

THE NEED FOR SOCIAL IMPACT ASSESSMENT IN ENVIRONMENTAL RESOURCE DEVELOPMENT IN SOUTHEAST ASIA – ISSUES AND CHALLENGES IN MALAYSIA

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Introduction

Environmental resource exploitation would continue to provide the catalyst for growth and development in Southeast Asia in the immediate decade. However, environmental degradation issues would continue to be the main challenges affecting growth and development in the region, especially when it affects the well being of the people of Southeast Asia. Issues such as those affecting community comfort and health, social displacements, community esthetics and values amongst others are escalating issues directly or indirectly related to degradation in environmental quality. Nonetheless, Southeast Asian countries are fully aware of the gravity of the situation and much concerted effort has been made by individual countries to minimize the impact of environmental degradation due to environmental resource exploitation.

The main framework for environmental legislation in Malaysia is the 1974 Environmental Quality Act (EQA) and the regulations enacted thereafter. The 1974 EQA has been substantially amended in recent years, principally by the Environmental Quality (Amendment) Act 1996 (Act A953). In Malaysia, An Environmental Impact Assessment (EIA) is required under section 34A of the EQA. EIA has been much formalized when the Minister of Science, Technology and Environment prescribed a number of activities to be subjected to the EIA process under the Environmental Quality (Prescribed) Activities (Environmental Impact Assessment) Order 1987 (pursuant to section 34A of the parent EQA).

Ever since the introduction of EIA there has been some legislative scope to consider social impacts alongside impacts on the natural environment. This need attributes mainly to the sudden concern that a proposed activity would have on communities living within the vicinity of the project site especially on their physiological states, subjective feelings, social structures and behavioural patterns. Though important as it should be social impact assessment has never been coherently integrated within the EIA process. This paper discusses an approach in which SIA could be modeled within a framework of EIA methodology. It describes the critical variables to be considered in an SIA study

and subsequent steps towards deriving a mitigation plan. The model enhances the EIA process and provides a more comprehensive tool in the decision-making process affecting development projects.

Environmental Impact Assessment Framework – The Malaysian Example

Malaysia's legislative history on environmental issues falls back as early as the 1920s (Khairulmaini 1999a). Since this period two distinct phases can be seen – The pre-1974 phase, beginning with the Waters Enactment 1920. Legislation during this phase was largely sectoral and piece-meal in nature, aimed primarily at promoting “clean house-keeping practices” in specific sectors and hence lacking an integrated approach to environmental management. The post-1974 phase: The Environmental Quality Act (EQA) 1974 became the basis for efficient and strategic environmental management in the country. It not only provided for the establishment of administrative structure for a more effective environmental policy and management (establishment of the Environmental Quality Council and Department of Environment (DOE)) but was also a dynamic enabling legal instrument that had provisions for legislating further laws in the future.

One such provision in the EQA of 1974 is Act 127, which deal with environmental impact assessment (EIA) as one of the environmental management measures adopted by the Malaysian government to promote sustainable development. Section 34A is the amendment to the EQA which relates to EIA. This amendment came into force in 1985. Following which the Minister of Science, Technology and the Environment, issued the (Prescribed Activities EIA Order 1987 and enforced in 1 April 1998. However, on 27 March 1995, the EIA Order 1987 was amended retrospectively. Under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment (Amendment) Order 1995 (P.U. (A) 117/1995)(hereinafter referred to as the EIA Amendment Order 1995), the EIA Order 1987 was deemed to be no longer applicable retrospectively, as of 1 September 1994, the state of Sarawak for certain prescribed activities.

These legislative provisions on EIA were heralded as a watershed in the history of Malaysia's environmental management (Khairulmaini 1999b). It also marked the beginning of the emphasis on pre-emptive measures as opposed to the earlier curative and remedial measures. EIA is not defined in the EIA Order 1987. However, a definition is given in the Handbook of EIA Guidelines under Section 34(2) of the EQA and can therefore be accepted as a “legal” definition.

EIA can thus be defined as: -

“...A study to identify, predict, evaluate and communicate information about impacts on the environment of a proposed activity and to detail out the mitigating measures prior to development and implementation...”

These activities could arise from legislative proposals, policies, programs, projects and operational procedures. The production of an environmental impact statement (EIS) would assist public bodies and planning authorities in the *decision making process*.

The overall objective of an EIA exercise is to promote environmentally sound and sustainable development by ensuring that proposed development activities do not unduly affect the quality of the environment and well being of the ecosystem. The issue to be addressed here is how environmental damage can be avoided or reduced so as to ensure that development initiatives and their benefits are sustainable. The directive of environmental management should be to achieve the greatest benefit presently possible for the use of natural resources without reducing their potential to meet future needs and the carrying capacity of the environment (Khairulmaini 1999b).

Since its enforcement, EIA has become a key component in environmental management and decision making towards sound environmental management and sustainable development in Malaysia. The main issues that would be addressed in an EIA generally relates to the nature of the project activity (Table 1) and its effects on the environment (Table 2) especially on the air, water and land ecosystems and how these impact on the welfare and the livelihood of human beings. In Malaysia a “Handbook of Environmental Impact Assessment Guidelines” and EIA guidelines for specific activities (Table 3) have been published by the DOE to assist project developers carry out an EIA. Generally an EIA procedure requires a number of logical operations (Table 4; Figure 1). The EIA procedures in Malaysia follows three major steps, (1) preliminary assessment of all prescribed activities, (2) detailed EIA, and (3) review of assessment reports. Table 5 summarizes the steps taken in each procedure.

The Low Priority Of SIA Within An EIA

While many innovations have been successful at reducing the “environmental footprint” of development projects, less has been done to respond to the social challenges facing them. Yet, just as it is important for companies and governments to assume responsibility for mitigating environmental impacts, it is equally necessary that a more concerted effort be made to address social issues. Social displacements often result from mishandled contact with indigenous

Table 1: List Of Project Types For Mandatory EIA

List of Project Types
<p>Extractive Industry</p> <p>Energy Industry</p> <p>Production & Preliminary Processing Of Metals</p> <p>Manufacturing Of Non-Metallic Mineral Products</p> <p>Chemical Industry</p> <p>Metal Manufacture</p> <p>Food Industry</p> <p>Processing Of Agricultural Products</p> <p>Building & Civil Engineering</p>

Source: Wathern, P. 1988

Table 2: Checklist Of Impact Categories For Land Development Projects

Impact Categories
<p>Local Economy</p> <p>Natural Environment</p> <p>Aesthetics & Cultural Values</p> <p>Public & Private Services</p> <p>Other Social Impacts</p>

Source: Wathern, P. 1988

Table 3: Main EIA Guidelines In Malaysia

No.	Title
1	A handbook of EIA guidelines
2	EIA guidelines for coastal resource development projects
3	EIA guidelines for petrochemical industries
4	EIA guidelines for industrial estate development
5	Penilaian kesan kepada alam sekeliling bagi pembangunan padang golf
6	EIA guidelines for groundwater and/or surface water supply projects
7	EIA guidelines for thermal power generation and/or transmission projects
8	EIA guidelines for drainage and/or irrigation projects
9	EIA guidelines for fishing harbours and/or land based aquaculture projects
10	EIA guidelines for dam and/or reservoir projects
11	EIA guidelines for mines and quarries
12	EIA guidelines for development of resort and hotel facilities
13	EIA guidelines for development of tourist and recreational facilities in national parks
14	EIA guidelines for development of tourist and recreational facilities on islands in marine parks
15	EIA guidelines for industrial Projects
16	EIA guidelines for municipal solid waste and sewage treatment and disposal projects
17	EIA guidelines for toxic and hazardous waste treatment and disposal projects
18	EIA guidelines for the management and disposal of waste in downstream petroleum industries
20	EIA guidelines for the management and disposal of waste in upstream petroleum industries
21	EIA guidelines for coastal and land reclamation
22	EIA guidelines for forestry

Source: Department of Environment Malaysia, 1999

Table 4. The main operations within an EIA procedure

Operations
Screening
Scoping
Baseline Studies/Assessing
Impact Prediction & Evaluation Techniques
Mitigation/Monitoring
Auditing

Table 5. Steps taken in each EIA procedure

EIA Procedure	Main Steps Taken
Preliminary EIA	<ul style="list-style-type: none"> •To examine and select the best from the project options available • To identify and incorporate into the project plan appropriate abatement and mitigating measures •To identify significant residual environmental impacts
Detailed EIA	<ul style="list-style-type: none"> •To describe the significant residual environmental impacts predicted from the final project plan •To specify mitigating and abatement measures in the final project plan •To identify the environmental costs and benefits of the project to the community
Report Assessment	<ul style="list-style-type: none"> •To critically review the detailed EIA reports •To evaluate development and environmental costs and benefits of the final project plan •To formulate recommendations and guidelines to the project approving authority relevant to the implementation of the report

Source: Department of Environment, Malaysia, 1999

groups, some of whom have had little or no contact with the outside world.

The spread of diseases to which indigenous people have no immunity, disruption of traditional hierarchies and social structures, and an increasing dependence from the outside can destroy long-established and healthy societies. Even in towns and communities that are already integrated into the local economy, traditional lands and production systems can be deeply affected and severed by the development activities. Latane (1981) defines social impact as:

“...any of the great variety of changes in physiological states and subjective feelings, motives and emotions, cognition and beliefs, values and behaviour, that occur in an individual,....as a result of the real, implied, or imagined presence or actions of another individual...”, (Latane 1981).

A much more formal definition, however, is: -

“...all changes in the structure and functioning of patterned social orderings that occur in conjunction with, or as a result of, an environmental, technological or social innovation or alteration...”, (Australian EIA Network 1995)

“Change” as used in this definition refers to changes in the way of life, culture, tradition or community structure, cohesion and stability. More commonly, in relation to major development projects, social impact is often defined as the effect of a development on people, and specifically the changes that a development would create in: -

- People’s way of life (how they live, work, play and interact)
- Their cultural traditions (shared beliefs, customs and values), and
- Their community (its population structure, cohesion, stability and character)

Of significant importance, social impacts can arise not only as a consequence of development projects, but can also come about as a result of policy change or the implementation of a program or plan.

In Malaysia, within an EIA, analysis of the social consequences of major projects is often fragmented and generally lacking in focus. The emphasis here is generally on the social-demographic and economic profile of the individual/communities. For example, when construction-related to oil refinery development was at issue, attention was generally centered on economic considerations. The prevailing view was that money could compensate for any adverse impacts. There was minimal concern for social impacts even if entire communities had to be displaced and resettled so long comparable housing could be located elsewhere. There was even less concern for the distribution of “equity” of these impacts on

different populations. Also lost in this process was the importance people attach to their communities and neighborhoods, and particularly to the long standing social networks that form the basis of support for daily living and during periods of extreme stress and hardship.

In Malaysia the relatively low priority for SIA within an EIA, and the domination of EIA by biophysical impacts, was noted in several EIA reviews, for example the EIA review made by International River Network (1995) on the construction of the Bakun Hydroelectric Project in Sarawak.

However, an "Initial Discussion Paper" by the Commonwealth Environment Protection Agency (CEPA) and United States Department of Commerce "Guidelines and Principles For Social Impact Assessment" stressed the need for recognition of SIA as a discipline in its own right, and of the potential significance of social impacts, especially in relation to their inherent interaction with the principles of environmentally sustainable development and social justice.

The current changes emphasizing the importance of SIA in the United States and Australia, for example also reflects the skill base in undertaking a more comprehensive environmental assessment from these two countries and should influence future EIAs' in Malaysia.

A number of reasons could account for the low priority of SIA within EIAs' in Malaysia. Table 6 describes these limitations. Apart from these limitations, there is often lack of credibility given to the SIA process by proponents and responsible authorities, and lack of support, both at the grass roots and the decision-making levels. Table 7 outlines why support of SIA is generally weak while Table 8 describes the problems dealing with information derived from an SIA.

The Need For Common Links In Integrating SIA In An EIA

Most countries including Malaysia have accepted the need to incorporate SIA into EIA procedures. The link between the SIA and EIA on the social environment resembles in several ways the biophysical impacts (Table 9). This need for commonality is important as it could lead to quantification and integration of information within the different techniques used in an EIA (Table 10). Khairulmaini and Fauza 1992, for example, in a study on the siting of Power Plants in Malaysia shows how geomorphology - bathymetry and socio-economic variables can be classified, weighted and factor scored and utilized in a computer generated fuzzy model.

Table 6: General Limitations in Implementing SIA

Difficulty Of Implementing An SIA
<ul style="list-style-type: none">• SIA contains an element of uncertainty-it is hard to predict effects for different individuals and groups. Unlike some physical sciences, at best SIA can only provide an indication of what is likely to happen and why, given the characteristics of the community involved• All predictions of social impacts are based on experience, knowledge and intuition of those identifying and assessing the impacts• Soft data or "intangibles" are often under-stated or ignored in decision-making. SIA analysts are constantly pressured to reduce problems to some common measure so that impacts can be objectively compared• Attitudes and perceptions are often the dominant factor in determining the nature and significance of predicted social impacts-yet there is no present agreement on how these should be taken into account• SIA often deals with individuals and organizations that are hard to define, even more difficult to measure, quantify and locate• It is often difficult to achieve or be assured of community consensus

Table 7: Credibility and Support in SIA

Main Issues
<ul style="list-style-type: none">• Methodologies for social sciences in general lack the credibility enjoyed by the pure sciences• This lack of credibility is often reflected in the lack of supporting policy and legislation• SIA lacks the strong interest group support that the environmental movement has generated for physical environmental issues

Table 8. SIA Information And Conflicting Opinions

Main Issues
<ul style="list-style-type: none"> • Transparent Information & Interest Groups • Bias Interpretation Between Economic and Social Impacts • Subjected To Socio-Political Atmosphere • Inefficient Horizontal Coordination Between Departments

Table 9. Linking SIA and EIA -Some Basic Commonalities

Main Issues
<ul style="list-style-type: none"> • Social and biophysical impacts can vary in desirability, ranging from the desirable to the adverse • They also vary in scale-the question of whether a facility will create 50 or 1000 jobs, or will have the potential to spill 50 or 1000 gallons of toxic waste. • Another consideration involves the extent of the duration of impacts in time and space. Like biophysical impacts, some social impacts can be of short duration, while others can last a lifetime, and some communities “return to normal” quite quickly once a source of disruption is removed, while others do not • Social impacts can also vary in intensity or severity, a dimension that is defined differently in different project settings, just as an objective biophysical impact might have a minor effect on populations in one location while amounting to significant fraction of the remaining population in another location • Similarly, there is a degree to which both type of impacts are likely to be cumulative, at one extreme, or mutually counterbalancing at the other

It is important also to consider the social equity or distribution of impacts across different populations. Just as the water quality sections of the EIS devote particular attention to reduction in water quality parameters of rivers the socioeconomic sections of the EIS's must devote particular attention to the impacts on vulnerable segments of the human populations (Table 11).

In addition to the types of disturbances that affect environmental quality, humans are affected by changes in the distinctly human environment, including those associated with the phenomenon known as the *social construction of reality*. Persons not familiar with the social sciences are often tempted to treat social constructions as mere perceptions or emotions, to be distinguished from reality. Such a separation is not easy to accomplish.

Social construction of reality is characteristic of all social groups, including the agencies that are attempting to implement changes as well as communities that are affected. In the case of proposed actions that involve controversy, attitudes and perceptions toward a proposed policy change is one of the variables that must be considered in determining the significance of impacts. During controversies, participants are often tempted to dismiss the concerns of others as being merely imagined or perceived.

There are two important factual reasons not to omit such concerns from SIA's and EIS's, regardless of whether the views are widely accepted internally or come from an agency's critics. First, positions taken by all sides in a given controversy are likely to be shaped by perceptions (differing) of the policy or project, and the decision to accept one set of perceptions while excluding another, may not be scientifically defensible. Second, if the agency asserts that its critics are "emotional" or "misinformed", for example, it is guaranteed to raise the level of hostility between itself and community members and will stand in the way of successful resolution of the problem. In summary, some of the most important aspects of social impacts involve not the physical relocation of human populations, but the meanings, perceptions, or social significance of these changes. These variables, thus needs to be incorporated within an EIA study.

Integrating SIA within An EIA Study

It must be stated here that an SIA study could be carry out independent of any EIA for any type of development impact study (Figure 1). This is because there is a direct link between a particular development activity and the individual/community. In an EIA the social impact is derived indirectly from the changes that occur in the environment. Development activities that would benefit from a rigorous SIA within an EIA include those shown in Table 12. For each of changes that occur in the environment. Development activities that would

Table 10. The Main Techniques Used In An EIA

Techniques
Checklists
Matrices
Networks
Overlays

Table 11. Vulnerable Segments Of The Human Population

Vulnerable Human Population
The Poor
The Elderly
Adolescents
The Unemployed
Women
Minority Groups
Occupational Groups
Cultural Groups
Political Groups
Value-Based Groups

benefit from a rigorous SIA within an EIA include those shown in Table 12. For each of this activity there would be a direct or indirect link with the community. The social impacts however will vary depending upon the type of development. Generally, as shown in Figure 1 the SIA follows the EIA process (indirect link) or acts as a direct link to the community (Figure 1) and includes the steps shown in Table 4. Depending on the nature of the project activity (Table 1 and Table 12) the initial determining of critical social impact indicators through baseline studies, scoping and assessing becomes a major task in the EIA process (Figure 2). Typical checklist of critical social impact indicators is often associated with the main group of variables shown in Table 13. These group of variables include that on population- demographic, Community and institutional structures, political and social resources, individual and family changes, community resources. Depending on the type of development activity the importance of the impact indicators should differ (Figure 4).

The SIA analysis would thus proceed to assess, identify, analyze and evaluate the significance of these social impact indicators which would then influence whether the need for developing measures, to prevent, reduce or compensate for impacts and to improve and make good the environmental damage. Figure 5 for example shows how SIA variables could learn from the experiences of other components of the EIA in determining the impact indicators, which are, assessed by Project Type & Stage (policy development, implementation and operation). The ability to identify these variables accurately determines the kind of analysis that should be carried out (Figure 6). Following which the mitigating measures would then be succeeded by monitoring impacts for compliance, checking that they are as predicted. Where necessary taking action to ameliorate problems. Finally an auditing mechanism is implemented so that the whole process of assessment falls within certain set and identifiable standards.

Conclusion

The importance of SIA in development impact studies cannot be denied. The logical sequence of operation of this impact assessment technique follows in general a structured path whether in a direct link to the community or an indirect path as in the EIA process. The main weaknesses however, is that the SIA technique has not really evolved as the other counterparts of the EIA process such as the biological, air and water quality components in distinguishing impact indicators and methods of analysis. It is for this reasons too mitigating of social impacts and post – auditing them becomes a major issue in impact development studies.

Figure 1. The Relationship Between Direct And Indirect Impact On Communities As A Result of Development Activities

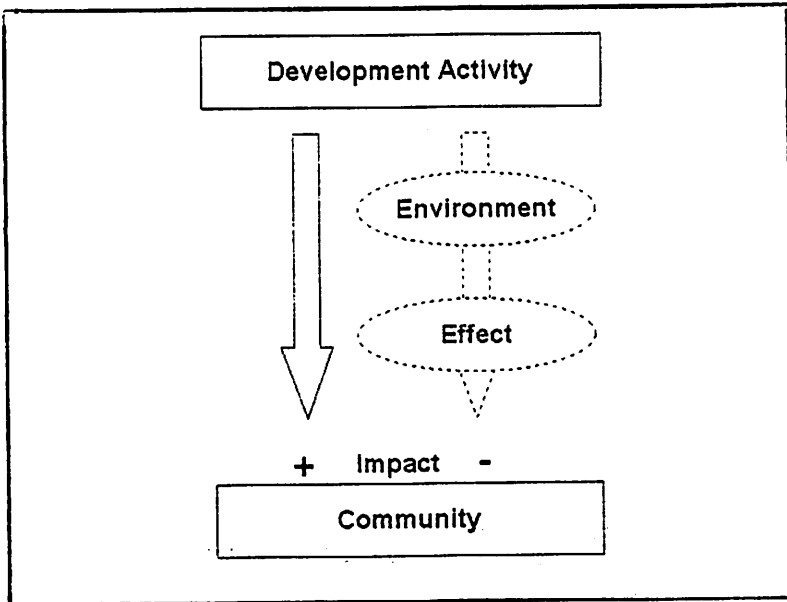


Table 12. Examples of Development Activities That Could Benefit From The Incorporation of a SIA Within An EIA In Malaysia

Activities	
Resource Extractions Hazardous and Sanitary Waste Sites Power Plants Dams and Reservoir Landuse Disignations	Linear Developments Coastal Reclamation & Urbanization Industrial Development Golf Courses

Figure 2: The General EIA Process Model

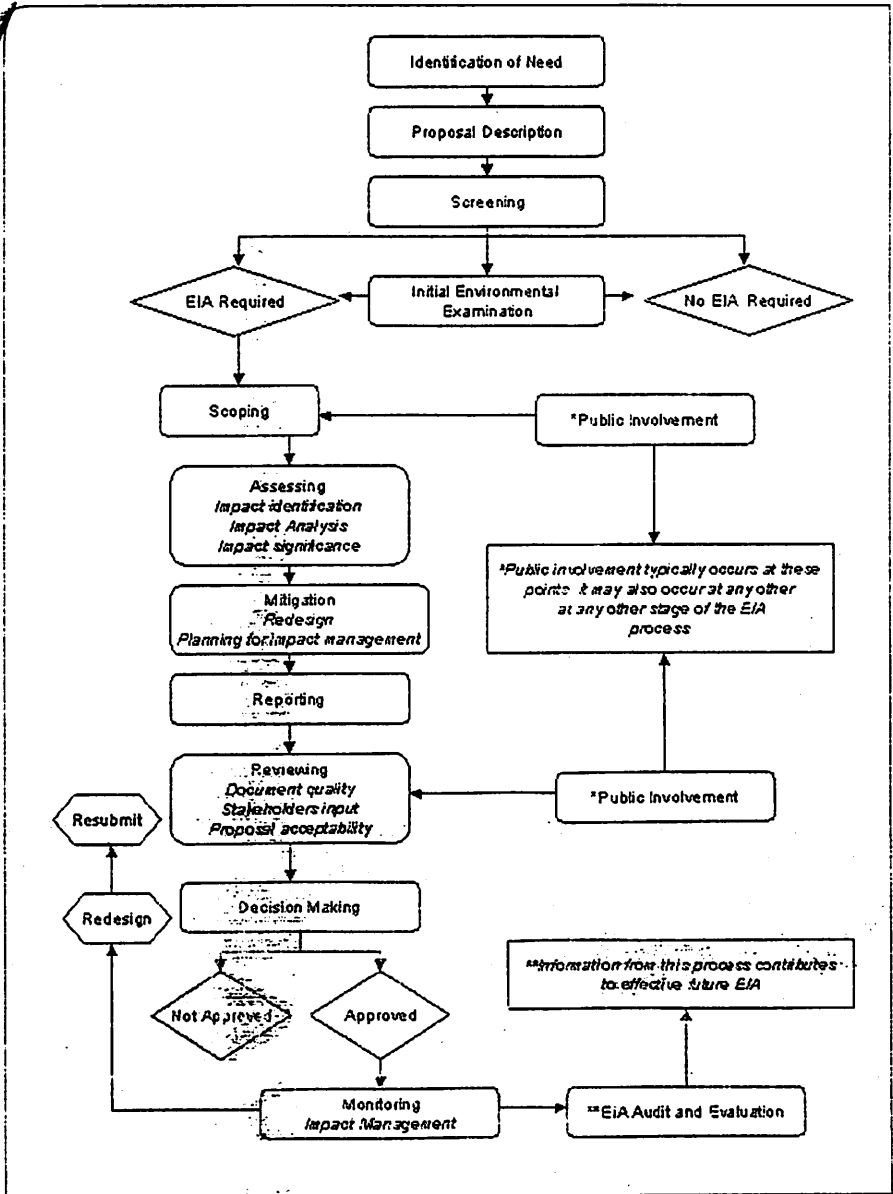


Table 13. An Example Social Impact Variables Used In SIA

Social Impact Categories
<p>POPULATION CHARACTERISTICS</p> <ul style="list-style-type: none"> Population change Ethnic and racial distribution Relocated populations Influx or outflows of temporary workers Seasonal residents
<p>COMMUNITY & INSTITUTIONAL STRUCTURES</p> <ul style="list-style-type: none"> Voluntary associations Interest group activity Size and structure of local government Historical experience with change Employment characteristics Employment equity of minority groups Local/regional/national linkages Industrial/commercial diversity Presence of planning and zoning activity
<p>POLITICAL & SOCIAL RESOURCES</p> <ul style="list-style-type: none"> Distribution of power and authority Identification of stakeholders Interested and affected publics Leadership capability and characteristics
<p>Individual & Family Changes</p> <ul style="list-style-type: none"> Perceptions of risk, health and safety Displacement/relocation concerns Trust in political and social institutions Residential stability Density of social relationships Attitudes toward policy/project Family and friendship networks Concerns about social well-being
<p>COMMUNITY RESOURCES</p> <ul style="list-style-type: none"> Change in community infrastructure Landuse patterns Effects on cultural, historical and archaeological resources Esthetics

Figure 3: The Relationships Between Impact Indicator And The EIA Process

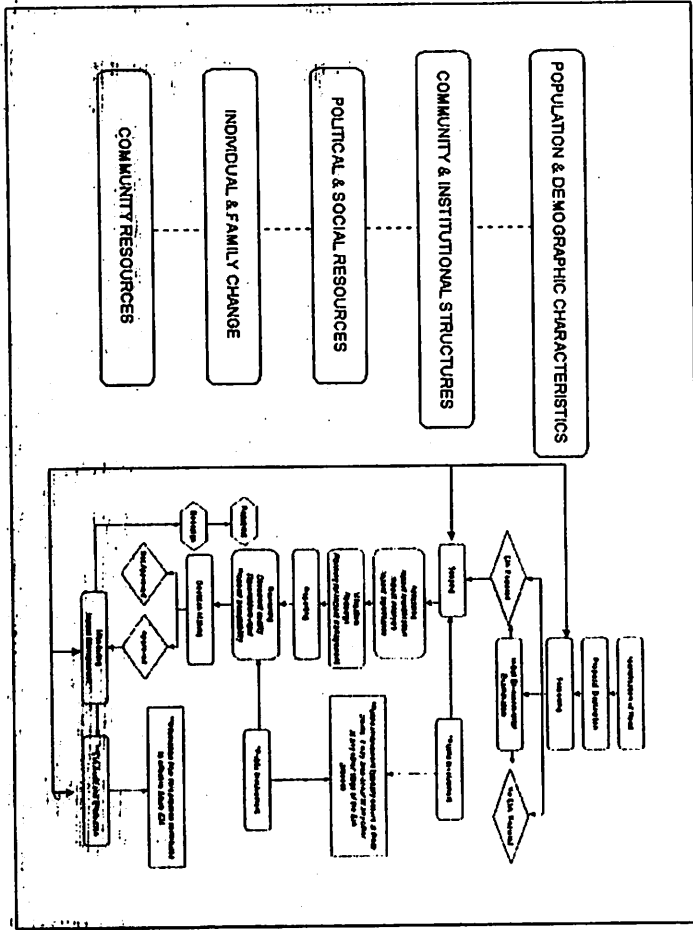


Figure 5a

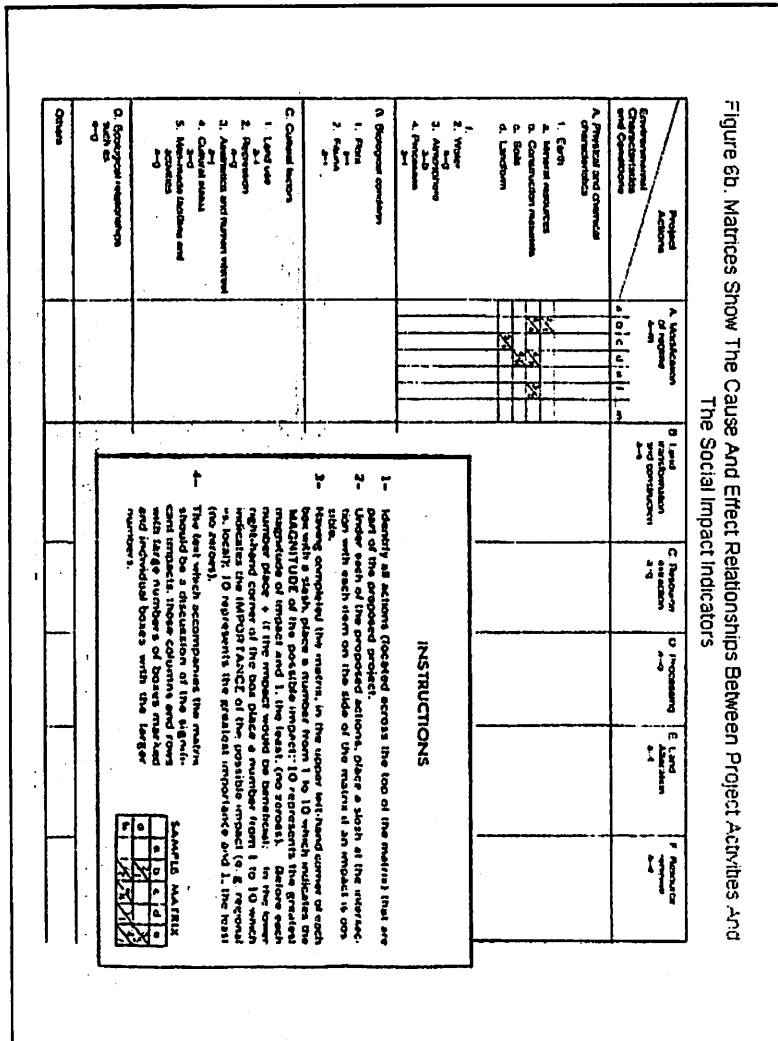


Figure 5b

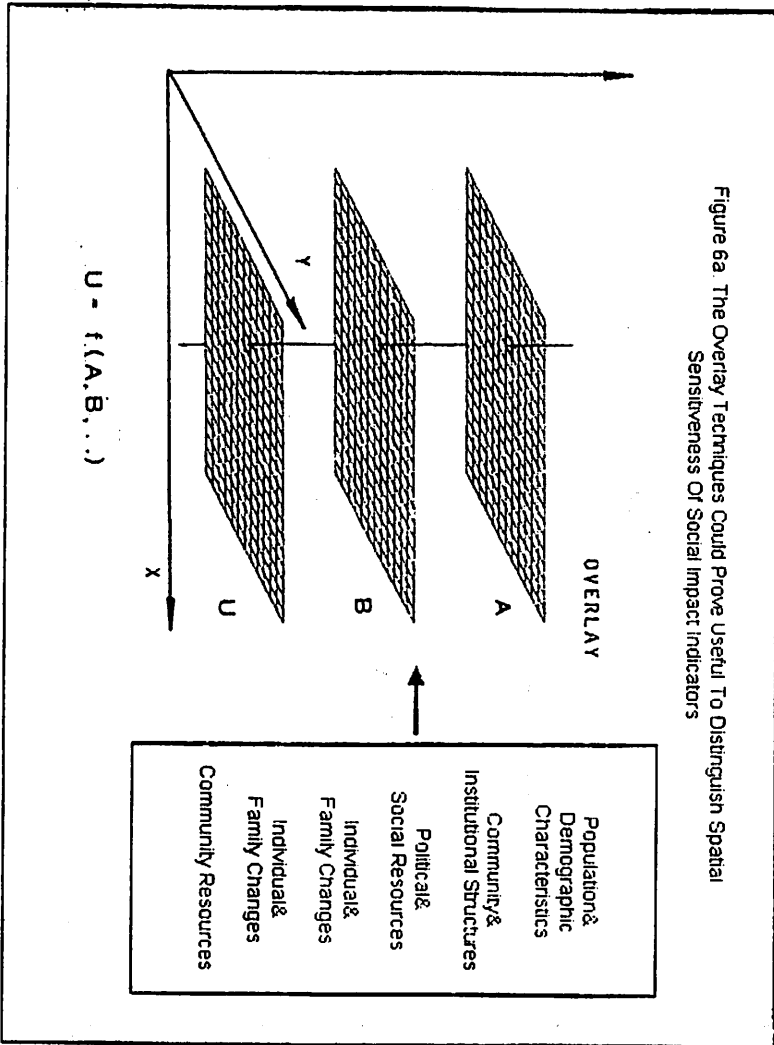


Figure 6a. The Overlay Techniques Could Prove Useful To Distinguish Spatial Sensitiveness Of Social Impact Indicators

Figure 5c

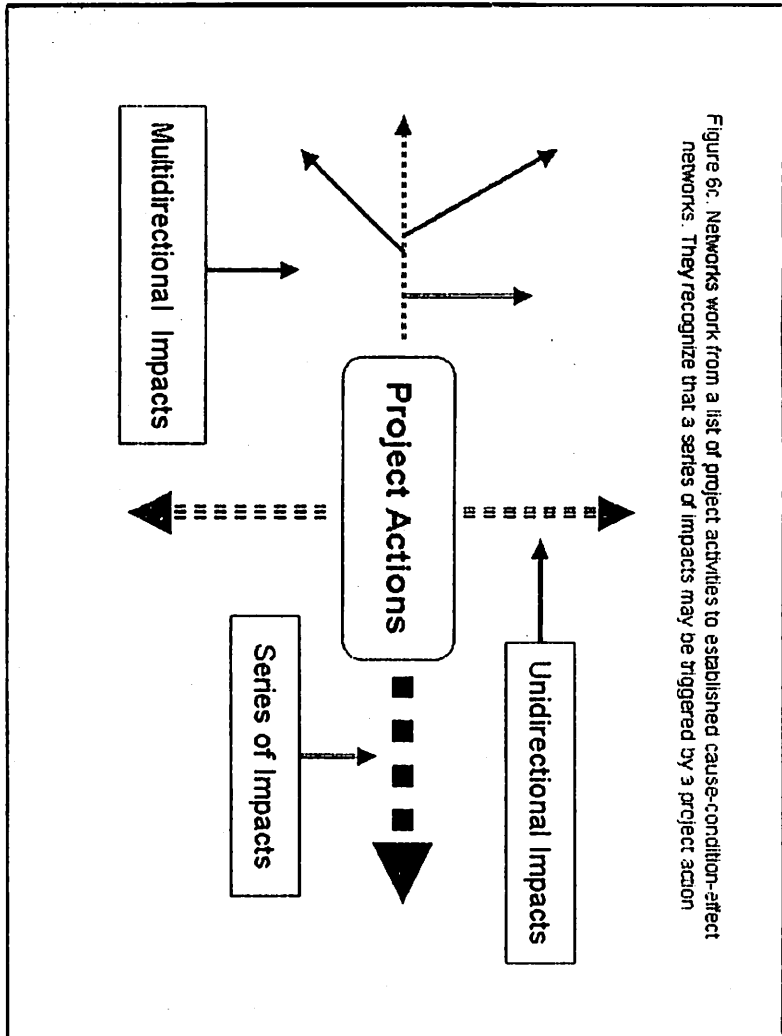


Figure 5c. Networks work from a list of project activities to established cause-condition-effect networks. They recognize that a series of impacts may be triggered by a project action

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