the plantation economy and the many private, personalized, self-contained worlds on the land, a more urbanized community began to develop. Negroes congregated in the city, and many of the white families of property took up permanent residence there. (Old plantations on the land later became merely tourist attractions, but the remembered patterns of human relationship in those settings remained the model retained in mental imagery by participants in the culture.) Many Negroes found city occupations in which they still retained, in effect,

an identification with their white family of plantation days. The Negro "community" as a whole was kept a juxtaposed shadow to the white, and much differentiation of status within this Negro subcommunity was based on positions formerly held by family members in the service of a white family. Church congregations became and remain strong foci for subgroup identification in the Negro community; and many whites also most significantly identify who they are, what they believe, and what position they occupy in the community by the church they, and traditionally their family, attend.

As new urban roles appeared in this environment -- new occupations and professions, new public-authority positions -- the Negro in these roles served only his own population segment. And urban roles in any case remained infused with the personal approach among a people ill at ease with and resistant to depersonalized, contractual relationships. Meanwhile, the total community had little experience with, or mechanisms for, public problem-solving. Most issues were confronted as private issues to be resolved within small, family-like circles of people. Even as industry developed, its organization resembled the milieu and relationship patterns of the family-like plantation. Thus, unions and impersonal power groups did not command strong allegiance.

Change has begun to rearrange the superior-subordinate alignment of the side-by-side communities. New leadership is more oriented to change, to a community-wide perspective, and to formal mechanisms for public problem-solving. There is strong identification with physical place here -- a feeling that in these surroundings lie the significant reference points for personal identity. A sometimes hidden aspect of institutional capital for coordinated social action in this setting is the strong undercurrent of personal reciprocity and mutual human obligation among the inhabitants of the

community. In the past, this mutuality revolved around a categorical superior-subordinate relationship between the white and Negro population segments; in the future, mutuality will include many challenges to this categorical assumption.

Anticipation of recovery organization and the implementation of recovery-related activities should recognize the importance of traditional groups, like the churches, and of leaders who are spokesmen for such distinct value systems. It will be more important to have many recovery functions performed by, and human services rendered for, whole-family-like groups of people -- groups "caring for their own" -- than to attempt to specialize the performance of functions and services across the community population as a whole. The leaders who serve as rallying points will most likely be spokesmen for such "families." Their style of action will be highly personalized. In a postattack world there will likely be a great impetus for them and their followers to turn toward imagined havens on the land. There will be an effort, where like-minded groups of people so congregate, to create self-contained and independent havens. Authority that attempts to coordinate activities and promote interdependence in the service of a broad recovery effort will elicit more favorable responses if it projects a paternal-like concern for the total community family and a commitment to a way of life that is anchored in tradition and a rural past. And insofar as nuclear holocaust symbolized failures of rationalized, specialized, urbanized -- thus civilized -- man, there will be an even greater reversion here to simple, traditional patterns of personalized authority and relationship.

Research in this type of community has revealed something called, by local people, a "narrowing circle of intimacy" and trust. Informants

say: "People here would throw out county government to get a more local government, are hostile to authority and power at the state level, and of course are really distrustful toward federal power." This means that central government authority in a postattack world would have to be extremely sensitive to how its presence were symbolized and made manifest. Such a presence should be mediated by persons who symbolize a commitment which, at the least, is regional. There would also be a problem not only of tying together local recovery comprehensively (as noted above), but of tying local recovery to regional and especially to national recovery. It would seem best, from the national perspective of resource management, to do those things which show promise of enabling local communities to become as independently viable as possible before -- by indirect means and through locally acceptable mediators -- engaging such communities in society-wide recovery transactions.

A Midwestern City

A setting in the midland crossroads of America -- the Great Lakes region -- provides the next example. This community is similar in population size to the previous two. It has served an important melting-pot function in American life: beginning the amalgamation and homogenization process but stopping it short of suburbia and still leaving important Old World nationality strains clearly identifiable in the population. Here the Yankee pioneer from New England came together with central and southern European groups to develop a small-urban setting where the industrial revolution wrote typically American chapters on the self-made man and home-grown light industry. Both the Yankees and certain Old World groups -- notably German "intellectuals" and reformers of the mid-19th century -- carried to this setting a concern for social action and self-government.

An emphasis on coordinated citizen action, public schools (which "Americanized" foreign groups -- at least in language -- in one generation), etc., moved this community away from a fixation on private ethnic enclaves. There was also "social space" (if not expansive physical space) for achievement of status by members of the different nationality groups as they developed and practiced varied skills as craftsmen in home-grown industries -- or even became entrepreneurs in such industries.

Public institutions tended to develop of, by, and for all -- and to serve all equally. It is commonly said that owners of industries in the past, and their offspring in the present, went to the same public schools as the workers and their offspring. The depression of the 1930's and the prosperity that followed also tended to be shared across the community's population. The community retained a fairly stable population through good and bad years: In the latter, citizens would commute to a job in the metropolis but retain their homes in the community; in better times, and currently, a uniformly comfortable standard of living was possible for most of the population. Labor unions became stronger in hard times, but they did not develop a mass power base as in heavy-industry towns. Workers' identifications with their skills and their local employment firms remained strong. Also, specialization of functions and roles did not proceed to an advanced degree in this city. Large heavy industry, truly large retail stores, and the specialized professions were not typical of this setting but were available in big cities close by.

This community manifests a strong tendency to homogenize people and their functions within the whole. In fact, concern was expressed here recently that the community tended through its institutions to perceive too much the uniform, "homogeneous" answers to public problems (and some agitation for more specialized social services was to be noted). The

community was most irritated -- its equilibrium disturbed and dislocated -- by newly arriving, visibly different, unskilled groups of people it could not easily "digest" in its homogenizing processes. Noteworthy in this category were the unskilled Negroes who appeared in some numbers during and after World War II to take on the most menial foundry work, which others in the local work force would not perform. The community has also stressed interdependence of individuals and groups, although earlier mechanisms for interdependent public action have often gone unused and needed revitalization. The typical respected community leader was the heir of a home-grown light-industrial corporation, educated in local public schools, and actively involved in support of Scouts, Rotary, parks and recreation, and other manifestations of a self-made American city's ability to handle its own affairs on a simple, respectable, nonspecialized scale.

The strength of this community in the postattack situation will be its capacity for interdependent, coordinated local action and its self-regenerative capabilities. It will also readily relate its own recovery activities to state and regional activities, although striving to maintain the local-community identity and the integrity of its own surviving human resource base. It will rally as a body around prototype leaders whose ancestors "built the better mousetrap" -- or electric motor, or floor wax, or cereal -- and who have supported civic functions and public institutions through the years of community growth. It will provide key skills and forms of economic and social organization needed in recovery, particularly if national damage to heavy industry suggests the need for decentralization and smaller-scale operations in an early recovery phase. The community cannot be called upon for highly specialized professional (scientific, specialized, technical) resources in regional and national recovery programs; but it can be looked to for skilled worker and entrepreneurial resources, readily tied together locally and functional for productive activities.

Authority here goes with a demonstrated community commitment to public institutions and local business enterprise. It is reinforced in the individual exercising authority when he can be identified with valued skills of craftsmanship and/or light-industry development and management. Granted the deep-seated local pride that exists, the tradition of interdependent actions here is also conducive to accepting interdependence in state, regional, and nationally-oriented activities. In relating to localities in this region from the national central government level, the symbols of "Federal Government" are not naturally suspect; however, they are viewed as most legitimate where the cooperative, two-way aspects of relationships in the federal system are emphasized. In this guise, the "federal level" is viewed as a broader, superordinate perspective for promoting coordination among equally valuable state- and local-level parts of society.

A Southwestern Metropolis

The community which represents local social forces in this case is both Southern and Western. It consists of a large city in a county of over one million population. Its antecedents are rural, but since its founding it has manifested a flamboyance that early emphasized bigness and led to easy acceptance and accentuation of growth. Growth in population size has been accompanied by dramatic growth in area, so there has been room for movement, the catalyzing of restlessness, and perceptions of opportunities for achievement (at least, and especially, among the Anglo population).

The early settlers of the region were true Southerners, occupying with their families independent plantations and accompanied by their Negro slaves. But the actual founding of this community dates from the close of the Texan war of independence from Mexico, when a more rowdy and adventurous breed of unDomesticated free-lancers -- actually, the backwash of a

victorious, disbanding army -- began to populate a newly chartered real estate development. Even at this time the basis for ethnic segmentation was being laid, as Mexican prisoners from a defeated army were put to work draining local swamps and bayous, clearing land, and performing menial chores. As the city grew following the Civil War, Negroes who came there from the countryside received some assistance from the Freedmen's Bureau and other sources outside the state, and they had been accepted as "members" (albeit subordinate ones) of plantation families; they attained and remained, as a group, a step above the Latin American segment.

The overall pattern of development and cultural emphasis was a reversal of that in the community on the Southern seaboard. Here in the Southwest a growing, dominating city absorbed people who left the land and moved them toward new urban occupations and relationships -- toward "property" in the form of capital goods and commercial organization.

There was enough physical and social space in the Southwestern community so that even members of the sizable Negro segment found room for achievement of new status and occupied newly differentiated professional and other public roles of an expanding urban social system. The Western character of the community is perhaps proclaimed most clearly in local documents which note that following adversity and hard times -- especially the Civil War and Reconstruction -- the community did not brood long over lost splendors but turned toward the future. And the future always seemed to turn up new opportunities for economic growth and social achievement -- from cotton, to cattle, to oil, and through it all real estate -- as men mastered the natural environment.

The postattack situation here would most probably find newly emerging leadership and new forms of enterprise -- thus, new private

organizations -- rapidly appearing. Crucial leaders would be persons most capable of coping with the crisis situation -- and incidentally not averse to advancing their own interests in the situation, however these interests might be perceived in a postattack world. Extreme independence coupled with an achievement orientation make this a highly competitive and potentially conflict-prone arena of human action.

There are large formal organizations in this big-city environment that can be looked to in the mobilization of recovery resources. Some of these are closely linked to external power sources and resources; they have been located here to carry on research and development activities for a national and scientific community, and are heavily staffed with scientists, engineers, managers, and other professionals whose significant group ties transcend the local arena. But most organizations here have significantly a local and regional identification. Both types of large formal organizations can provide structure and key roles useful in implementation of recovery.

It might be foreseen that the locally- and/or regionally-committed organizations would be the most crucial rallying points in recovery. The linking of local and regional efforts to national recovery could most readily be mediated through the organizations that have a national mission but are in -- and at least partly committed to -- the local area. (There is a strong tendency for organizations that locate here, and the professionals who come to work in them, to take on the local "character" and develop strong identifications with local culture.) The significant leadership roles in any such organizations -- or in new organizations developed in the recovery effort -- will crystallize not around technical or administrative skills or established authority but in those persons who seem to embody personal qualities that enable them to meet and even exploit the crisis. As noted previously, these roles will doubtless emerge and be developed by persons responding to

particular postattack situations. As to overall community leadership, it seems likely that preattack public leadership will be overshadowed by that emerging (postattack) from large private -- or at least noncivic -- organizations. And community recovery itself will be approached as largely a matter of enterprise, with personal leaders and their organizations undertaking activities in which personal growth and competitive gain are at least as important as the public services rendered. At the same time, in the value system of the recovery period, it may well be that the new postattack enterprises will be strongly oriented toward human services and activities of community development.

There is a large population aggregate in this area who remain on the periphery of life in the fast-paced, open-spaced metropolis. They are the feeders of population growth, come from the rural areas, and are relatively unskilled for urban occupations and unprepared for urban institutions. (In this respect they resemble many of those who earlier developed the local brand of urbanism that still prizes personalized relationships -- and that approaches problems in the manner and imagery of primitive encounters of men with nature and the physical environment.) These people, who have been less successful in the competitive contests of the social system and culture, are most likely to have re-established holistic ties in the city to churches like those they knew in rural and small-town life. They also remain close, psychologically, to families and relatives who still live in the countryside. Their natural tendencies in extreme disaster situations would seem to be to return to familiar locales and familial relationships.

The degree to which these centrifugal tendencies are operative across the total population in this social system -- for they are latent in the great majority of people here -- will doubtless depend on degrees of postattack destruction. But that a postattack community will re-emerge here --

albeit a community filled with competitive contests and opportunism -- is almost a certainty. Central government power and authority, attempting to relate to the local system, will encounter difficulties largely in guarding against being used too exclusively for local and regional ends. External authority must strive to insure that a newly viable system -- viable economically, politically, and socially -- serves to enhance rather than detract from viability in other social systems in the national society.

A Metropolis of the Far Northwest

This community is similar in size to that described for the Southwest, with a county population of nearly one million. Growth in area has not been as rapid or pronounced as in the preceding example, and this community has a longer experience with urbanism. It is less concerned with open physical spaces but does strive to conserve and cultivate a picturesque natural setting.

The roots of the community are not rural, and most newcomers are people who have previously lived in urban settings elsewhere. The community began around the commercial activities of lumbering and fishing, so that civic growth was actually a function of business growth, and the two aspects were closely intertwined. The community pressed outward from a central core, "feeding" on the activities which exploited the forests and turned their natural resources into commerce as well as construction. Today, comfortable suburban neighborhoods of single-family dwellings are typical. But human attachments to familiar natural surroundings have operated to counter the extremes of central city-suburban bifurcation so prevalent in most large American cities.

To a large degree there is a characteristic here that we described earlier in general terms: A large, future-oriented community seeking ways

to open avenues to achievement within a physical environment that has been, and is being, fairly intensively used and occupied. Here social forces took our national culture beyond the ethnic melting pot, through homogenization, and to new population differentiation. This differentiation is most manifest in a high degree of specialization -- in professions, public service and leadership roles, new forms of business enterprise, new group identifications. Alongside such specialization, however, interdependence and commitment to the whole and to public affairs have always been stressed.

The empire-builders, achieving new identity in this western setting, helped to build a community and its public facilities and institutions at the same time that they built their businesses. One local legend extols the prototype empire-builder of the past who, on the occasion of "the great fire," stepped forward in a public meeting to state that he was donating money to begin the rebuilding of the opera house. Even in the later era, when labor organization and agitation were the modes and issues of the hour, the self-made labor organizer was called upon by the community to help break a crippling strike, called by a more radical organizer and his union. The organizer who stayed within the rules of accepted controversy, demonstrating his commitment to the community while creating new specialized roles and a new form of enterprise -- labor unionism -- went on to become a trustee of the state university.

There is a large, nationally prominent industrial and research-and-development organization here that is heavily dependent on government contracts. This organization, of course, employs many managers and other scientific-technical professionals. But the roles these men occupy are not the most important local models for leadership; and the most significant reference groups in the culture are not found in such research

and manufacturing organizations. The crucial reference groups are the highly specialized professions -- medicine, education, law, social services. And the leadership role models in these reference groups are those that link the actor and his special talents to public service: the doctor putting in his stint in a local children's hospital; the psychiatric social worker in a specialized treatment clinic. Specialized professions in this setting encompass many persons of national and international reputation. Still, the community culture has recently recognized problems of overspecialization in public services and roles -- and overhomogenization in private modes of association and group identification.

The typical pattern of church growth was one in which denominations lost a distinct identity and formed "community churches" in new residential areas. (This, of course, refers to Protestant denominations; but some Jews also found the suburban synagogue becoming too bland in doctrine and "middle class" socially, and Catholic priests saw this same tendency in their parishes.) Now a counter-move is apparent in some denominations as they seek to define and reassert more holistic value systems and to embrace "their own" more completely. A concomitant tendency, however, is toward interchurch cooperation along with involvement by them in worldly problems. At the same time, a highly specialized system of social services has been found to have a tendency to overdefine and fragment human problems and to take on their treatment in a way which does not allow the more primary, organic institutions -- notably, the home -- to operate naturally upon them. These services, and the public schools, were found to serve least well the disadvantaged -- often newcomers, many of them Negroes -- whose private and public norms of behavior were visibly different from the accepted local modes of the majority in the population.

Local postattack and recovery systems can build here on a propensity for interdependent, community-oriented action. There will be a strong tendency for the surviving population to stay here, or return, and to re-establish the infrastructure that makes possible a complex, interdependent urban community. Leaders will be those with a demonstrated commitment to this locale and its natural setting. And they will be innovaters who see new needs for different forms of civic-service-linked enterprise and organization. The specialized (particularly the human-service) professions will constitute important recovery resources. They will also be important reference groups in contacting people and tying them into recovery activities. In this setting it would seem most appropriate to approach recovery by attempting to mobilize and organize people on the basis of how their talents can contribute functionally to an interdependent, community-wide recovery effort. Subareal -- for example, neighborhood -- organizations, and most churches in such settings, do not represent strong enough subcommunity ties or have sufficiently developed action mechanisms to serve as major foci for recovery mobilization, human support, and postattack reorientation. The necessary nodes for mobilization are more likely to be found in institutional infrastructures like the school system, the labor unions, and the social services system. The emphasis, it would seem, should always be on community-wide coordination rather than on independent groups trying to care comprehensively for their own.

National recovery efforts can draw upon specialized professionals, particularly those in human-service fields. Such persons have strong identifications with their professional groups (associations), which transcend local ties and make their special talents mobilizable across state and local boundaries. As might be inferred from this, the community is most tied

culturally to the national community via modern-day professions and associations based upon them.

The Far-Western corner of the country is physically remote from the seats of central government power and authority and from national economic markets, but in the modern period swift communication and transportation have served to relate it to the nation's major economic and political transactions. Shipyards and airframe plants particularly attest the national significance of local activities. The federal economic presence is not exactly suspect, since it has been relied upon in recent years for prosperity. However, there are increasing fears of overreliance and dependency on federal contracts, and the local economy and social system quiver with every hint of a lost government contract.

A strong relationship has existed historically between this locale and Alaska. The region and community were once used to fending for themselves and riding out hard times until the next boom came along. Recovery and prosperity were usually linked, in those formative years, to Alaska and to affairs of the Pacific and the Orient. Central government plans for recovery should take this into consideration. For a viable postattack community and region, most in tune with naturally-evolved social and cultural predispositions, might best be one built upon these Western- and Pacific-oriented ties and transactions.

Conclusion: The Challenge of Diversity

These illustrative cases suggest not only that the diversity of community social forces pose a challenge to those who formulate and implement national recovery policy: They suggest as well that different communities have characteristic strengths or energies that can be mobilized to support recovery.

If recovery policies are to be designed to take advantage of such forces, those policies must be defined to strike a balance between national requirements and requirements delineated in terms of community-level perspectives. The preceding section described categories of key variables that indicate local orientations toward public action -- variables including types of groups and role players prominent in community activity, styles of familiar public action at the local level, recognized forms of power relationship and authority in community social systems, and expressions of external power perceived to be legitimate in the local system. The discussions in this section suggest, as a minimum, that sensitivity to such local forces should be reflected in postattack policies relating to (1) the choice of personnel to represent non-community or higher-level agencies, (2) the use of social "channels" of communication to influential population groups, (3) the choice of symbols employed in publicizing higher-level policies and actions, and (4) the involvement of populations in decision-making with respect to issues of special or historical local interest.

Above all, these discussions suggest that recovery management and recovery policies should not endanger the integrity or social viability of the local community. Particularly in lightly damaged or undamaged areas, surviving communities will represent effective social organization in a national milieu of social and institutional disruption. Policies that conflicted with the continued viability of these bases of social organization would not only run the risk of not being implemented: They would tend to destroy the continuity of preattack values and institutions by undermining the most effective surviving grass-roots carriers of the preattack culture.

V. ECONOMIC APPROACHES TO IMPLEMENTATION

What economic factors have special implications for recovery policy-making in the context of social and behavioral environments described in the preceding sections of this report? In this section we discuss aspects of post-attack economics that have more or less direct relevance to the preceding social analysis. That is, in light of the behavioral responses already described, we discuss the use of incentives to motivate survivors to support recovery activities, the relationships of those incentives to one another and to general economic policies, the relationships between the effectiveness of incentives and local postattack conditions generated by attack effects, and the implications of these discussions for the roles of different levels of government in recovery management.

The first critical distinction to be made in approaching economic activity is that between maintenance activities and recovery activities which are parts of an overall, coherent recovery plan. The behavioral evidence indicates that individuals will seek, spontaneously, to provide directly for the well-being of themselves and their families, whereas recovery will depend on their participation in planned activities having less direct pay-off in terms of food, shelter, and so forth. Therefore the first function of economic incentives is to motivate individuals to abandon maintenance activities. The second function of economic incentives is to motivate individuals to take part in specified or planned recovery activities (as opposed, say, to non-maintenance activities not part of an organized recovery effort, such as a preattack job that may be familiar but not supportive of recovery).

Motivating Individuals to Abandon Maintenance Activities

Individuals can be motivated to abandon participation in maintenance activities if they perceive that there is an alternative source of supply of

primary needs which is more certain than personal search or supply. If there are not well-organized public efforts to supply primary needs, it will be difficult, if not impossible, to prevent individuals from devoting most or all of their time to participation in maintenance activities. Primary needs which must be supplied are food, water, and housing.

The supply of food to individuals can be handled in two different ways. First, food can be supplied directly to individuals on the basis of need or some other criterion of equity. Second, food can be supplied to individuals in exchange for money. Presumably, the organization responsible for the supply of food will have at its disposal the government stockpiles of food, which have been estimated at one to two years' supply, though population growth and depletion of the agricultural surplus may make such estimates appear optimistic. It also could obtain for redistributing the stocks of non-perishable food that were in private hands at the time of attack -- food processors' and grocery stores' inventories (Marr, 1958, pp. 7-8).

As these existing inventories of processed food are depleted, the organization responsible for the supply of food will have to extend its activities to the acquisition of raw food and food processing services. It is unlikely that raw food and food processing services can simply be commandeered; something of value will have to be provided in exchange for them. Theoretically, there will be at least three alternatives open to the food supply organization. First, it can exchange goods for raw food and food processing services -- for example, fuel, fertilizers, and pesticides for raw food, and processed food for food processing services. Second, it can exchange money for raw food and food processing services -- the money exchanged might be obtained from taxation or from the sale of food to individuals. Third, it can act as a broker between producers of raw food and food processors and between food processors and individuals -- that is, it can indicate its willingness to buy and sell raw

food and processed food at stated prices. This last alternative, while the most economical in terms of administrative effort, requires that private markets exist and function between producers of raw food and food processors and between food processors and individuals. (Winter, 1964, pp. 208-210, discusses more fully the public guarantee of buying and selling prices.)

The provision of medical care requires very little comment. Elaborate plans already exist for the provision of medical care, and it apparently will be provided directly to individuals. It may be advisable, wherever possible, to remove those requiring medical care from households. Otherwise, the combination of sick or injured family members at home and the disruption of normal working patterns may motivate many individuals to remain at home to provide whatever nursing care may be required.

Housing, like food, can be supplied to individuals directly or in exchange for money. An organization responsible for the provision of housing will have an initial inventory of houses and apartments which have survived the attack -- houses, apartments, hotels, motels, trailers, tents, etc. The acquisition of these various types of housing for distribution to those in need of housing should not give rise to an unacceptable amount of opposition; the gains of those acquiring housing should certainly outweigh the losses of owners of housing acquired for redistribution, particularly if the owners are compensated.

In addition to its initial inventory of various types of housing, the organization responsible for the provision of housing will also have stockpiles of construction materials and construction equipment. An immediate problem of the organization responsible for the provision of housing will be to secure construction of new housing using the stockpiles of materials. As inventories of construction materials are depleted, the problem of securing newly-produced construction materials will arise. As in the case of the food supply organization, three alternatives will exist: (1) Goods may be exchanged for construction

services and construction materials -- for example, newly-constructed housing. (2) Money may be exhanged. (3) The organization may act as a broker between producers of construction materials and building contractors and between building contractors and individuals. The last alternative requires not only functioning markets but also relatively uniform housing units.

Individuals whose housing survives the attack and can be safely occupied will not be spending any of their time searching for housing, but they may be reluctant to leave their homes in areas where large groups of displaced persons are expected or have arrived. Therefore, measures for the control of displaced persons, obviating the necessity of individuals devoting their time to the protection of their homes, represent one form of indirect influence on the motivation of potential workers to abandon maintenance activities.

Because of the increased solidarity of surviving communities, strong pressures will be exerted for local control of the allocation of housing and food. The remoteness of higher authorities from on-the-spot details of administration will tend to reinforce this tendency. On the other hand, local control would produce conditions not viewed as equally attractive in different communities. The resulting perceptions of better opportunities for secure supply of necessities would reinforce tendencies toward internal migration, which should therefore be controlled -- necessarily at non-local levels of authority.

Motivating Individuals to Participate in Recovery Activities

Maintenance activities have been defined as activities that directly satisfy primary needs. Recovery activities may be rather loosely defined as a subclass of activities aimed at ensuring future satisfaction of primary needs. Because existing definitions of economic recovery are general in nature, it is not possible to be very specific in defining recovery activities. Whatever the specific recovery activities turn out to be, however, it is likely that they will be of

two general types: activities related to the production of primary needs and activities related to the repair and production of capital. It is also likely that, however recovery activities are defined, the specific recovery tasks will vary among communities. Furthermore, the relation of recovery activities to other, alternative activities will be different in different communities.

A general characteristic of economic incentives that may motivate individuals to participate in recovery activities is that they offer a reward for such participation (or a penalty for nonparticipation). The reward may be in the form of money or goods. The most draconian means of securing participation in recovery activities would be to supply food only to those participating in recovery activities. A more humanitarian and likely procedure would be to supply food as a reward for participation in recovery activities while also supplying a minimum subsistence quantity of food directly to each survivor or family.

The supply of housing may also be used as a means for securing participation in recovery activities. The most likely policy would be to supply a minimum level of shelter directly to each survivor while reserving the supply of single-family or more desirable dwelling spaces for those participating in recovery activities.

The most obvious reward to offer for participation in recovery activities is a money wage. The employment of a money wage as a means for securing participation may entail anything from an all-inclusive national money wage structure covering participation in all activities to a single local authority tentatively offering a single money wage for participation in a single recovery activity.

The use of food, housing, or money wages to motivate participation in recovery activities will introduce complicated problems of control in relation to the effectiveness of incentives. What constitutes a recovery activity,

and the size of reward required to secure participation, will vary from community to community. If national markets are functioning poorly, and if the focus is on immediately affecting certain vital activities at the local level, then a case can be made for leaving the allocation of activities to local authorities, who would be in the best position to determine what relative rewards were required to secure participation in certain activities in the local situation. On the other hand, such a policy presumes that local authorities would voluntarily or otherwise assign appropriate priorities to recovery activities in their areas. In the longer view, such a policy would establish strong precedents for local control, and they would tend to encourage inter-community migration. In the following paragraphs, therefore, we discuss alternative approaches to the use of incentives, and problems of authority levels are reviewed in a later part of this section.

Falling between a fixed national wage structure and complete local autonomy are the following possible systems: a national money wage structure with provision for adjustments within specified limits by the states, a national money wage structure with provision for adjustments within specified limits by local authorities; fixed state money wage structures; and state money wage structures with provision for adjustment within specified limits by local authorities. Each of these systems may include hourly, daily, or weekly money wage rates and lump-sum money payments corresponding to recovery activities of a continuous nature, such as activites related to the production of primary needs, and to recovery activities of short duration, such as repair of capital.

If, at the time recovery activities are to commence, money wages are being offered by private economic units for participation in all activities, a structure of income taxes can be developed with lower rates applied to income derived from participation in recovery activities. This means of securing participation in recovery activities could be employed by any of the

three levels of authority, but there are as yet very few precedents for a county or city income tax. Alternatively, a structure of indirect taxes could be developed, with higher rates applied to non-essential goods to discourage their production. Precedents exist for the employment of indirect taxes at all levels of political authority.

If markets are not functioning well, the structure of income taxes could be replaced by outright moratoria on money wages paid for participation in non-essential activities. Similarly, the structure of indirect taxes could be replaced by outright moratoria on the production of non-essential goods. The declaration of a moratorium by a local authority is not likely to have much effect, particularly if neighboring local authorities do not follow suit. The same is likely to be true of a declaration of a moratorium by a state authority. Therefore, this means of securing participation in recovery activities should be employed by national authorities, if it is to be employed at all.

As individuals again attach major importance to the levels of their money incomes, the attractiveness of money wages offered for participation in recovery activities could be greatly enhanced by eschewing income taxes in favor of indirect taxes. There has been a suspicion for some time in economics that income taxes, particularly progressive income taxes, tend to exert a negative influence upon the willingness to work. (The disadvantages of both progressive and regressive income taxes in a postattack environment are discussed in Winter, 1966, p. 415.) On the other hand, the common objection that indirect taxes are regressive and therefore inequitable, owing to the suspicion that the level of one's income in inversely correlated with the proportion spent upon taxable items, will be greatly diminished if postattack income is more equally distributed than preattack income.

There are three common forms of indirect taxes which might be employed. The most familiar is the retail sales tax. A less familiar form is the manufacturers' tax. These two forms of indirect tax are each collected

at one point in the production-distribution flow. Both are presently in use in the United States. A third form, widely used in Europe, is the turnover tax -- a tax collected at a number of points in the production-distribution flow. Ordinarily, this tax is levied each time a particular good in process changes hands, except for the final retail sale. For example, the tax would be levied on the sale of raw cotton to the ginner, on the sale of ginned cotton to the cloth mill, on the sale of woven cloth to the dyer, on the sale of dyed cloth to the garment maker, on the sale of garmetns to the wholesaler, and on the sale of garments to the retailer.

While the collection of such indirect taxes could perhaps be left to local or state authorities, the decision to replace income taxes with some form of indirect taxes should be reserved to national authorities to insure uniformity. In the absence of uniform tax rates, states and local areas may enter into wasteful competition, favoring goods which go through most or all their processes of production within their boundaries, and penalizing goods which go through only a few or none of their processes of production within their boundaries.

A somewhat more direct way of increasing the attractiveness of money wages in general, and money wages paid for participation in recovery activities in particular, would be to abolish other forms of income. That is, moratoria could be declared upon the payment of rent, interest, and dividends. This decision should also be reserved to national authorities.

Other studies have estimated the considerable attack-produced damage to real assets and suggested that some degree of compensation for individual losses of real and financial assets could be of great value. Not only could such a plan overcome many adverse effects upon the willingness of individuals to participate in recovery activities, but it could also create a group of individuals with a vested interest in seeing recovery activities through to successful completion. As many of these individuals are likely to be leaders in manufacturing,

commerce, finance, and in their communities, their commitment to the successful performance of recovery activities would be a very significant influence. (This point is elaborated in Chenault and Nordlie, 1966, pp. 42-51.) Needless to say, the magnitude of the total losses sustained requires that compensation be a national economic policy.

If it is decided to attempt to compensate individuals for losses of real and financial assets -- this decision should not be taken unless a satisfactory method of validating claims can be found -- there are a number of ways in which compensation can be effected. (The difficulties of any form of compensation or validation are discussed in Hirschleifer, 1955, pp. 21-24.) A lump-sum cash payment for the whole of the claim or some part of it would be the simplest way in terms of administrative effort, but the sudden injection of purchasing power into the economy may have disastrous inflationary effects. If it is desired to avoid an injection of purchasing power into the economy in the process of compensation, a capital levy might be employed. That is, the surviving real and financial assets can be redistributed in proportion to each individual's preattack holdings. If, say, one-half of the nation's real and financial assets were destroyed, each individual would retain one-half of his preattack holdings after redistribution. Aside from the administrative effort required, this particular scheme has the drawback that the adverse effects produced upon the losers by redistribution may outweigh the positive effects produced upon the gainers by redistribution.

The third major way of effecting compensation is to liquidate claims with public bonds. The AVEC plan of the Federal Reserve Bank is an example. Under that plan, validated claims would be liquidated with bonds of indefinite maturity. The funds needed to retire the bonds at maturity would come from taxes, including (if necessary) a tax on net worth. If most of the bonds were held until they matured, and were redeemed with money, the injection of excess purchasing power into the economy would only have been postponed. To

counter this event, the plan proposes that the bonds be accepted in payment of various taxes. In this way the majority of the bonds would be retired without significantly increasing the money supply. The major objection raised against this plan appears to be the necessity of a tax on net worth. It is implied that this would require a new law and that the concept of a tax on net worth is alien to American economic experience. Such objections overlook the present inheritance tax system, which is essentially a tax on net worth. A more significant objection would be that some of the bonds might be held to maturity with the undesirable consequences already mentioned. Finally, of course, there is the problem of alienating the better-off survivor without gaining an offsetting appeal to those who had suffered losses.

The problem of either redeeming the bonds or setting taxes high enough to insure that none of the bonds would be held to maturity could be avoided by issuing bonds which are not intended to mature. An historical example was the British Consol. Such bonds could carry a nominal face value such as $1,000 to be used in settling claims, and they would entitle the holder to a specified annual interest payment such as $50 per year. The interest payments, if financed by taxes, would not represent an increase in the money supply. Furthermore, if the bonds were made transferable in an open market, the following advantages would obtain: Individuals not wishing to hold bonds could attempt to sell them, which would no doubt depress their price and create a high rate of interest, which in turn would be conducive to saving and to an extremely efficient allocation of investment, and monetary authorities would have a means of influencing the rate of interest through the sale or purchase of the bonds.

A final measure which would relieve to a considerable extent the financial strains on individuals would be a cancellation of all individual installment debts. This would primarily amount to cancelling consumer

installment contracts and home mortgages. In many cases, deaths and the destruction of collateral would have accomplished the same result. As the cancellation of individual installment debts simultaneously eradicates assets of creditors, the installment contracts affected could be added to all the other claims of losses of real and financial assets arising from an attack and compensated in a similar manner.

In summation, we detect an important dichotomy between the effects of local versus non-local controls on policies affecting economic incentives -- a dichotomy most clearly apparent in this discussion's initial treatment of food, housing, and money wages as incentives. A large number of alternative approaches to incentives are clearly available, but evaluating their effectiveness raises problems of handling many interrelated economic variables while maintaining their relation to social factors and relations among authority levels. The following discussions address these problems.

Evaluating Probable Effectiveness of Economic Incentives

An evaluation of the likely effectiveness of a given economic incentive, taken by itself, will not be a reliable evaluation. A reliable estimate of the likely effectiveness of a given incentive would require advance knowledge of the other economic incentives being offered, the macro-economic policies being followed, and local conditions. At the present state of planning there is no single combination of other economic incentives which might be offered, no single combination of macro-economic policies which might be followed, and no single combination of local conditions which might exist.

The number of possible combinations of other economic incentives which might be offered is potentially quite large. Some 26 different variables relating to economic incentives have been directly or implicitly suggested in this section:

1. Food distribution based upon equity considerations.
2. Food distribution based upon money exchange.
3. Housing distribution based upon equity considerations.
4. Housing distribution based upon money exchange.
5. Control of migration.
6. Food distribution based upon participation in recovery activities (plus food distribution based upon equity considerations).
7. Housing distribution based upon participation in recovery activities (plus housing distribution based upon equity considerations).
8. A fixed national money wage structure.
9. A national money wage structure with provision for adjustments by state authorities
10. A national money wage structure with provision for adjustment by local authorities.
11. Fixed state money wage structures.
12. State money wage structures with provision for adjustments by local authorities.
13. Local autonomy in the setting of money wages.
14. Differential income taxes.
15. Differential indirect taxes.
16. Moratoria on certain money wages.
17. Moratoria on production of certain products.
18. Replacement of income taxes by sales taxes.
19. Replacement of income taxes by manufacturers' taxes.
20. Replacement of income taxes by turnover taxes.
21. Moratoria on payments of rent, interest, and dividends.
22. Compensation in cash for assets lost.
23. Compensation by redistribution for assets lost.
24. Compensation, in bonds which mature, for assets lost.

25. Compensation, in bonds which do not mature, for assets lost.

26. Moratoria on individual installment debts.

Not all of the potential combinations of these incentives would in fact be offered, because some of the incentives are clearly inconsistent with one another. Nevertheless, the number of potential consistent combinations remaining is still too large to attempt to treat them all in this report. In the first of the following three discussions an attempt will be made to identify pairs of incentives which are inconsistent with one another and combinations of incentives in which the individual incentives reinforce one another.

The number of potential combinations of macro-economic policies is also quite large; however, insofar as they relate to and influence the likely effectiveness of incentives, only two combinations are important. These two combinations are a set of indirect controls only, or a set of indirect controls and direct controls. Indirect controls are the usual implements of monetary and fiscal policy, employed in such a way as to restrict consumption spending and promote investment spending. Others have suggested that there be restrictions on the level of the money supply, restrictions on the level of personal disposable income through increases in taxes and other wage withholdings, reductions in transfer payments, and promotions of saving out of personal disposable income through increases in the rate of interest and savings bond campaigns. (See the Project Harbor report by Spencer, et al., n.d., pp. 46-48 and 212-213; Hirschleifer, 1965, p. 18; and Winter, 1966, pp. 427-434.) Direct controls include price controls such as price ceilings and price freezes, wage controls, quantity controls such as quantity quotas and quantity rationing, and priority allocation schemes (among many others suggested in Dresch, 1965). Direct controls might be applied to any number of products, markets, and industries. What is important, from the

point of view of the likely effectiveness of incentives, is that indirect controls may or may not be applied. In the second of the following discussions an attempt will be made to identify those incentives whose likely effectiveness will be greatly weakened by the existence of indirect and/or direct controls and those incentives which appear to be particularly compatible with indirect and/or direct controls.

Relationships between Economic Incentives. Money wages are the most important incentives offered to secure participation in productive activities in the preattack economy, and there is little evidence indicating that money wages would not be a most effective incentive to offer for participation in recovery activities following an attack. However, it is important to realize that money wages would not be an effective incentive at present were it not for the fact that money is accepted in exchange for the goods and services that individuals need or desire. This will also be true of the postattack economy. It has been noted that the acquisition of primary needs will be the overriding concern of individuals immediately following an attack, and if they perceive that money is not accepted in exchange for primary goods, money wages will be totally ineffective as an incentive. It follows that primary needs (especially food and shelter) should at least in part be supplied in exchange for money, if money wages are to be used as an incentive.

Admittedly, attempting to supply primary needs in exchange for money will initially be more demanding of administrative resources than supplying primary needs directly in exchange for participation in recovery activities, but the gain from being able to use money wages as an incentive far outweighs the cost in terms of attempting to set prices on the primary goods in public hands. Of the two systems for supplying primary needs in exchange for money that have been mentioned, that in which the responsible

organization acts as a broker has three advantages. (1) It would require less administrative effort. (2) It would be easier to dismantle. (3) The government has already acquired some experience in using its stockpiles to influence market prices.

Two additional reasons for attempting to retain money as an acceptable medium of exchange are: (1) If money is not an acceptable medium of exchange, then compensation for assets lost or destroyed -- potentially a very powerful incentive -- would not be very effective as an incentive; (2) if money wages are not used as an incentive, then the replacement of income taxes by indirect taxes would be a meaningless measure. In other words, compensation for assets lost will not be an effective incentive unless money is accepted in exchange for primary goods, and the replacement of income taxes by indirect taxes will not be an effective measure unless money wages are used in order to secure participation in recovery activities (which in turn requires that money be accepted in exchange for primary needs).

The replacement of income taxes by indirect taxes, in addition to removing the possible disincentive effect of income taxes, has two advantages: (1) Compliance with indirect taxes may be easier to enforce. (2) Indirect taxes are more easily hidden from taxpayers. Of the three types of indirect taxes mentioned, the manufacturers' tax would be the most effective, primarily because it must be collected from the smallest number of tax-paying units and because the tax would then be included in the retail price rather than added to it. The manufacturers' tax would also be the most effective form of indirect tax from the point of view of discouraging non-essential production, since it is levied directly on the producer. In this connection, it should be noted that an indirect tax on non-essential production may provide public revenue whereas a moratorium will not.

In addition the moratorium may require considerable administrative effort to police it.

Two further relationships involving compensation for assets lost may be mentioned. The first is that the probable opposition, on the part of creditors, to a moratorium on individual installment debt payments could be dissolved by treating the cancelled installment debt payments as a financial loss of the creditor and providing compensation to him. The second is that the effectiveness of compensation in the form of bonds need not be neutralized by a moratorium on payments of rent, interest, and dividends. If it is desired to employ both incentives simultaneously, the bonds can be made transferable in an open market. So long as individuals believe interest payments on the bonds may be made at some time in the future, it is likely that they will be willing to hold or buy the bonds for much the same reason that people are now willing to hold or buy those common stocks which do not pay a dividend.

In conclusion, it is apparent that money wages are in most respects the most desirable form of incentive provision, and many of the potential and advisable policies for regulating incentives, effecting compensation, collecting taxes, and administering national investment policies are dependent on the use of money wages in a market economy. This is not to say that direct allocations of food and housing will not be critical incentives in many areas, but such policies should be implemented in conjunction with markets and wages.

However, the use of money wages as incentives introduces the problem of local versus higher-level actions affecting wage levels. The level of the money wage structure may have to be different for different local areas in order to secure the proper amount of participation in recovery activities. Furthermore, the relative money wages offered for different recovery

activities may have to be different for different communities. Thus, in local area A there may be an overwhelming supply of public-spirited citizens willing to participate in recovery activities, whereas in local area B there are very few volunteers. This would indicate that local area B's money wage structure must be higher than local area A's money wage structure in order to secure the same level of participation in recovery activities. In addition, discrepancies between relative local wage structures may result from different "supplies" of, or "demands" for, laborers in particular categories, and such differentials will also reflect the differing behavioral responses of different people to disaster conditions.

Relationships between Economic Incentives and Macro-Economic Policies. Money is also critical to other aspects of economic control. The absence of money as a medium of exchange would seriously weaken the ability to influence the direction of the postattack economy using only indirect controls. Control of the money supply would be a meaningless gesture if money were not accepted in exchange for goods and services. Taxes in real terms would be most difficult to collect, while a high rate of interest and campaigns to promote savings would not be possible in a non-monetary context. Hence, the use of indirect controls would require the acceptance of money as a means of exchange.

Given the likely goal of restricting consumption, however, a conflict will arise if money wages are employed as an incentive. If the money wages are to be a meaningful incentive, in some instances, a significant increase in personal disposable income will result. If, however, the incentive of money wages is combined with high indirect taxes, the conflict between the need to secure participation in recovery activities and the need to restrict consumption out of personal disposable income may be resolved. In addition, the revenues derived from levying indirect taxes may in turn be directed into investments of particular benefit to the nation as a whole.

Any plan of compensation for assets lost that results in a sudden injection of purchasing power into the economy at some point in time will also conflict with macro-economic policy aimed at minimizing consumption spending. Such plans include the cash payment plan and the AVEC plan. The "Consol" plan (p. 56, above), which would not involve a sudden injection of purchasing power into the economy, therefore merits further consideration.

The various moratoria which have been suggested, such as moratoria on some payments of money wages, moratoria on the production of non-essential products, and moratoria on payments of rent, interest, and dividends, could easily be included in a generalized program of quantity controls and quotas, since a moratorium is essentially a quota of zero. If a generalized program of quantity controls and quotas were adopted, high indirect taxes would be superfluous as a means of restricting consumption. In addition, the inclusion of wage controls in a generalized program of quantity controls and quotas would preclude local autonomy in the setting of money wages to secure participation in recovery activities.[4]

Conclusions: Economic Incentives and Policies

In concluding these discussions of relationships among different incentives and between incentives and macro-economic policies, it must be stated that existing plans and policies are insufficiently integrated to allow a comprehensive treatment of postattack incentives in the postattack environment. In this and the preceding section, therefore, we have

[4] Even if local autonomy in the setting of money wages were allowed, the widespread application of quantity controls and priority allocation schemes would seriously weaken the effectiveness of money wages as an incentive, if additional money income cannot be exchanged for additional goods.

advanced a number of propositional statements about relationships that exist between different incentives and policies that might be attempted. A more thorough analysis of postattack economics should be approached through two steps:

1. An unequivocal articulation of economic recovery goals for the nation.

2. A comprehensive description of the recovery activities required to achieve those goals.

On the basis of information resulting from these steps, the range of alternative policies and incentives could be reduced to a manageable set of interacting variables. Those variables could then be assessed in relation to the social environment in a very specific fashion, which is impossible or unreasonable to attempt until a more comprehensive framework of economic goals and plans is available.

On the basis of existing information and the general direction of current economic planning, however, the following incentive-related policies appear advisable and deserve further treatment:

1. The use of money wages and preservation of the market system.

2. Public distribution of subsistence quantities of primary consumer goods, coupled with open-market sale of primary goods in excess of subsistence quantities and open-market sale of all other (produced) consumer goods.

3. Partial replacement of income taxes by manufacturers' taxes, differentiated so as to encourage production of essential goods and discourage production of non-essential goods.

4. Cancellation of consumer debts.

5. Compensation for losses of real and financial assets by means of public bonds that do not mature.

The use of incentives based upon monetary exchange and market forces deserves special mention, in view of the fact that our response to past disasters has been in the form of direct relief and replacement of open markets by direct controls. Past disasters, however, have been localized, and the remainder of the market economy continued to function. When direct controls were removed, it was relatively simple to restore markets to the disaster area by extending markets in undamaged areas. In other words, the problem was one of re-integrating a relatively small damaged economy with a relatively large undamaged economy. Following a nuclear attack, if markets in all areas are immediately and simultaneously suspended, the restoration of markets may be an impossible task, for there will be no surviving markets to extend to areas where markets have been suspended. Hence, if direct controls replace markets based on money exhcange, there may be a short-term gain in efficiency at a long-term cost of abandoning the use of open markets based upon money exchange to allocate resources and products.

Conclusions: Effects of Incentives under Different Postattack Conditions

A review of the potential incentives discussed in this section suggests the relative motivational impact they would have on communities and populations experiencing the three levels of damage described in Sections I and II -- that is, communities experiencing heavy, moderate, and light or negligible direct effects of attack.

In areas of heavy destruction, the most effective incentives immediately after attack will tend to be primary consumer needs -- notably food and shelter. A major form of labor activity will in most cases be the

repair of damaged capital, which suggests that lump-sum payments of money wages would be feasible. There would tend to be an effective incentive where survivors were uncertain about future earnings and searching for concrete terms in which to relate work and income. Compensation, or a believable promise of compensation, for assets lost would be extremely important to survivors and therefore an effective incentive policy. As moratorium on consumer debts would similarly affect a large proportion of survivors. A moratorium on rent payments, on the other hand, would be ineffective to the extent that rented housing had been destroyed.

Areas adjacent to heavily damaged communities would also be sensitive to the supply of food and other primary goods, but controlled markets would be operable and should be maintained in the interests of the long-run employment of markets to allocate resources. Housing and shelter would typically not be effective incentives, but policies designed to protect or insure continued ownership and occupancy would be very effective. Economic fears would often focus on the "threat" to surviving property and available goods posed by migrants from heavily damaged areas. Migration control policies would elicit favorable responses in such areas, and compensation for real property losses would be effective in relation to the proportion of real property lost.

Undamaged or lightly damaged communities would also respond favorably to migration control policies, and survivors would have an economic interest in maintaining open markets in which to sell goods. As in most of the moderately damaged communities, survivors here would tend to weigh policies protecting surviving assets against policies allowing exploitation of their surviving economic positions as viable producing units. Moratoria on non-essential production could become necessary policies in both areas. Moratoria on rent payments and debts would of course be popular with large groups in both areas.

In all three areas, finally, preattack bases of trust and exchange would be shattered and uncertainty would be a factor in all market-type exchanges. Whatever sets of postattack and recovery policies are initiated in each area (or in all areas), those policies should be publicized in great detail immediately following disaster. Before questions of equity or differential community reactions can even be expressed by survivors, they must have a predictable framework in which to carry on their everyday activities. Lacking such a framework in which to make economic judgments, survivors will tend to pursue maintenance activities, personally protect surviving property, and operate within locally oriented processes of economic exchange within communities.

This is not to say that a delineation of recovery policies will eliminate the tendency of people and communities to act in localized contexts. Rather it will allow them to appraise their positions with respect to those policies. The nature of the policies themselves will then determine whether individual and community interests will be perceived to benefit by supporting and implementing recovery policies.

Conclusions: Economic Policies and Relations between Levels of Authority

Owing to the wide range of local situations likely to obtain following an attack, the effectiveness of incentives in different local contexts will vary significantly. From the standpoint of choosing appropriate incentives, it would be desirable on many counts to allow local authorities as much freedom as possible in the selection and employment of economic incentives. This could mean allowing local authorities to select the amount of food to be supplied in exchange for participation in each recovery activity, determine the disposition of existing housing and new construction, select the level of

the money wage to be offered for participation in each recovery activity, levy indirect taxes to discourage the production of non-essential products, declare moratoria on the payment of wages in exchange for participation in non-essential activities, and declare moratoria on the production of non-essential products. However, reliance on local authority to implement economic plans presupposes that those plans specify local activities required for national recovery -- and that local authorities in practice pursue those nationally determined priorities.

It is absolutely essential that state and national authorities be prepared to stand behind any commitments that a local authority might make. This may consist of an approval of a moratorium declared by a local authority, a supply of food with which to meet the recovery activity payroll of a local authority, or, most importantly, a supply of money with which to pay the money wages offered by a local authority. In each case, the effectiveness of all the incentives offered may depend upon the ability of local authorities to meet each commitment as it falls due.

State and national authorities should be prepared to coordinate the incentives offered by various local authorities. In the absence of some degree of coordination, relatively large population movements in response to the attraction of better incentives elsewhere are likely to occur. Finally, and most important, national authorities should be prepared for attempts by local authorities to substitute local priorities for national priorities by adjustment of money wages, moratoria on money wages and production, and adjustment of indirect taxes. (This possibility is discussed at some length by Hirschleifer, 1955, pp. 8-9; Winter, 1963, pp. 11-12; and the Project Harbor report by Spencer, et al., n.d., pp. 183-184.) The roots of such actions will lie in the tighter orientation of the postattack community, discussed in Section II of this report.

Because national authorities will probably retain the sole power to issue currency, local adjustments of money wages in order to achieve local goals at the expense of national goals can be countermanded. If further coercion should be required, the power of local authorities to levy taxes could be removed. This power presupposes, however, a national administrative system that is sensitive to local conditions and operating in accordance with fairly explicit overall guidelines for the economic recovery of the nation or state that is overseeing local recovery efforts.

In conclusion, the problem of national recovery appears really to call for a division of responsibility, with national interests dictating priorities for local activities and local authorities determining what incentives are required to implement those activities in their specific community situations.

VI. IMPLICATIONS FOR POSTATTACK SOCIOECONOMIC POLICY

The first part of this section is a summary of social factors affecting implementation in critical ways, presented in terms of the goals that postattack planners should pursue as they approach the problem of designing realistic plans that can be implemented. In the second part of the section we draw on preceding descriptions of both social and economic factors to depict the implementation problem in socioeconomic terms, suggesting a general approach to the problem of using local authority to implement non-local plans. The section concludes with discussions of five basic orientations that planners should take toward the implementation problem.

Social Factors Affecting Implementation: Goals for Recovery Planning

Even without considering the destruction of people and property by an attack, it is clear that the psychological, social, and cultural environments in which the survivors will find themselves will be different in certain critical ways and that these differences will affect the perceptions and motivations of the survivors. The point of major significance for postattack planning is that the likely effect of these differences would be to inhibit the implementation of recovery plans.

Effective implementation depends fundamentally on instilling sufficient motivation in survivors to carry out their role in the plan. This would imply reducing competing motivations to a minimum and creating in survivors a cognitive awareness of what needs to be done. Planners cannot safely assume that this motivational pre-condition will exist. More reasonably, they can assume it will not exist and part of their planning must be concerned with how to create it.

To create the pre-conditions for implementing recovery plans would mean that a number of objectives must be achieved. The objectives that recovery planners should seek to achieve through postattack socioeconomic policies include:

1. Meeting the basic maintenance requirements of the surviving population.

2. Resolving the role conflict dilemma which will inhibit participation in recovery activities by ensuring that the maintenance requirements of the primary groups of available workers are met.

3. Establishing in survivors a knowledge of the national and local situation and of the recovery activities required in their local community, and giving assurances that maintenance requirements will continue to be met.

4. Establishing in survivors the motivation to participate in recovery activities.

5. Decreasing and allaying survivors' fears of changes in their situation psychologically destructive to themselves.

6. Exploiting the positive features of increased community solidarity while preventing the negative features.

7. Establishing effective control over population migrations.

8. Recognizing the phasing of different needs in the postattack period.

9. Maximizing the stake of all survivors in the existing government.

10. Maximizing the likelihood that survivors will perceive that the recovery management authorities are dealing as effectively as possible with the situation.

11. Establishing policies which take into account the fact that what survivors perceive as most threatening will vary from central, to adjacent, to peripheral

12. Resolving the anticipated conflicts over intact housing between the "haves" and "have nots."

13. Designing local contingency plans to take into account the significant differences among communities in different regions.

These objectives are briefly discussed below.

We distinguish two kinds of activities in the postattack situation: maintenance and recovery activities. Maintenance activities on the part of an individual are those directed at meeting the basic requirements of life, i.e., searching for food, building shelter, etc. Recovery activities are those directed at restoring the functional capabilities of the social system, i.e., repairing communications and transportation systems. Survivors are apt to be highly motivated to engage in maintenance activities, but special steps are required to ensure they are motivated to carry out necessary recovery activities. A fundamental requirement for developing motivation to engage in recovery activities is to provide first the means for ensuring that maintenance requirements are and will continue to be met in the postattack period. It is critical not only that there are capabilities to meet the requirements but also that the survivors perceive that the capabilities exist and can trust in their continued functioning. The inability of survivors to trust in the future satisfaction of maintenance requirements would be largely responsible for their continuing to concern themselves with maintenance activities to the exclusion of recovery activities. In more concrete [illegible]s, if a man cannot see and does not believe that the system can cor[illegible]ply food for his family, he is likely to continue to spend his time [illegible] food and hoarding as large a supply as he can against the futu[illegible]ne anticipates.

Related to the same point is the likelihood that survivors experiencing role conflict will tend to resolve it in favor of devoting their labor to securing the safety and well-being of their families. Recovery policies and programs can help resolve survivors' role conflicts by measures designed to guarantee that maintenance requirements of the family are met.

Survivors can be expected to interpret a nuclear attack primarily in terms of the local situation visible to them, coupled with great uncertainty and ignorance about the total situation. This uncertainty and ignorance needs to be reduced as quickly as possible. Most people would interpret the posttack situation and recovery policies primarily in terms of their import for themselves and their primary group. Survivors need to be given a meaningful understanding of the situation in which they are living. This is a point on which our past experience with national disasters differs greatly from the widespread nuclear case. In general, while people can be expected to understand their situation reasonably well in the event of a flood or earthquake, this assumption should not be made in the nuclear attack case. Effective behavior and motivation to engage in recovery activities on the part of survivors will depend on their having a reasonably valid understanding of their present situation and future behavior required of them. Since we cannot expect this understanding to occur naturally, recovery planners need to consider how it can be provided.

Establishing motivation in survivors to participate in recovery activities, as opposed to maintenance activities, is perhaps the most critical and difficult task of the recovery planner. It is the central core of effective socioeconomic planning for posttack recovery. While the planner cannot assume the automatic presence of such motivation, as he could in cases of natural disaster, neither does it appear that there is any insurmountable barrier to creating such motivation through policies and programs designed

to foster it. Such policies will need to take cognizance of the motivational states of survivors and the nature of the local situations in which they find themselves. And it can be assumed that there is no single-factor policy which will solve the problem. Rather, the desired motivational state of survivors is likely to be produced only through an integrated set of mutually reinforcing postattack policies and programs.

One of the major psychological factors with which survivors are likely to have to contend is insecurity in the face of an unknown future and fear that the future will bring a worse fate than they have already experienced. They are likely to be confused, anxious, and fearful of changes that might be associated with loss of their job, loss of wealth, disappearance of their social or political position. To counteract the debilitating influence of this factor, survivors need a realistic definition of their situation and of the changes they can expect in their former comparatively stable situation. They will need to be made to feel that their efforts are necessary to a concerted recovery effort and that their situation will ultimately improve if they expend those efforts. The realization needs to be created in survivors that they have a real and personal stake in the national recovery effort. In short, even in the undamaged areas, the whole social structure within which people live and from which they derive meaning for their lives and identity for themselves will be perceived as having changed and will no longer appear as a stable reality providing meaningful rules and guides for behavior. One of the important functions of postattack socioeconomic policies will be to aid in re-establishing a stable social reality for the survivors in terms of which the behavior asked of them can be understood as meaningful.

Another social factor postattack planning should take into account is the increased community solidarity which can be expected. Policies and programs should seek to utilize the positive aspects of increased community

solidarity by placing heavy reliance on the local community's ability to solve its own local problems largely through its own mechanisms and resources. Simultaneously, however, the negative aspects of increased community solidarity for a national recovery effort should be recognized and measures designed to reduce them. Increased solidarity is likely to mean a greater tendency for survivors to orient more to their own community and away from national, state, or regional concerns. This tendency would inhibit and make more difficult any coordinated, national recovery effort. Measures need to be designed to implant in the minds of survivors the realization that their ultimate fate is dependent on the successful pursuit of a national recovery effort requiring the active participation and contribution of every local community.

Still another social factor with which recovery planning will need to deal is the likely tendency towards migration from some areas. While in many instances such population movement will be desirable from a national recovery standpoint, it will need to be controlled, especially with respect to the effects of massive migrations into relatively undamaged areas. Migration control is likely to be necessary to prevent the migration-attracting communities from being overwhelmed and their recovery capabilities diminished.

Recovery planning should also take into account the fact that there will tend to be a definite phasing of survivors' needs. Initially, one kind of need will tend to dominate the thinking and behavior of survivors and this will tend to give way to another kind which initially may have not even been detectable in the concerns of survivors. This phased appearance of needs of different kinds is likely to continue throughout the recovery period.

A legitimate, non-authoritarian government continues in power primarily because enough people realize and accept that they have a personal stake in its continued existence. One of the aims of postattack planning needs to be the creation in survivors of an awareness of the personal stake they

each have in the continued existence and functioning of the national government. This need will become greater as time from the attack passes, not less.

A critical factor that the planner concerned with enhancing survivors' motivation to participate in recovery activities should consider is what measures he can design to increase the visibility of the recovery management system to survivors. It is not only viability which is important but the perception by survivors that the authorities are doing everything possible under the circumstances. The motivation of survivors will depend in part on their feeling of support for and commitment to the authorities who ask for their participation.

Postattack socioeconomic policies need be sensitive to the differences in primary needs between survivors in central, adjacent, and peripheral situations. The operative policy may need to vary between these situations.

A crucial factor which is apt to have far-reaching consequences for survivors' motivations is the conflict which is likely to arise over housing between survivors whose housing is habitable and survivors whose housing is not. There does not yet appear to be a clear-cut solution to this problem, but it should be identified as a significant problem for postattack planning still requiring further study.

The diversity among communities discussed in Section IV gives rise to the conclusion that postattack contingency planning should vary as a function of regional differences. This means that guides to local communities for development of local contingency plans should show the local planners how to tailor their planning to the character of their particular community. This means that there should not be a standardized contingency plan for all local communities.

The factors highlighted here appear critical in any socioeconomic approach to the design and implementation of recovery plans. The following discussion represents an initial attempt to spell out in concrete or operational terms the implications of a socioeconomic approach to the postattack environment -- implications for promoting implementation.

Social Factors and Economic Planning

A nationally coordinated program of economic recovery is essential to the reconstitution of the highly interdependent American economy. To approach economic planning solely in terms of economic factors and their interrelations, however, is to assume that the complex array of preattack social institutions will continue to support, motivate, and channel postattack human behavior in ways supportive of complex economic organization. Postattack social organization will not automatically support appropriate economic behavior. Therefore recovery planning must incorporate social factors in its delineation of economic policies in order to insure that those policies are implemented.

Such a socioeconomic approach should begin by considering the following dominant forces and widespread social conditions in the postattack environment -- forces and conditions which represent the combined effects of social and behavioral, as well as economic, factors.

Concern for the primary group or family is the most pervasive source of individual motivation in the postattack population. Such concern will be expressed in relation to different levels of need, depending on a survivor's experience of immediate attack effects and resulting deprivation or loss. The survivor will first look to the physical survival of his family, next to the provision of food and other critical consumer goods, then to housing or shelter for the family. Where or when he perceives these needs to

be met -- and after he feels some assurance of continued supply -- the survivor turns to progressively less immediate concerns. In a majority of cases, he will look first to the protection of real personal property, other real property (such as a store or farm), and finally to relatively remote concerns for intangible property.

Throughout this progression of concerns, the individual's motivation to work at a particular recovery task or position is directly related to the connection he makes between such activity and the satisfaction of his most pressing needs at a given moment. His political response to economic or other recovery policies will be governed in large part by the same perceived relationship to his immediate concerns.

Not all individuals will be reduced to the direst levels of urgency in defining their postattack needs. Typically, what dangers have been perceived and what has been lost or rendered of uncertain value will determine the individual's perception of immediate critical needs. At a given moment in postattack time, the most effective incentive for a given individual will be that "reward" which is his (perceived) direct need at the moment. Thus the survivor in a bombed city may respond most readily to the direct supply of food or shelter in return for work performed. At the same moment, a survivor in an undamaged area may sense very little threat to his future food supply but a grave threat to his surviving real property; policies protective of his property interests would be effective, timely incentives. To continue the example, the perceived needs of both these hypothetical individuals would change over time. As they sensed that needs expressed at one level of concern were met, both would turn to their needs at other levels, eventually focusing on reimbursement for assets lost and profitable economic activity in the recovery environment.

While it would be impossible to develop and administer sets of economic incentives that would coincide with the immediate but changing needs

of all individuals, it is possible to denote three postattack populations that would generally experience different kinds and levels of need under postattack conditions. Those populations are defined by their experience of the physical effects of attack and include survivors in badly damaged (but recoverable) areas, survivors in moderately damaged localities adjacent to heavily damaged areas, and survivors in undamaged or lightly damaged areas.

A majority of survivors in each of these areas would experience disaster and perceive its effects on themselves in terms similar to those of their neighbors in each of the three populations. In most cases, it is useful and reasonably accurate to assume that these three populations will be reduced to different levels of immediate, perceived needs and that each population will therefore tend to respond best to incentives that meet its commonly perceived or shared needs at any given point in time. This tendency is an important one and should be reflected in recovery planning, for it is probable that incentive policies effective with one population will not be the most effective for the other two at any given time.

Community solidarity developing under circumstances of disaster will tend to emphasize the effects of diverse responses to disaster exhibited by populations in the three categories of damage experience. Thus survivors will tend to define immediate dangers and immediate needs in local contexts, and the community will become an important focus of organization as survivors with common problems express common reactions both to disaster and to incentive policies for implementing recovery. Survivors in heavily damaged communities will be immediately responsive to incentives that satisfy very basic needs for food, shelter, etc. Later in postattack time, these survivors will have obvious reasons for responding favorably to policies that afford or insure some form of compensation for losses suffered

from attack. In communities experiencing moderate, light, or negligible damage, survivors will initially give organized expression to their needs for less basic goods and greater emphasis to needs for protecting what has survived. Generally, communities remotest from physical damage will therefore be most "conservative" in their appraisal of policies that tend to alter preattack economic arrangements or compensate losers. In many cases, survivors in remote communities may feel more threatened by post-attack economic policies than by disaster itself.

Community-level authorities will play a crucial role in the expression of needs felt by the largest or most influential groups in the social structure of each community. Through the actions of local authorities the "character" of the community will be apparent as it responds to the post-attack environment, adapting traditional social organization to the requirements of the recovery period. The community's response can be either antagonistic toward or supportive of recovery efforts defined at higher levels. To gain the support of community energies for more broadly conceived recovery efforts, planners should attempt to define community roles with respect to national economic requirements. Most important, recovery planners should recognize and protect the integrity of surviving communities -- integrity defined along cultural and social organizational dimensions. This approach calls for recognizing and incorporating in postattack operations the traditional leaders and leadership roles of the community, publicizing extra-community power relationships in traditionally accepted ways, preserving traditional forms of group political expression with respect to many issues in local public affairs, and otherwise maintaining familiar aspects of social organization.

Community-level influence on the operation of postattack economic programs is the most critical social aspect of the implementation problem.

The diversity of attack effects and needs experienced by separate individuals and communities carries the following implication:

> Given local recovery activities defined with reference to national or non-community requirements, competent and locally "recognized" local officials will be in the best position to determine what incentives are most likely to motivate survivors to perform recovery activities.

However, local officials will operate under two handicaps, viewed from the perspective of the national recovery orientation:

> First, responding to forces growing out of disaster-produced and traditional community solidarity, local officials will emphasize the immediate and direct needs of the community and its population at the expense of national or other non-local priorities.
>
> Second, local officials will not in most cases control sufficient resources to provide the variously appropriate incentives for performing recovery activities.

These qualifications suggest, however, that a special form of customary American practice with respect to control over public resources would be appropriate to the postattack situation. That is, recovery management can utilize the competence of local authorities in determining which incentives are most effective by (1) delineating specific recovery activities in each postattack locality, (2) providing resources (and restricting access to other resources available) to local officials for use as incentives, and (3) monitoring the performance of recovery activities and restricting local access to resources where those activities are not being performed. Such a procedure, if given detailed attention by planners, should result in recovery activities being implemented in most cases. Where especially critical activities were located in especially recalcitrant communities, coercion would continue to be a measure of last resort.

This approach calls for more detailed planning than now exists -- and planning of a socioeconomic rather than strictly economic nature. The first, basic step required is the delineation of fairly specific types of recovery activities in various parts of the country. Other steps would represent more detailed treatments of effective and feasible incentives in the postattack environment. In the concluding part of this section, we recapitulate a number of crucial variables treated in this report, suggesting five basic orientations that recovery planners should take as they develop in more specific outline a socioeconomic approach to the implementation of recovery activities.

Five Basic Orientations for Planning Postattack Socioeconomic Policies

The preceding discussions suggest that a socioeconomic approach to planning must incorporate factors affecting implementation in the conceptualization of the plans themselves. Therefore we have drawn from this analysis a set of five orientations that would allow planners to effect that combination.

Meeting Maintenance Requirements. This basic orientation is intended to underscore the point that creating the desired motivational states in survivors is inextricably dependent on how maintenance requirements are met; thus it is not only a matter of how they are in fact met, but also of how the means for meeting them are perceived by survivors. While the ultimate interest of the recovery planner is to motivate survivors to participate in recovery activities, the significance of this basic orientation is that his ability to achieve that objective is dependent on the prior condition of satisfying maintenance requirements. This means that heavy emphasis should be placed on analyzing maintenance requirements and determining the means by which they can be met.

In a sense, this is the fundamental orientation of recovery planning. It defines a basic condition which must be achieved before effective national recovery plans can be implemented. The fact that it is not only important that means exist for meeting maintenance requirements but that survivors perceive that such means exist and have confidence in their continued functioning serves to emphasize the importance of broadly ranging and intensive public information and education programs as early in the postattack phase as possible.

Using the Family and Community as Building Blocks for Postattack Socioeconomic Planning. In creating recovery plans intended to maximize the motivation of survivors to participate in recovery activities, the planner should seek to find all ways possible to support and strengthen two social institutions -- the family and the community. These institutions constitute the most critical building blocks on which to construct recovery plans. Under disaster conditions, there is a national tendency toward increasing family and community solidarity. Societal recovery planning should take advantage of this tendency and seek ways to capitalize on it. It is most likely that the requirement for defining postattack reality and embedding recovery plans within a context meaningful to survivors can be most successfully done in terms of family and community considerations. It is in terms of these institutions that the more abstract requirements for societal recovery can be made concrete and meaningful to the individual survivor.

Emphasizing Priority of Undamaged Areas. One important implication that is not immediately obvious and which tends to be contrary to "common sense" and historical precedent is that undamaged communities should receive the highest priority in recovery planning. In thinking about emergency operations and recovery planning, the more natural tendency is for attention to be focused on areas which have been damaged. It is apt to be assumed that

undamaged areas can be safely ignored since the problems obviously exist in the damaged areas. While such an assumption is perfectly valid in natural disasters affecting a relatively small part of the social system, the opposite is probably more valid in the case of a "systemic" disaster affecting the whole social system. The areas of lighter damage provide the capabilities and resources for recovery. As such, they require the primary consideration in recovery planning.

This orientation may appear to many to run in the face of humanitarian and practical values. But this is primarily a matter of perspective. If it is true that recovery must be built from the relatively undamaged sectors of society, it would make little sense to jeopardize or further weaken these sectors if that should mean decreasing the recovery-facilitating capabilities of these sectors.

It is true that the orientation of giving first-priority consideration to undamaged areas is a matter of degree and not an all-or-nothing principle. An analogy with the fire-fighting problem in the Emergency Phase may help make the issue clear. Consider an urban area in the immediate postattack condition of low radiation and high fire hazard. A decision-maker may be tempted to decide upon a heroic effort to fight the multiple fires in tne area by sending in all the equipment and personnel at his disposal. If, however, the extent of the fire far exceeds the capabilities of the fire-fighting force, this decision results in a futile wasting of the area's fire-fighting capabilities. It may result in the total destruction of the fire-fighting capability without having made any compensating contribution. A more practical and humanitarian decision might have been to remove all fire-fighting equipment and personnel to a safe area, preserving its usefulness for a later time. This would mean abandoning the fire-threatened area to its fate. This is the type of decision no one likes to make, but it may serve to illustrate why postattack planning needs to focus priority consideration on undamaged areas.

This does not mean ignoring and abandoning the idea of providing aid to damaged areas; it means rather that the requirements of the undamaged areas should take precedence over those of damaged areas.

Allocating Recovery Functions among the National, Local, and Intermediate Levels. The final basic orientation to be discussed is the need for explicit allocation of the management functions and responsibilities of the national, local, and intermediate levels of a recovery management system. A clear and explicit assignment of functions can go far in reducing ambiguity, ignorance, and uncertainty for survivors as well as establish a meaningful division of responsibilities for recovery management. Consideration of how various functions and responsibilities should best be distributed is also likely to clarify the general question of a centralized versus decentralized control system for postattack recovery. When implementation is made a consideration in the design of postattack socioeconomic policies, it will generally be found that certain functions are more appropriate for the central government and others for local government. If recovery management functions are distributed accordingly the result will be neither a centralized nor a de-centralized system, but a mixed one.

Making an unambiguous allocation of recovery functions will provide the basis for giving survivors an understanding of the realities of the postattack world and their role in it. Ambiguity on this issue will only serve to reinforce the confusion which can be expected in survivors.

Identifying Recovery Goals. The final orientation to be described concerns the need for postattack socioeconomic planners to establish the total set of goals they intend to achieve through the policies and programs they design. Frequently in this report postattack situations have been described in which it appears obvious that various policies are likely to conflict with each other or in which policies designed to achieve one purpose

are likely to have unintended and undesired effects in other ways, e.g., control of migration which may be desired for one set of reasons may be undesirable in its affect on the labor market. Only by specifying the total set of goals for recovery management can postattack-socioeconomic policies and programs be realistically evaluated. If recovery goals are not specified, no criteria exist against which to evaluate planning.

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Wage and Salary Stabilization Programs in a Post-Attack Emergency (June 1965)

Prototype Organizational Structure and Typical Functions of Sub-State Economic Stabilization Organizations (May 1967)

Rent Board Instructions for Stabilizing Rents and Determining Ceiling Prices of Real Property in a Post-Attack Emergency (June 1965)

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13. ABSTRACT

The recovery of a nationally interdependent economy will require certain locally performed recovery activities, whereas survivors will tend to define as most important other activities that they perceive to be most important for meeting needs defined in narrower, community contexts. Especially significant for planning purposes are the different perspectives of survivors in communities experiencing heavy direct effects of nuclear weapons, in adjacent communities experiencing lighter direct effects, and in peripheral communities experiencing negligible direct effects.

Implementation policies designed to motivate participation in nationally oriented recovery activities must take account of the motivational and organizational factors operating in different local contexts. Economic planning must take account of social factors if recovery plans are in fact to be implemented. The appropriate approach to such planning is therefore a socioeconomic approach, and research to date indicates five orientations that should guide such planning: (1) The necessity of meeting the maintenance requirements of survivors, (2) the use of the family and community as building blocks for postattack socioeconomic planning, (3) emphasis on the priority of lightly damaged or undamaged areas in postattack planning for massive disaster, (4) the clear-cut allocation of recovery functions among different levels of authority, (5) the necessity of specifying the total set of recovery management goals and using these as criteria against which to evaluate planning efforts.

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