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**Questions To Consider In An
Environmental Impact Statement**

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INTRODUCTION

The primary purpose of this paper is to focus attention upon some of the major factors which should be considered in the impact assessment of planned environmental modification. A plea will be made to change agencies for consideration of a broader scope of social variables to be included in their environmental impact statements than have heretofore been evaluated. Attention will be primarily centered upon the sociological and psychosocial variables which should be considered in planned change projects which directly affect people's lives. Issue will be taken with the checklist approach frequently used by researchers since it is argued that community and project characteristics dictate the extent of evaluation needed.

Checklist Approach Versus General Question Approach

No attempt will be made to establish a checklist of variables to be considered for impact assessment since such lists tend to become the "crutches" for researchers who are not willing to contribute extensive efforts for generation of their own research variables from theory and existing knowledge. Checklist approaches to the evaluation of project impact assume that all variables included in the list of factors must be evaluated to some greater or lesser degree which is not necessarily true. The type of project and the social composition of the group to be modified as well as the environmental conditions of the target area should dictate the type of variables to be included in an impact statement. Given that all groups have to some extent unique social histories and

social composition and that considerable variance in the physical environment exists would suggest that most projects are community specific relative to potential impacts. The checklist approach would require that everything be known about everything when in truth the impact of a specific project may be confined to a limited number of variables. Most researchers do not have the luxury of gathering data about the universe. A second problem with the checklist approach is that if important variables for consideration are not incorporated in the listing then no consideration will be given to them. This adds further support to the position that if checklists are to be used then every possible variable must be included. The selection of fewer but more relevant variables provides the opportunity for more indepth assessment of the impact while comprehensive (all inclusive) evaluations would tend to become cursory in nature.

Even a casual observer of social phenomena will probably be aware that some stimuli are more disruptive of existing social milieu than others. A neighborhood school project will probably not have as much disruptive affect upon the impacted group as a major water impoundment project of several thousand acres. The two types of projects demand deferent degrees of thoroughness of assessment and consideration of different variables. The former requires little assessment relative to relocation of population effects while the latter should be very carefully evaluated in this context. In essence, a checklist approach to environmental impact assessment tends to beg the basic research question which should be: "what potential effect will this particular project have upon this particular group located within this particular physical environment?"

The first factor to consider is the nature and scope of the project.

The number of different projects which are being implemented by various change agencies are numerous and vary in the intensity of impact. Some examples of planned change programs worthy of extensive assessment are:

State and federal prisons	Military base sitings
National and State parks	Airport facility development
National and State highways	State and federal research facilities
Offshore drilling	Cooperative extension programs
National and State water impoundments	Surface application of sludge and other projects of this type.
Nuclear power plants	

This list is not all inclusive but serves only to point out the potentially different impacts of the change producing forces. The variance in the project types noted above should suggest that a need exists for flexibility in terms of factors to be included in the assessment of the stimulus' effect. A nuclear plant siting has potentially different impacts than pilot projects of the extension service, for example.

An important research consideration is to determine whether or not an intensive environmental impact assessment is necessary. The two factors of prominent importance in answering this question are: A. the potential disruptive influence of the stimulus upon directly affected groups; and B. the potential negative consequences of the change producing forces upon affected groups. If the potential disruption and social consequences of the proposed project are minimal, then the environmental impact assessment should be of little consequence but should the potential affects be major then the impact assessment should be concomitantly more extensive. It should be noted that concepts "disruption" and "social consequences" would encompass environmental degradation.

Basic Research Questions In Environmental Impact Assessment

Once a decision has been made that a particular project has the potential

of adversely affecting a subject group and, therefore, merits an environmental impact assessment, a new series of research questions present themselves. The research conclusion drawn from the answers to each question will have significant implications for subsequent questions raised. This means that the assessment could be terminated at any subsequent step since the assessment may reveal the project as proposed is not feasible. It should be noted that the research questions posed here are not exhaustive but provides only direction for the assessment of projects and not the dictation of same. This approach is consistent with the initial plea for research ingenuity and not checklists of variables.

The first question to be asked is whether or not the project as proposed is really needed. In this context the question should be raised relative to who needs the project. Oftentimes it is assumed that any additional project is desirable and relatively little attention is given to justifying the project from a need perspective.

The second research question is concerned with the project implementation plans. Is the project as it is conceived the only solution to the identified problem (need)? If not, what are the alternatives? If there are alternatives (and in most instances there are many), the environmental impact assessment becomes much more complex since each alternative must be researched. An example would be a proposed impoundment which would provide "needed" water to a particular population (usually urban groups). The alternatives are subsurface wells, recycling of existing water supplies, water impoundments, or some other technique.

Once the alternatives are identified further implementation questions present themselves. A basic research question is whether or not a project as conceived is technologically feasible. Are available resources adequate

to accomplish the project goals and do the technical expertise exist to implement the project? Considerable data must be collected at this stage of the evaluation. The resource needs for the various alternatives must be made known before proceeding to the subsequent evaluative steps. Structural feasibility, for example, is subsumed under this research question (some projects require specific geomorphic conditions, for example).

A fourth question that must be raised is the economic costs of the project. Can the costs be justified? Are the economic benefits to be derived from the project greater than the costs? What will be defined as benefits? How will benefits be measured and are they valid and reliable measures? Who will receive the major portion of the benefits and who must bear the costs? Seldom are development benefits and costs equally distributed among the total populace. Oftentimes, for example, directly affected groups must sustain extensive personal losses while other groups within the region may receive most of the project benefits. People displaced by water impoundments do not benefit directly from flood control and may have never experienced any flood damage while groups downstream accrue the benefits of dam construction.

Social Factors of Project Impact Assessment

The final research question to be raised is the major focus of this paper which is the social costs of the proposed development action. Again, each component will be raised as a question to be considered by the change agency. It is not the purpose of the author to suggest that all of these factors be evaluated by in-depth assessment for every project. It is suggested, however, that each factor should be considered and when discovered to be of significant importance to the affected group and relevant to the specific project should be given careful assessment.

I. The first factor of a social nature which should be considered is the affect of the project upon the social infrastructure of the group. Will the basic social institutions (religious, family, political, educational, and so forth) be affected and how will they be modified? If significant in- or out-migration takes place as a result of the project, then infrastructure will be directly and indirectly affected.

II. How will the basic public services in the community be affected by the proposed change? If significant properties are suddenly removed from the tax rolls, what will be the impact upon provision of public services to the affected group members? When highways, impoundments, parks and other such projects are initiated, affected groups should anticipate loss of tax revenue in the short run which may never be realized again.

III. In the actual construction phase of a project, there are many difficulties for directly affected groups. Must changed communities assume the costs of expanding the social infrastructure to accommodate the needs of temporary residents? Construction crews and their families must have certain basic services provided to them such as schools, shopping facilities, police and fire protection and so forth. Can the target group sustain such demands upon the existing service structure? What will happen when the construction crews leave an area which has expanded services to accommodate their needs?

IV. What will be the impact of permanent in-migrants upon the affected community group? If the social milieu of the predevelopment group becomes so modified that long term residents no longer define the social situation as desirable, then the project has created some severe problems for the affected group. The in-migrants may assume leadership roles, especially if they are higher status, and the social destiny of the group

will be greatly modified. Such possibilities must be assessed and the consequences of such processes documented.

V. Since perceptions affect human behavior, the assessor of project impact should evaluate the perceptions held by the target population toward the development action. Do the affected group members perceive the project as being imposed upon them and, if so, what are the social consequences of such perceptions? Do the project benefits outweigh the social costs of a personally estranged and alienated target population?

VI. What effect will the project have upon the occupational structure of the affected group? If extensive land acreage is taken for project construction and many new families relocate in the area with concomitant expansion of service industries, the occupational structure will become more extensively differentiated. How will the increased occupational heterogeneity affect the group? Will new class structures emerge and how will these changes affect existing social relationships?

VII. How will the affected group respond to the change producing stimulus in terms of a psychosocial perspective? Will psychological problems be produced as a direct or indirect result of the project? Will the group exhibit fear or anxiety from the project? Most of us probably would not desire to live adjacent to a nuclear electric generating plant but in social impact assessments of such projects relatively little emphasis is placed upon the fear factor.

VIII. How will familial and friendship patterns be affected by the proposed changes? In cases where physical displacement is required, this variable is very important. How do you compensate people for loss of interaction patterns?

IX. Will the change producing stimulus result in the loss of local autonomy

of the affected group? If high status groups are attracted to the changed community, and if these people have allegiances with external groups, then it is possible that local autonomy will be significantly reduced especially if the new in-migrants assume leadership roles. Also, it is possible that secondary private development may be elaborated in conjunction with or subsequent to public development efforts which could lead to external groups gaining control (corporations in areas far removed from the affected community may gain considerable influence) of the local decision making system. What impact will the changing control of local affairs have upon the people whose lives have been changed?

X. Will cultural artifacts or "sacred objects" be destroyed or the meaning of the objects become greatly altered by the proposed project? If the objects are threatened by the proposed changes, how will they be preserved or how will the group and/or society be compensated for the loss? The change agencies are becoming more sensitive to this particular variable over time but many cultural objects remain to be protected.

XI. How will the existing nonmaterial culture be affected by exposure to conflicting cultural definitions? In situations of public recreation projects, resident populations often encounter displays of public affection or deviant behavior to which they react quite negatively since such action is contrary to the predevelopment norms of behavior. Will the affected group be compensated for the destruction of their way of life?

XII. What project related benefits will accrue to the directly affected people? Certainly some provision should be made to bring direct benefit to the group experiencing disruption. Most local residents do not get construction jobs, most do not speculate in land surrounding the project (do not have capital to speculate), most do not start new businesses if

tourism is a component of the project, most do not have water problems (lack of water or flooding), and so forth. Can the project incorporate a component that is primarily designed to provide the local group with some type of benefit even if it is not an essential component of the project?

XIII. What criteria will be used to determine the extent of compensation for any losses sustained by the affected group which are associated with the development action? How will the compensation be made? Of the many social impact assessments reviewed by the author and the numerous research experiences with groups changed by external forces, not once was additional compensation given for the social costs noted above. In all instances, economic compensation was given for properties rights taken but consideration has never been given to compensation for social pollution.

XIV. How will people be resettled if physical displacement is required? Urban renewal, large impoundments, military bases, and other projects require extensive land acquisition and resettlement. Do the displaced people have to locate new homes or will the change agency secure comparable housing? If the people must seek their own housing, they will have a very difficult time in rural areas where uninhabited housing of high social standards is seldom encountered. Who will aid the displaced people and how? Change agencies are subject to bureaucratic norms which provides a stumbling block to resettlement with dispatch. A frequent complaint from displaced people is the slowness in payment for lands and other properties taken. Does the change agency not have some responsibilities to the people beyond payment for lands taken?

XV. Will land speculation become an important consideration and how will it be controlled? If people desire to stay within the interaction

boundaries of the affected community, they tend to be penalized economically since the price of comparable lands surrounding the project are often bid upwards. Should not the displaced people be given the opportunity to remain within their home community, if they so choose, without suffering economic loss?

XVI. Will the aesthetic value of the area be adversely affected by the project and how will this type of impact be measured? Will the destruction of a pristine view be given consideration in the program assessment and how much weight will it receive relative to the number of jobs created and the magnitude of the multiplier effect of the wages in the region? What role will sound pollution play in the location of a new freeway relative to other considerations?

XVII. What role will the directly affected group play in the conception, planning, implementation and administration of the proposed project? In many federal and state projects, the affected group is not involved in any phase of the decision making process until final approval is required. If the affected group wishes to modify or reject the project, court decisions are often required due to the commitment of resources on the part of the agency to the point that rejection or severe modification would result in extensive loss of already allocated resources. Should not provisions be made by the change agency to involve local people in the decision making process early? One mechanism would be an adult extension program to educate people to the pros and cons of the project so that the people could make an informed decision.

The author again wishes to note that these questions are not the only factors for agencies to consider but pose a core around which to gain insight into what needs to be studied. Creativeness on the part of the

researcher relative to operationalization of the variables and research methodologies are essential.

Basically the decision-making process relative to project assessment as it is noted above may be conceptualized in a flow diagram as presented in Figure 1. The major components are: (1) determination of project need and justification, (2) isolation of possible solutions to the problem, (3) assessment of technological feasibility, (4) assessment of economic costs and benefits, (5) environmental impact assessment, (6) social impact assessment, and (7) final decision making relative to the viability of the identified alternatives. The alternatives must be assessed in the context of each of the factors noted above which are symbolized as screens through which each of the alternatives must pass.

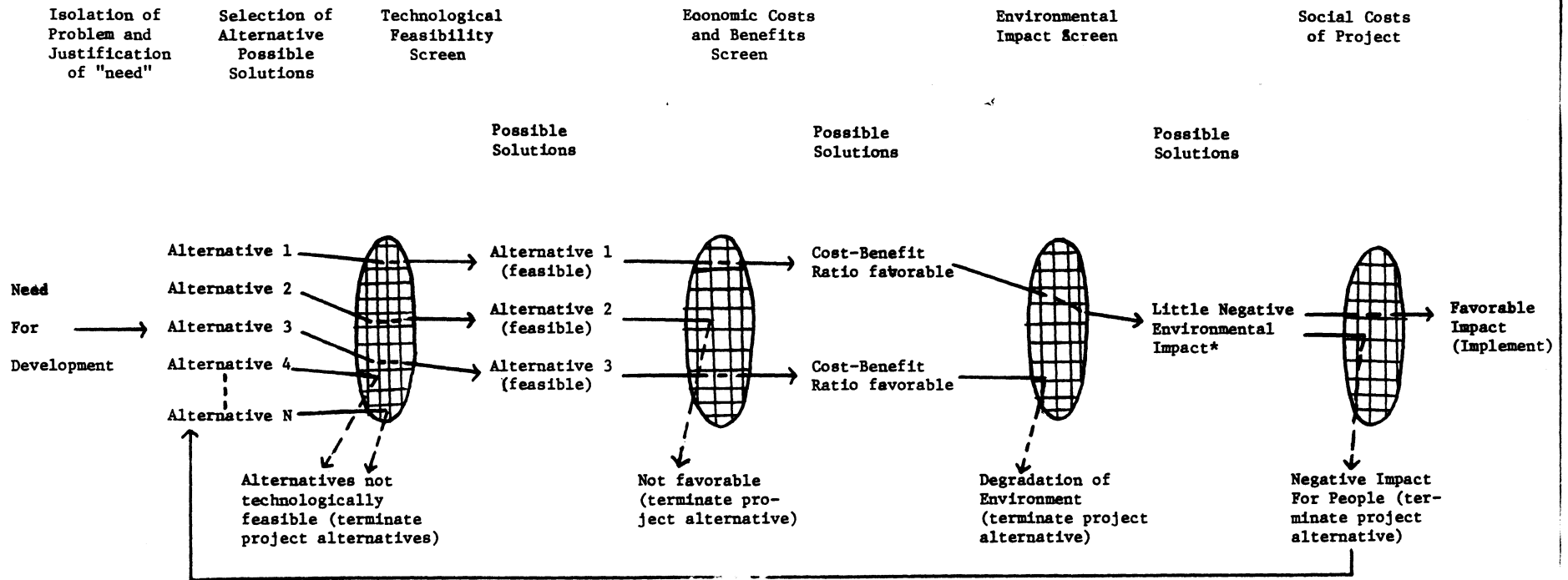
(Figure 1 about here)

The figure traces the process from the conceptual stage of problem identification to the selection of a feasible project. It is conceivable that no identified alternative is acceptable and the feedback loop to the selection of additional alternatives is necessary. It is also quite possible that the "cure" is worse than the "disease" which means no project should be implemented and the original problem will persist. Unfortunately, many developers have not accepted this as a reality.

Final Observations About Social Impact Assessment

A few final observations relative to impact assessment are worth noting. One of the prime considerations in the assessment of social impact of planned change programs is longitudinal research. Some social changes resulting from exogenous stimuli are not easily identified in a short period of time. Some changes are quite subtle and emerge long

Figure 1: Decision Making Framework For Project Assessment



Reassess the possible alternatives and determine if other alternatives exist, and evaluate them. If no other alternatives exist, then the problem cannot be resolved (the solution would create a worse situation than presently exists).

*Usually the project decision-making stops here since little social impact assessment is attempted.

after the primary stimulus for change has been introduced. The only means to isolate the effects of many changes is through careful monitoring over time. A group to be disrupted should be carefully analyzed prior to the introduction of the stimulus for change and restudied at designated intervals. Physical structures, flora, and fauna are carefully monitored but the same research emphasis has not been given to homo sapiens. Why are human social relations not given the same research attention? Through longitudinal research the true project impact would be identifiable. The utility of the research is not so much for the affected study group but for other groups which will be affected by similar projects. While the longitudinal study results may not be directly applicable to other communities, given the unique nature of most groups, the findings should provide insight into areas of concern that should be considered in environmental impact assessments for the future.

It would also be highly desirable to have multiple group comparisons. Experimental and control groups would provide further insight into the affect of the stimulus for change. This does not mean that every project should be subject to multiple group comparisons but selected comparisons over time using quasi-experimental design would be most useful for further isolation of the effects of planned change programs. It is highly doubtful that a major dam would be constructed unless considerable research has taken place to see that certain parameters of public safety are met in the construction but little attention is directed toward the "social engineering" aspects of the projects for people.

Another point which has never been acceptable to change agencies is the assumption of responsibility for adverse consequences that may emerge among affected groups. Should the change agency bear the responsibility

for the emergence of negative situations for directly affected groups? The response is probably in the affirmative. If such responsibility were required, it is highly likely that the social impact assessment component of environmental impact statements would quickly improve in content and methodology with the rapid demise of incompetent researchers. Many of the private consultant firms which specialize in environmental impact assessment would find the economic and social costs of poor research most costly. More importantly, such action would probably result in more carefully designed programs of change which would be much more sensitive to the social impact of projects.

Millions of dollars are allocated annually for project planning for the economic and technological components of project evaluation. Even some obscure species of animal life or flora are researched extensively before projects are implemented. The research tools and expertise exist to conduct equivalent research for input into the decision making process relative to human impacts but little concern exists for that species. Someday human beings may become an endangered species and then some attention may be given to the social consequences of planned environmental changes. But by then perhaps it won't make any difference.

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