

SOCIAL IMPACT ASSESSMENT: A MANUAL FOR MINING PROJECTS

**Prepared for PT Kaltim Prima Coal (KPC)
Project Partner**

*Creating Empowered Communities: Gender and Sustainable Livelihoods in a Coal Mining
Region in Indonesia*



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About the Project

In 2006, the Resource Management in Asia-Pacific Program received funding from the Australian Research Council to investigate gender and sustainable livelihoods in a coal mining region in Kalimantan, Indonesia. *Creating Empowered Communities: Gender and Sustainable Livelihoods in a Coal Mining Region in Indonesia* is an action research project which aims to test the hypothesis that women's empowerment is the key to wider community empowerment and the creation of sustainable livelihoods in a mine-affected community.

ANU, together with the industry project partner, PT Kaltim Prima Coal (KPC), is helping to formulate community development strategies that benefit both women and men in communities affected by extractive industries activities and operations.

For further information, visit: <http://empoweringcommunities.anu.edu.au/>

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INTRODUCTION

Social Impact Assessment¹ (SIA) refers to the processes and procedures for understanding and managing the social consequences of development activities. SIA is often a legal requirement for proposed interventions, policies or projects of varying sizes, in order to evaluate the social and cultural changes that are likely to arise in the area of impact. The initiators of these activities can be businesses, government agencies, development organizations or Non-Governmental Organizations (NGOs), and are often referred to as 'actors', a term used in this guide. The actors can employ SIA to minimize and mitigate impacts that are likely to affect the community living in or around a planned project – in this case a new mining project or the expansion of an existing project.

SIA is particularly relevant for mining companies because the scale and duration of large resource extraction projects usually create a range of complex social impacts, many of which are linked in with environmental impacts. SIA of mining projects therefore presents a difficult but important challenge. Whilst understanding of the environmental impacts of mining projects has improved greatly, the business sector has paid less attention to the social and cultural impacts of such projects.

Increased awareness of the importance of local participation, cultural heritage preservation and environmental protection in minimising the erosion of local subsistence activities and customary rights has led to a number of new initiatives in the extractive industries. Greater attention to processes such as SIA has been one outcome. In discovering the impacts or consequences of embarking on a particular project, and in anticipating the likely outcomes before the project is implemented, SIA is distinct from other evaluation or economic impact assessment studies, which aim to identify how far a project has achieved its stated goals. Being forward-looking and highly evaluative in nature, SIAs seek to manage change responsibly by articulating how the findings and recommendations of any study can be translated into action.

This manual provides an overview of the social impacts of mining projects, how to best manage them and the key steps and issues involved in undertaking SIA. In assessing impacts and the decision of whether or not to proceed with a project as planned, it is important that equal attention is paid to economic, environmental, biophysical and social factors. Whilst this manual has been prepared primarily for PT Kaltim Prima Coal (KPC), the Industry Partner in the Australian Research Council funded Linkage Project: Creating Empowered Communities: Gender and Sustainable Livelihoods in a Coal Mining Region in Indonesia, it is also intended for the use of a wider audience of small and large mining companies operating in the Asia-Pacific region.

Like the social effects of resource extraction, SIA is a complex and dynamic process. This manual offers some practical inputs and guidelines to the mining industry for undertaking and delivering satisfactory social impact assessments before finalizing mineral resource project plans. The material is organized as follows:

SIA overview

- History of SIA
- Definition and aims of SIA
- What are social impacts?
- Who is affected?
- Impacts on women
- Why should SIA be done?
- What is the SIA process?
- Participatory SIA processes
- How to ensure the quality of the SIA process

SIA in Mining

- Social impacts of mining projects
- Introduction to SIA Management (SIAM): A note to guide the conduct of SIA in practice
- SIA methodology: key stages in the process and notes on what to do in practice
- Case Study: Anglo Coal Australia, Drayton Mine, Upper Hunter Valley, New South Wales, Australia

¹ Also called Social Impact Analysis

OVERVIEW OF SOCIAL IMPACT ASSESSMENT

History of SIA

Some forms of SIA were carried out as early as 1640 in The Netherlands by Johan de Witt and in 1775 in France, when the Marquis de Condorcet assessed the likely impacts of a proposed canal. Condorcet is widely credited with the concept that social action might be quantifiably analysed and reliably predicted.

The roots of modern SIA can be traced partly to research started in 1950s by human geographers, anthropologists and sociologists considering the impacts or consequences of development processes and the possible negative side-effects on the societies hosting projects and schemes. The terminology of public policy played an important role in the development of SIA, which began their journey as part of the Environmental Impact Statement or EIS prepared by professional consultants often comprising engineers or project managers. Although the rhetoric of value-free and objective environmental science is often harnessed to subsume the power implications, appearing independent and authoritative, in practice the process cannot be divorced from the practicalities of power politics at several scales.

The field of SIA as we now know it emerged during the 1970s, primarily as a response to new environmental legislation, but also to the abovementioned politics of resource management that tended to relegate social impacts as less important. A range of SIA methods and processes developed, from 'technical' to 'political' approaches, short-term to long-term studies, and from formal to informal studies. It has been noted that whilst these accounts provide valuable insights into SIA's role in resource geopolitics, the distinctions they draw are not cut and dried (Howitt 2001:327). In its origins and its contributions, SIA remains a hybrid field of social science as well as policy studies, the latter by virtue of it being a component of the policy-making process (Freudenberg: 1986: 451).

Definition and Aims of SIA

According to the Inter-organizational Committee on Guidelines and Principles for Social Impact Assessment, SIA aims to assess or estimate in advance the social consequences that are likely to follow from specific policy actions (including programmes and the adoption or approval of new policies) and specific government or corporate actions (including buildings, large projects and leasing large tracts of land for resource extraction) (Burge et al 1995:12). Put simply, SIA attempts to answer the question: 'What are the impacts of a project or development on people?' It is intended to be a systematic, iterative, ideally ex-ante assessment of the changes that would be brought about through a development process that may have social impacts'. Armour (1992) suggests that social impacts are changes that occur in:

- People's way of life (how they live, work play and interact with each other on a day-to-day basis);
- Their culture (shared beliefs, customs and values); and
- Their community (its cohesion, stability, character, services and facilities)

The purpose of an SIA is to accurately identify a range of possible impacts arising out of a proposed developmental action and determine which of these are the most likely should the proposal become a reality. SIA encompasses studies regarding the actions that need be taken to minimize the adverse impacts identified and maximize the impact of the favorable ones.

There are numerous definitions of SIA, as indicated in **Box 1** below, but effectively they describe the same procedure with different degrees of succinctness. An SIA can be action focused, practically oriented, undertaken within a short or long time-frame, can be participatory in approach or can be linked to management outcomes.

The primary objective of undertaking SIA is to ensure that local communities are not adversely impacted and that they can reap sustainable benefits from development activities such as mining projects.

As mentioned above, the scope, aims and objectives of SIA vary greatly, from 'technical' approaches which limit the consideration of social impacts to largely economic factors, to broader, more 'political' approaches which are participatory and holistic in their approach and do not distinguish between environmental and social impacts. Exemplifying the broader, political approach is the view taken by Vanclay (2003: 6) that the goal of social impact assessment should be,

"to bring about a more ecologically, socio-culturally and economically sustainable and equitable environment. Impact assessment, therefore, promotes community development and empowerment, builds capacity, and develops social capital (social networks and trust)."

BOX 1: SELECTED DEFINITIONS OF SIA

"The identification, analysis and evaluation of the social impacts resulting from a particular event. A social impact being a significant improvement or deterioration in people's well-being or a significant change in an aspect of community concern . . . A method of policy analysis that offers great potential for integrating scientific policy analysis into a democratic political process." (Dietz 1987: 54)

"A process examining proposed projects, programmes and policies for their possible effects on individuals, groups and communities." (Buchan and Rivers 1990: 97)

"Prediction and evaluation of the social effects of a policy, programme or project while it is in the planning stage – before the effects have occurred" (Wolf 1980: 27)

"Analysis of past and present impingements upon social conditions and processes and a projection of likely future consequences of proposed interventions" (Burdge 1994: 78)

SIA can mean different things to different people. There are several ways in which SIA can be interpreted and applied. For some, SIA is viewed as a policy tool, for others SIA is a way to ensure community participation and community engagement in major projects. SIA can be used as an ad hoc research technique, or applied as a 'technocratic' and 'scientific' planning or management tool, or as a "means of ensuring participation or even the empowerment of people in the development process" (Barrow 2000: 2).

SIA also plays a crucial role in shaping ongoing monitoring and evaluation processes and improving the accountability of planners, administrators and corporations. Despite its wide variety of uses, there is increasing consensus on the need to draw on interdisciplinary concepts and to develop original data where available data is not sufficient.

BOX 2: SELECTED AIMS OF SIA

"The goal is to balance science and politics in policy formulation and implementation" (Rickson et al. 1990: 9)

"SIA aims to help structure development so it responds to people's needs and is compatible with sociological conditions."

"The purpose of SIA is to answer the following question: 'Will there be a measurable difference in the quality of life in the community as a result of the proposed action?'"

"The practical goal of SIA is to anticipate likely impacts and utilize the information in the planning process, and thereby ensure appropriate mitigation" (Barrow 2002:3)

WHAT ARE SOCIAL IMPACTS?

Social impacts are different, and need to be understood as such, from other impacts, such as environmental and economic. For example, a change in the forest cover is an environmental impact, a change in the household income is an economic impact, but a change in the family cohesion or daily rhythm of life is a social impact. All these three impacts are indeed inter-connected in complex ways.

The entry and continued presence of a large-scale mining project, as with any other infrastructural development, can bring profound changes to the local social fabric. These changes are most profound in previously isolated or remote villages that have had little or no contact with the outside world. However, even well-established settlements feel the effects of major social change as their demographics alter rapidly. Some of the changes can have far-reaching and negative effects, although increased standards of living, better access to health care, sanitation or education may be beneficial to the community.

Displacement

Of all social impacts, physical displacement is the most serious, and has the greatest and most far-reaching effects on the community and family life. Physical displacement is the actual physical relocation of people resulting in a loss of shelter, productive assets or access to productive assets such as land, water and forests. In Indonesia it is estimated that nearly 200,000 persons were displaced only by World Bank funded projects between 1981 and 1988, and another 10,000 were displaced by ADB funded projects between 1991 and 1997 (Zaman 2002: 259). There is growing evidence that Project Affected People (PAP) or Displaced Persons (DP) are more likely to be impoverished and marginalised. PAPs and the DPs are overwhelmingly the poor, indigenous or otherwise disadvantaged people. For example, although the Adivasis in India comprise only around 8 per cent of the country's population, they are estimated to constitute more than 40 per cent of those displaced by mines and dams (Fernandes, 2007).

Displacement is not purely a one-time physical transfer to a new location, but a series of changes and events that fundamentally affect the way of life of individuals, families and communities. Involuntary or forced displacement sets in motion a series of events which extend over many years, affecting more than one generation. Production systems are dismantled, close-knit kinship groups are scattered, long established relationships are disrupted, traditional sources of employment are lost, market links are broken, and customs related to child care, food security and intra-community credit transfers get dissolved (Fernandes and Paranjpye, 1997: 3). The outcome of these events is often further impoverishment, both economic and social, in terms of loss and changes to livelihoods.

Those amongst the displaced who can claim better compensation for loss of land or can better manage the compensation payments, are often more able to cope with these changes. However, indigenous and poorer communities are less able to adapt to new occupations, to cope with the loss of their lands, and to the pressures of moving to new locations. Even if local communities are not physically relocated, the very presence of the project nearby may have an affect on the living standards of people who depend on resources located in, on, or around that land. This threat is particularly great for poor farming families and indigenous people with small parcels of land.

BOX 3: FOUR PRINCIPLES TO REMEMBER BEFORE DISPLACEMENT:

We start by noting that any drastic impacts on people's lives is undesirable and should be avoided. The International Finance Corporation's (IFC) Handbook for Preparing a Resettlement Action Plan clearly states that :

- ***Involuntary resettlement should be avoided.***
- ***Where involuntary resettlement is unavoidable, all people affected by it should be compensated fully and fairly for lost assets.***
- ***Involuntary resettlement should be conceived as an opportunity for improving the livelihoods of the affected people and undertaken accordingly.***
- ***All people affected by involuntary resettlement should be consulted and involved in resettlement planning to ensure that the mitigation of adverse effects as well as the benefits of resettlement are appropriate and sustainable***

Source: International Finance Corporation's Handbook for Preparing a Resettlement Action Plan
[http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_resettle/\\$FILE/ResettlementHandbook.PDF](http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_resettle/$FILE/ResettlementHandbook.PDF)

Land Acquisition and Alienation

Land acquisition by a mining company may also restrict a community's access to commonly held land-based resources such as medicinal plants or construction and craft materials, fuelwood, timber and/or fishing grounds. The acquisition of water resources by a large mining project may not involve land acquisition, but may negatively affect the livelihoods of people living in the project area. For example, the diversion of a river or the impounding of its waters in a dam may affect the lives of people living downstream by affecting fish habitats, or crop irrigation.

A major social impact of a mining project on the surrounding area is land alienation. For many indigenous or poor communities, the connection with land is much more than just dependence on a resource for a livelihood; it is also a strong bond, a tie that has been developed over generations. Often the land rights of indigenous communities have not been recognized by law, and are thus in the domain of 'customary' rights. For example, although the land owned by the Adivasis in India is legally non-transferable, meaning that it cannot be sold to another person, in many instances only a small part of the land they traditionally use is legally owned by them. Again, even where the community owns the legal title to the land, such as in case of the indigenous people in some parts of Australia, the situation is complicated by the fact that in most governments retain the rights to sub-surface mineral resources.

More than physical dislocation, the disruption of the social structure and production system – moving from subsistence living to 21st century life within one generation – may also involve serious cultural shock that breaks down community and family structures, and results in a loss of identity. Communities can be faced with profound psychological trauma from suddenly finding themselves landless, jobless, without food and access to the resources and assets of the community that were nurtured over many generations. Breakdown of traditional authority may lead to cultural conflicts and the collapse of community values and cooperation, consensus and sharing. New values based on the new economy may be more competitive and focus on individualism that might undermine the ability of the weaker to survive within the community. When communities are forced to relocate to another spot, with or without cash compensation, the impacts on the society are most obvious. Moving to another location might cause bitterness and hostility amongst the host community and clashes might seriously disrupt lives. Communities lose the subsistence resources they were used to before, and the new location may not offer all the water, trees, farmland, sanitation or game that were available to them before.

Migration, Inflation and Urbanisation

One of the fundamental changes that affect local people is the sudden influx of expatriate or migrant workers and their families into the area. These people are also the carriers of new ideas, values and activities to the area. In a densely populated country like India, mining areas may turn into haphazardly grown urban settlements with little or no provision of basic services such as water supply or sanitation. In a remote location such as Kalimantan, the presence of a mine would affect resource availability for the original local populations, whilst a rapid influx of people from other parts of the country takes place in search of new economic opportunities as well as better services than what is available elsewhere.

Demographic changes and the introduction of a cash-based economy in areas of new mining projects can raise local prices and lead to the dependence on purchased goods. Communities who once depended on locally produced goods or subsisted on local resources may increasingly become dependent on food that is brought from outside and that needs to be purchased by cash. The presence of mine employees can have a serious impact on raising prices, causing high and sustained levels of inflation that may further impoverish those that do not receive any of the direct or indirect benefits of mining.

Health and Wellbeing

Increased migration and mining activity, as well as the environmental effects of mining on water and air, may lead to serious health impacts. Environmental damage by a large mining project, if unaddressed, can affect the well-being of a community. For example, excessive erosion and sedimentation may lead to changes in river regimes and affect local crops. Pollution and water contamination may give rise to new illnesses where there is little or no immunity. Some groups might be more vulnerable to some diseases than others.

It is well documented that mining projects increase demand for the services of sex-workers due to the influx of male migrant workers - particularly during the construction phase. The increased presence of sex workers itself may not be a problem where safe sex practices are promoted and observed and where screening clinics are affordable and adequate. However, in many countries there remain taboos around the use of condoms, combined with poor levels of sexual health education and services. Sex workers may not be empowered to demand clients use condoms. Increasing rates of HIV/Aids has been linked to mining projects in a number of countries, such as Papua New Guinea and South Africa, resulting in devastating impacts on both surrounding communities and the broader population.

Who is affected?

Those that lose land due to a project, or the Displaced Persons (DPs), are formally seen as Project Affected Persons (PAPs). Such affected groups also include squatters (without valid land-ownership documents) living on or using the land for a given length of time, and landless labourers. However, large-scale mining operations often have ripple-effects that extend far beyond the immediate vicinity of the project boundary. People living beyond the immediate impact area, those who occupy the 'hinterlands', may have a range of relations to mining projects and the people living within or in the immediate proximity of the project, and may still experience social and cultural changes. These areas generally experience an influx of people, an abundance of cash and new businesses. Similarly, host communities are those who inhabit areas where project-affected populations are resettled. Host communities may be affected by new settlements and thus should be identified as a category of persons affected by the project. A minimum length of residence is often the criteria to differentiate between local and migrant peoples.

Box 4 below gives a reasonably comprehensive list of the different types of impacts. The relative importance of a social impact arising from a large scale mining project will vary according to local customs, culture and religion.

BOX 4: EXAMPLES OF SOCIAL IMPACTS

People's way of life – how they live, work, play and interact with one another on a day-to-day basis

Their culture – their shared beliefs, customs, values and language or dialect

Their community – its cohesion, stability, character, services and facilities

Their political or institutional systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose

Their environment – the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources

Their health and wellbeing – health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity

Their personal and property rights – particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties

Their fears and aspirations – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

Source: Vanclay, F (2003a) 'Conceptual and methodological advances in social impact assessment', in Becker, H.A and Vanclay, F (eds) *International Handbook of Social Impact Assessment*, Edward Elgar Publishing, Cheltenham

As this section demonstrates, there are a wide range of social impacts that may arise due to a mining project. The range, number and severity of impacts and who is affected and how will vary according to the particular context and the communities involved, as well as the efforts of governments, planners and companies to research, anticipate and mitigate impacts. What is most clear is that environmental and social impacts cannot be easily separated and in fact are intrinsically linked. The impact of rapid population growth and urbanisation may appear to be a social impact but it may have serious environmental and health impacts in terms of increased demand for land, water, sewerage and sanitation and new disease risks. New impacts may arise at any stage during the project cycle. Any effective SIA process should anticipate and assess the widest possible range of impacts, prioritise impacts according to the local context and local perceptions and commit actors to ongoing impact assessment throughout the life of the project.

Gendered Impacts of Mining

Whilst the entire community bears the brunt of the social impacts of mining, women often bear a disproportionate amount of the negative impacts and costs of major social change. This is because in almost all societies gender roles for women and men are different. In many societies, women are primarily responsible for the welfare of children and are dependent on community and family support networks to perform this role. Women are more susceptible to the negative impacts of mining because of the specific, masculine, nature of mining as a human project - big machines, rough and tough jobs in unusual workplaces, and a long history of masculinity associated with mining often introduces new social and moral norms of behaviour for women, restricting them from certain places and limiting them to others.

As old social structures break down with the introduction of a new mining project, and new and cash-based livelihoods form, women are thrown into the most vulnerable situations. As the new cash economy takes over, women's dependence on subsistence resources grow, just as these very resources may become depleted through the environmental impacts of resource extraction. In this way, women's value as productive community members – as 'economically productive' individuals – can decrease significantly as a result of mining projects.

Women's workloads can also increase as a result of a project as male members of a community go out in search of cash-earning jobs. Women may become further isolated from the new economy as limited job opportunities for women in mining reinforces prevailing gender norms and roles. As women become increasingly confined within domestic boundaries and lose traditional sources of independence and income they may become increasingly alienated (Ahmed and Lahiri-Dutt, 2005).

Women's vulnerability arises primarily from their lack of land ownership and patrilocal marriages in many societies, including most indigenous communities, excluding them from consultations and compensation processes. Although women till the land and produce crops, they neither own these lands nor are seen as farmers. Consequently, they are not the recipients of cash or jobs in compensation and are not expected to participate in community decision-making processes.

The gender-specific vulnerabilities also result from the increased conflicts and strife within the community that often follows the introduction of a new project. Decreased access to environment-based resources such as clean and safe drinking water, and sanitation facilities may affect women more seriously than men. Health impacts for women may be different than men. The introduction of cash and alcohol increases the incidence of domestic and other forms of violence against women.



All communities are made up of different groups of men and women from different socio-economic backgrounds, which influences how they may be impacted by mining activities. Some women may benefit from the new employment and livelihood opportunities that mining projects can bring. Others may find that the demands of childcare, lack of education, skills and training or transport options prevents them from benefitting from these opportunities. Other women, such as those from female-headed households, may be particularly vulnerable to the negative impacts of mining. SIA can identify the different impacts of development projects on different members of a community, including gender-based impacts, so that alternatives or mitigation strategies can be put in place.

Gendered impacts cont.

However, the gender-specific impacts are often not universally true for all women and men. It has been observed that economic levels, education and access to information and existence of groups to mobilise women all differentiate the experience of social impacts. Women with better incomes and higher levels of education, or those who are from more powerful families within the community, generally are able to take advantage of the new economy and may start new enterprises .

Why should SIA be done?

According to Barrow (2000:3) one of the many benefits of SIA is that “it seeks to help individuals, groups, organizations and communities understand possible social, cultural, or economic impacts of change, or better-still impacts of proposed change”.

SIA can help both the community and the businesses to foresee and hence to avoid social risks. The early identification of possible negative social impacts provides opportunities for mitigation or avoidance through changes to the project plan or the development of alternative plans.

Furthermore, such assessments also provide an opportunity to explore and understand how to maximize the benefits of a proposed plan of action. Above all, when undertaken in a participatory manner, SIAs can be valuable tools for community engagement and consultation, especially if community participation in the assessment process can effectively lead to the shaping (or re-shaping) of community development projects.

WHAT IS THE SIA PROCESS?

As with an Environmental Impact Assessment, there are commonly followed steps or stages for the SIA process. While any of these steps or stages can and should be revisited if required at any stage during the project life cycle, the process can be summarized into three sequential stages, namely impact identification, impact assessment and impact management:

1. Impact Identification

Scoping - Set terms of reference, limits of study, etc.

Formulation of alternatives - Identify what paths the development might take other than that proposed.

Profiling - Determination of what is likely to be impacted. Describe the social units affected. Identify indicators to measure. Establish the current social condition. In most cases, the problem to be mitigated or eliminated and the social system hosting the problem will have a history. A critical account of this history is called the base-line analysis.

Projection - Make projections of what is likely to happen and who is affected a) if the proposed development proceeds; b) if it is abandoned; c) if alternatives are adopted. Identify indicators to study; identify cause effect linkages and feedbacks.

2. Impact Assessment

Assessment - Determine the magnitude of impacts, what effect likely changes will have, what impacts are most significant and how people will react. Determine potential for avoidance or mitigation.

Evaluation - Analysis of trade-offs: What are the net benefits? Who benefits? Who loses? Is the overall impact acceptable?

3. Impact management

Mitigation - If needed, identify measures to counter unwanted impacts.

Ongoing monitoring and evaluation - Measure impacts to determine baselines and the effectiveness of mitigation-measures. Lessons that have been learnt can be fed-back into policy-making and planning at this stage. This is also the stage to develop ongoing monitoring and evaluation of impacts and mitigation strategies throughout the project cycle .

THE IMPACT ASSESSMENT PROCESS



Source: Branch, K.M and Ross, H (2000) 'Scoping for Social Impact Assessment', in Goldman, L (Ed) *Social Impact Analysis: An Applied Anthropology Manual*, Berg, Oxford: 93-126

How to Ensure the Quality of Social Assessments

While there is no universal methodology for conducting SIA, a good SIA is likely to include the following features:

- Identifies interested parties and affected peoples (IAPs or stakeholders)
- Facilitates and co-ordinates the participation of IAPs
- Documents and analyses the local historical setting in which the project will occur
- Provides a rich picture of the local cultural context and an understanding of local community values
- Identifies and describes the activities which are likely to cause impacts (scoping)
- Predicts likely impacts, including cumulative impacts, and how the community might respond
- Assists in the selection and evaluation of program alternatives (including a no development option)
- Assists in site selection
- Recommends mitigation measures
- Provides suggestions relating to compensation
- Describes potential conflicts between stakeholders and advises on conflict resolution processes
- Develops strategies in the community for dealing with residual or non-mitigatable impacts
- Contributes to skill development and capacity building in the community
- Advises on appropriate institutional and co-ordination arrangements for all parties
- Assists in the devising and implementation of monitoring and management programs
- Collects data for profiling to allow evaluation and audit of the impact assessment process and the project itself

PARTICIPATORY SOCIAL IMPACT ASSESSMENT

Assessing and dealing with social impacts requires engaging with human experience, social life and accepting and working with the value-laden and political nature of impact assessment. Attempting to predict impacts requires an understanding of people's lives and their perceptions, which can only be arrived at by employing qualitative research methods as part of a broader participatory approach to social impact assessment.

Participatory social impact assessment can be distinguished from 'technical' approaches to SIA, which approach the study of social impacts in the same way as environmental impacts, do not encourage public participation, privilege the views of external consultants over that of the community impacted, and produce analysis which is difficult for those impacted to access and understand.

According to Joyce and MacFarlane (2001:7-8), relying on a technical, quantitative approach to SIA is inherently limited for the following reasons:

- ***Predicting social behaviour and human response is complex, difficult and completely different to predicting changes to the environment or biosphere.***
- ***Social impacts are as much to do with people's perception and values as they are to do with "facts" or the apparent reality of a situation.***
- ***The "fabric of social well-being" or social life where social impacts take place and are felt can only be measured or evaluated through qualitative and participatory processes.***

In short, the values, experiences and perspectives of the people in communities impacted by mining are the key to understanding both the likely social impacts and the community response to development activities. Participatory SIA acknowledges that local people know more about their own lives, their ideas about the future, the things that matter to them and the things that will impact their way of life than outside experts or mining company staff.

Highly trained consultants and professionals often overlook critically important information about a local community because they lack local knowledge, perspective and experience. That kind of knowledge can only be gained by engaging and involving local people actively in the social impact assessment process and allowing them to define and evaluate the impacts of any development proposal (Baines, McClintock, Taylor and Buckenham 2003: 28).

Participatory SIA is also referred to as 'political' SIA in the literature. This term was adopted by practitioners as a way of acknowledging and making transparent the value-laden and contested nature of SIA. Moving away from 'technocratic' approaches, a political approach to SIA involves a systematic assessment of the socio-economic and cultural impacts of development.

According to Craig (1990: 37), Political SIA:

- Recognises social and economic values and politics are embedded in the development process and environmental decision making
- Embeds research in the local, historical and cultural context
- Consults, engages and incorporates the views of local and indigenous people regarding development processes and impacts
- Assesses impacts on community social structures and power relations
- Assesses impacts on "intangibles" such as community identity and attachment, social and cultural attitudes and values
- Utilizes Blishen-Lockhart's "key indicators" of social life – including social and economic vitality and viability
- Seeks to enhance community development and decision making processes

Participatory SIA, Capacity Building and Community Development

Participatory and community-based social impact assessment processes have the potential to empower and increase the capacity of local communities to understand, anticipate and manage the impacts of development, as well as contribute to community planning, management and advocacy. Allowing local people to have control over technical research inputs, involvement in decision-making and contribute to data synthesis and analysis is particularly important to the empowerment process (Cagnon, Hirsch and Howitt 1993: 249).

A participatory approach to social impact assessment can set up processes, networks and structures for ongoing community consultation, decision-making and planning, leading to community involvement in the ongoing monitoring and evaluation of impacts throughout the project cycle. Participatory SIA can also allow local people to discuss their concerns, priorities and goals for their communities, which can inform and assist with the delivery of a range of community development programs and lead to more sustainable outcomes of these initiatives. These are among the benefits of a well-planned, participatory SIA.

Community Engagement and Inputs

Participatory social impact assessment involves engaging local people to help manage and carry out the SIA, providing leadership and input from beginning to end. The involvement of the local community should not be confined to an initial stakeholder 'consultation' meeting and follow-up briefings, but should continue throughout the project cycle through the ongoing participatory monitoring and evaluation of impacts.

A range of measures should be put in place when planning a social impact assessment to ensure that a high level of community involvement and leadership in the process is maintained. These include:

- Establishing a steering committee with a cross-section of community representatives to have meaningful input and control over the SIA process, including selection of research methods, determining community consultation and engagement protocols and the reporting and dissemination of results.
- Ensuring there is gender balance both in terms of any external consultants or staff engaged to facilitate the SIA process and the community representatives is critical. Women comprise one half of any community – SIA which fails to include women will most definitely fail to identify the full range of likely impacts.
- Devising accessible research methods in consultation with the community and wherever possible, allowing local people to be employed or engaged as volunteers to carry out aspects of the SIA – such as assisting with project coordination, conducting surveys and questionnaires, translating and facilitating meetings and workshops with community members.

Facilitating Participation

Participatory SIA, like all forms of participatory research, requires careful facilitation so that all members of a community can be given equal opportunity to participate in the process, are fully informed about the proposed development and are able to have their views and concerns heard and addressed. All communities have people that suffer from some form of exclusion which prevents them from having their interests and views heard. Understanding local systems of participation and social inclusion and exclusion is an important first step in devising a participatory framework for social research (World Bank 2003: 28). It is here that detailed social analysis and facilitation by external consultants or staff members who are experienced in participatory social research, conflict resolution and community development is particularly valuable.

While it may be easy for consultants or company representatives to rely on one or two community informants or leaders during the SIA process, it is important to investigate how well these people engage with and represent the views and interests of the entire community – particularly women, the poorest and most marginal. Depending on their interests, powerful members of a community may resist the changes to the status quo that a development project may bring and seek to undermine it. Alternately, they may embrace it because they are likely to receive more of the benefits and less negative impacts than others in the community. They may seek to influence the outcome of the SIA process accordingly. This can result in a very limited SIA and lead to internal community conflict, hostility toward development proponents, failure to achieve development objectives and - most importantly – negative impacts on the most vulnerable or marginal members of the community.

Effective stakeholder analysis should reveal the nature and magnitude of different individuals and groups' interest in a particular development project, as well as their influence over others. Analysis of stakeholders assets and capabilities can reveal the extent of their influence and their ability to capture the benefits of development at the expense of others in the community (Ibid: 21-22). This information can guide and inform a participatory research framework, so that those with most to gain or lose from the proposal do not unduly influence the full and impartial assessment of impacts, and those members of the community that experience social exclusion can have an opportunity to be heard and participate in the SIA process.

Case Study: East Kimberly Impact Assessment Project, Western Australia (1986-1989)

Regarded as an Australian benchmark in political and community-based SIA, the East Kimberly Impact Assessment Project was the first to give Indigenous people greater control over the SIA process and ownership of the research.

Researcher Helen Ross developed a community social impact assessment framework in close consultation with the Warmun Indigenous community of the East Kimberley region of Western Australia, in an area impacted by the activities of the Argyle Diamond Mine operation. The terms of reference for the SIA were determined in consultation with the community as were technical inputs. Interdisciplinary, culturally appropriate research methods, such as narrative, oral history and story telling were chosen to effectively record Indigenous concepts, views and aspirations. The research was conducted by and remained the property of the community after the SIA process was complete, providing a knowledge archive and resource for future use.

The SIA process also allowed community members to discuss and reflect on a range of cumulative impacts that had affected them over time. Attention to cumulative impacts is particularly important for indigenous communities that have been affected by a range of government policies, interventions and development projects over time – including legal and administrative changes. Such an approach is valuable in assessing people's skepticism toward development proposals and their ability to cope with changes, which may be based on a long history of suffering a lack of consultation and negative impacts from a number of externally-driven development initiatives.

Ross discovered that the East Kimberly SIA participants preferred a "long-term, cumulative view to assessment of any single impact", and for most Indigenous people future aspirations were linked to past impacts (1990:188). According to Ross, cumulative impact assessment leads to better long-range, coordinated planning with the full participation of Indigenous groups, rather than "ad hoc development". Assessing cumulative impacts is central for understanding potential impacts, likely adaptations, reactions and aspirations. Ross concludes, "any community's location, composition, values, concerns, and capacity to deal with impact issues are a function of historical impacts" (Ibid: 192).

Source: Ross, H (1990) 'Community Social Impact Assessment: A Framework for Indigenous Peoples', Environmental Impact Assessment Review, 10: 185-193.

Managing Conflict

Participatory SIA may involve challenging existing power structures within a community and it may also challenge gender relations where women are excluded from public life or decision making. SIA is a political process and anticipating conflict and differences of view is an important step in managing the inevitable conflicts that will arise.

If analysis of existing modes of participation reveals that all stakeholders, including the poorest and most marginal members of a community or society, are able to have their views heard in community forums and debates, then it may be possible to conduct the SIA utilizing local strategies of participation. However, if important stakeholders and those identified as being impacted by the development proposal are not represented through customary or existing strategies of participation, then new strategies to broaden participation will need to be introduced (World Bank 2003:28).

While development proponents may not want to offend powerful community leaders whose support is seen as important to their project's approval or success, if the SIA is to deliver any meaningful data, it is vital that a broad cross-section of the community is consulted and involved. Where there may be resistance to an open, participative SIA process, it is important to emphasize the benefits of wider community involvement – namely the identification of a comprehensive range of potential impacts and the development of strategies to minimise negative impacts and maximize benefits for all.

External facilitators can employ a range of methods to ensure that the SIA is an inclusive process and that the views of one social group or individual do not dominate. Strategies to minimise conflict and to maximize participation include:

- Establishing a committee with representatives from a broad cross-section of the community to help guide the process, rather than relying on one community leader from one socio-economic or ethnic group.
- Holding meetings with different community groups at different times and locations to ensure that all community members are reached and participate.
- Working with small groups where people may feel more comfortable to express their views and can do so in detail, rather than large community gatherings where people can be intimidated and opinions and details can get lost.
- Conducting separate meetings and planning sessions with male and female community members, to ensure the views of women are given equal treatment and women do not feel embarrassed or frightened to speak out.
- Traveling to different locations within a region to identify, talk to and ensure that all those affected by development activities - including 'down stream' communities are able to participate.
- Conducting anonymous surveys and one-one interviews where people feel reluctant or afraid to voice their views in public.

Participatory Research Methods and Communication Strategies

It is essential that all community members understand the nature and extent of the proposed development so that they can consider and discuss the likely impacts on their lives and livelihoods, yet development proponents often fail to communicate effectively with local people and misunderstandings and mistrust characterize the relationship between many mining companies and surrounding communities.

The technical language and tools of social scientists, consultants and engineers can be confusing, complicated and threatening for many people, particularly those with limited education, English language or literacy skills. Using surveys or questionnaires to gauge people's views can result in pre-determined responses which do not shed any valuable light on people's true feelings. While surveys may appear quick and economical, the views of those most acutely and closely affected by the development can be lost in large statistical aggregates. They can also be threatening or simply culturally inappropriate. This can severely limit people's understanding of the proposed development, their ability to have their views heard and considered and increase their grievance over poor consultation when impacts occur.

Lack of follow-up during the SIA process also contributes to feelings of confusion and animosity. Community members may feel angry that they contribute time and effort to read development proposals, attend meetings and contribute their views, but have no idea if their views on impacts are being considered or are influencing the SIA process. It is essential that community members are kept regularly informed on the progress of the process and how their views are being taken into account, both during and at the conclusion of the assessment process.

Participatory Research Methods and Communication Strategies cont.

Participatory SIA also seeks to make the process of communicating and discussing development activities and impacts simple, open and accessible to all. The research methods and communication strategies used throughout the social impact assessment process should be flexible, appropriate to the social and cultural context as well as the nature of the proposed development, and suit the language and literacy profile of the community. Most importantly, they should be devised in consultation with community representatives. An integrated approach, combining qualitative and quantitative research methods and data will yield a more detailed and context-rich picture when undertaking community profiling and impact assessment.

Participatory communication and research strategies include:

- Setting out a simple yet flexible framework for the SIA process that all community members can understand and providing regular progress meetings to report back to the community and keep them informed of developments.
- Consulting with community leaders and members on appropriate and accessible research methods - for instance, alternatives to surveys include group discussions and workshops, story-telling and oral history to explore and examine impacts.
- Investigate and address community concerns regarding privacy and confidentiality issues before embarking on a survey.
- Communicate simply and clearly, using plain English, local languages and dialects as appropriate.
- If using surveys or questionnaires, use semi-structured and in-depth interview techniques, allowing for qualitative, open-ended questions and answers and unsolicited comments to be given.
- Engage local people as facilitators and translators to present and record information at community meetings.
- Use oral presentations and simple drawings, maps and photographs to communicate about impacts, rather than complicated written documents, charts or graphs.
- Allow sufficient time for community members to understand the immediate, medium and long-term impacts and to reflect on and consider their response to the proposal.
- Ensure that all reports and results of the SIA process are written or presented in an accessible language/s and disseminated in a way that is also accessible to all – including public meetings and oral presentations for people with low literacy levels.



Conducting participatory SIA involves working in partnership with the community to openly discuss the impacts of major development projects. It also involves flexibility and sensitivity to community needs when devising meetings, workshops and forums to discuss impacts and gather data. This may include holding separate meetings with men and women, allowing adults to bring children in their care and travelling to outlying or 'down-stream' communities to maximise participation from all those that may be affected - directly or indirectly - by project activities.

WOMEN, MEN AND PARTICIPATION: A TYPOLOGY

Different levels of participation characterize different approaches to social impact assessment, the most common being 'consultative' participation, where people may be asked for their views on a course of action, but are not able to influence or shape outcomes. Consultative participation is often viewed as 'participatory', but it lacks the active engagement and genuine input that should characterize a participatory approach to social impact assessment.

Different stakeholders and members of a community may themselves exhibit low levels of participation and need encouragement and opportunities to become more actively engaged. Women in particular are frequently 'passive' participants in consultation and assessment processes – they may attend meetings and listen, but rarely offer their views or contribute to decision making.

FORM/LEVEL OF PARTICIPATION	CHARACTERISTIC FEATURES
'Nominal' Participation	Membership in stakeholder group
'Passive' Participation	Being informed of decisions ex post facto; attending meetings but not contributing views or to decision making
'Consultative' Participation	Being asked an opinion on specific matters with no guarantee of influencing decisions or outcomes
'Activity-Specific' Participation	Being asked to (or volunteering to) undertake specific tasks
'Active' Participation	Expressing opinions, whether or not solicited, or taking initiatives of other sorts
'Interactive' (Empowering) Participation	Having voice & influence in the groups' decisions and over development outcomes

Source: Agarwal, B (2001) 'Participatory exclusions, community, forestry and gender: An analysis for South Asia and a conceptual framework', World Development, Vol.29 (10):1623-1648.

Participatory Monitoring and Evaluation of Impacts

As a project develops and changes over the years, so do the impacts it generates. The community around a mine site also changes over time, with new elements and social dynamics being introduced and created at different stages of the project cycle. All too often, SIA is undertaken once by development proponents during the earliest phase of project scoping and is never revisited. Very little follow-up or ongoing impact assessment may be undertaken, yet the project may run for 30 years. Impacts continue to occur or may multiply and grievances amongst local communities continue to accumulate.

Predicting impacts is an imperfect science precisely because of the dynamic nature of the interaction between social life, the physical environment and economic development. Concern with managing predicted impacts or improving the accuracy of such predictions is not as important as dealing with real impacts when and as they occur. In short, if development proponents want to be effective in their management of impacts, they should focus greater attention and resources toward the ongoing monitoring and mitigation of social and environmental impacts throughout the life of the project, including closure (Noble and Storey 2005:178).

Participatory social impact assessment sets the ground work for community representatives to become involved in the ongoing monitoring and evaluation of mining activities throughout the life of the project – from inception to closure. The baseline studies undertaken during the SIA can provide valuable data and indicators for ongoing monitoring and evaluation by community members of both social and environmental impacts. This ensures an ongoing dialogue between the development proponent and the community throughout the project life cycle and allows the community to become actively involved in the management and mitigation of impacts.

Putting in place formal structures, institutions and frameworks to regularly monitor impacts throughout the life of a project can maximize the benefits of participatory social impact assessment, including better anticipation and mitigation of negative impacts, improved planning and decision-making, maintaining open lines of communication with community members, and providing important feed-back to improve processes throughout mine operations.

BOX 5: SOCIAL ANALYSIS CHECKLIST

The following checklist can be used at the completion of the social impact assessment process and before project design and appraisal to assess whether the SIA has been conducted in a participatory manner and that the diversity of the local community has been sufficiently captured, assessed and represented during data collection and consultation. If information and analysis is not sufficient in any of the areas below, further data collection, consultation and analysis may be required before the social impact assessment can be regarded as complete.

Social Diversity and Gender:

- Does the information and analysis provide an understanding of the interests of and impacts on socially differentiated groups:
 1. based on ascribed status (e.g. ethnicity, gender)?
 2. based on achieved status (e.g. unionised workers, traders, members of professional organisations)?
- Does the information and analysis provide an understanding of the characteristics of and project impacts on the vulnerable and the poor?
- Does the information and analysis of gender issues allow an assessment of likely gender-based impacts?
- Does the information and analysis provide an understanding of the characteristics of and project impacts on ethnic minorities and other disadvantaged groups?
- Can social analysis help to overcome some of the constraints faced by any of the above disadvantaged groups to increase their access to opportunities and benefits? (e.g. targeted community development interventions, infrastructure development etc.)

Stakeholders:

- Have the key stakeholders that will affect or be affected by the project been clearly identified?
- Have the characteristics, interests and influence of the key stakeholders been analysed?
- Is the information sufficient for the assessment team to incorporate stakeholder priorities in project design?

Participation:

- Does the analysis identify ways of involving stakeholders in project design?
- Does the analysis provide an understanding of the opportunities and constraints to stakeholder participation?
- Is the analysis sufficient for the assessment team to prepare a participation action plan for stakeholder involvement in project implementation, monitoring and evaluation?

Source: World Bank (2003) *Social Analysis Sourcebook: Incorporating Social Dimensions in Bank-Supported Projects*, Washington DC. <http://www.worldbank.org/socialanalysis/sourcebook/SocialAnalysisSourcebookFINAL2003Dec.pdf>

SIA IN MINING

Social impacts of mining projects

A typical mining project cycle can be broken down into phases of exploration, pre-feasibility, construction, operation and closure. As is the case with any major infrastructure development, medium and large-scale mining projects affect local societies in many ways leading to social changes. The effects of these social changes are particularly obvious and may be particularly intense in underdeveloped regions or those with little social or economic links with the outside world. The social changes that ensue may include a mix of both adverse and favorable impacts.

The potential adverse social impacts of resource extraction include social displacement, physical displacement, loss of land tenure, relocation, demographic changes and potential negative health and economic impacts of demographic changes. Examples of favorable social changes include an increased standard of living, better access to health care, education and sanitation that can greatly benefit local communities, as long as these services are provided efficiently and do not usurp the role of government or allow governments to avoid their responsibilities.

The actual impacts experienced will depend on a multitude of factors. Joyce (2001) lists some of the most important ones:

- the pre-existing situation (baseline conditions)
- the process of community engagement and capacity-building
- the design of the development process and mine
- the policies and of governments, and
- the other processes of social change exhibiting a trend, or those that develop as a result of the mining project

SIA in the Mining Project Cycle

The specific steps in mining operations vary, depending on the size and shape of the mineral reserve, the specific ore being mined, the extraction method and the scale of the operation. Nevertheless all mining operations follow roughly the same course, consisting of two inter-linked cycles: the mine cycle and the mineral production cycle.

The mine cycle begins with exploration, project development and consultation, mine operation and ore extraction, closure and reclamation. SIA should begin when exploration is complete and feasibility studies and project development begins. SIA continues throughout the project cycle, and is of great importance before a closure plan is drawn up.

From the start of the mining project cycle, mining companies must be sensitive to the impacts of their actions on local communities and adapt their community social investments and community relations strategies for each local community. If the SIA study is being conducted in-house then it should be mandatory that the study be undertaken by a person with social research or other relevant training and experience. It may be beneficial to engage an academic institution, external consultant and local NGOs who may have knowledge of the surrounding communities.

SIA MANAGEMENT (SIAM): CONDUCTING SIA IN PRACTICE

It has been well documented that mining operations can have profound social and economic impacts on surrounding communities. Improving the management of these impacts is high up on the policy agenda of many governments as an important goal of sustainable development. For the extractive industries it forms a significant part of the corporate social responsibility agenda and the 'triple bottom line' of generating profits for shareholders, caring for and conserving the environment, and contributing positively towards local communities.

To that end, this paper introduces SIA Management (SIAM), a guidance note on conducting SIA in practice. SIAM is designed to assist mining companies to identify and manage the positive and negative social impacts of their operations on surrounding and down-stream communities. This guide seeks to meet the growing expectations of improved social performance and sustainable development by extractive industries, as envisaged in the Global Mining Initiative, the 2002 World Summit on Sustainable Development.

Key Principles of SIAM

SIAM has 4 key principles that drive the entire assessment process to ensure a good quality outcome and also has a set of tools to assist in operationalization of those principles. The key principles of SIAM are derived from World Bank's Social Analysis Sourcebook (2002) that indicates some useful criteria for ensuring an acceptable quality of social assessment. The associated tools ensuring compliance with the key SIAM principles are applied at various stages in the assessment process as will be explained later.

Social/Cultural diversity and gender analysis: Dealing with social impacts requires an understanding of the complexity of the social structure of the communities that are being impacted. A greater understanding of what constitutes the parts of the whole rather than trying to treat the entire community as a homogeneous entity is likely to result in more successful initiatives and mitigation strategies.

Stakeholder analysis: A satisfactory stakeholders' analysis will identify and describe the characteristics of those people and groups who affect or are affected by the project, and who thus have an interest and some degree of influence over the project's outcome

Institutional analysis: In addition to the social structure and stakeholders components, there needs to be detailed assessment of the formal and informal institutions, rules, organizations and their behaviour likely to affect the mining project and the changes that are likely as a result of the project. This analysis should describe the inter-linkages between stakeholders and these institutions to help identify institutional constraints to success.

Participation: The social diversity and gender analysis and the stakeholder analysis jointly will assist in the identification of a good participatory framework. This framework will aim to bring into the social assessment process previously excluded groups affected by the project as well as beneficiaries of the project. Appropriate mechanisms to initiate and sustain the required participation need to be deployed for a good quality social assessment process.

SIAM METHODOLOGY: KEY COMPONENTS OF SIAM

Stage 1: Impact identification

Step 1: Analyzing the actors and targets

Since social impact assessment deals with the consequences of a current or future action, it is important that the actors who are initiating the action as the impactors be outlined. Similarly, the 'target' or the social system that is going to be impacted needs to be analyzed. Usually, these analyses should include a mapping of their boundaries through identification of the key stakeholders within each group, their sub-systems and related phenomena outside the system's boundaries.

Activity 1: Analyzing the actor system

In the first step of the analysis, the proposed action or the project should be outlined. In case of a proposed mining operation or an expansion of the existing operation of the mining company, this would clearly identify the physical area, infrastructural construction and/or buildings, and start dates etc. In addition to readily available information such as mining methods, estimated project schedule and operational details, other information need to be collected about the company's immediate operation in terms of number of employees, output per product, estimate of employee and contractor salaries, mix of the employees from the local region as well as from outside function wise, budgets for community social investment and environment protection. Knowledge concerning the company's projections about the operation for the future is also required. Other information such as supplies from local community that highlights the connections between the actor system and the target system needs to be collected.

Activity 2: Analyzing the Social System

This step would involve mapping the key stakeholders within the society from the viewpoint of the operation of the mining company. The important tool of 'Stakeholder Analysis' can be used for this purpose. Stakeholder Analysis identifies people, groups, and organizations that are impacted by the proposed project directly or indirectly, as well as those who can potentially affect the proposed project through their interest in the company's operations. Both groups are likely to influence the outcomes of the impacts of the mining operations. At this stage, it is important to identify and disaggregate the stakeholders in the first category—those who are the beneficiaries and those who bear most of the adverse impacts.

Activity 2: Analyzing the Social System cont.

During the next stage of the SIA process, the beneficiaries and those adversely affected can be further disaggregated by characteristics at household level, occupation as well as on a cultural and gender basis.

For the Stakeholders in the second category such as civil society organizations, trade unions, business associations, it is important to understand who are favorably disposed to the proposed action as well as those who are likely to oppose the proposed action. An understanding of these influencers can determine the nature of the impacts as well as the success of the proposed action or the mining project. At this stage, it's crucial to do a first-cut Stakeholder Analysis based on the understanding of the target system available. This step can be repeated in greater detail and assumptions verified during a later stage that involves consultation.

TABLE 1: STAKEHOLDER ANALYSIS

Questions to ask regarding stakeholders	Stakeholders (impact/interest) High	Stakeholders (impact/interest) Medium	Stakeholders (impact/interest) Low
Who will be negatively affected by the mining project?			
Who will benefit from such initiatives or projects?			
Who will be responsible for implementing measures to mitigate any negative impacts?			
Whose cooperation, expertise or influence would be helpful to the success of the project?			
Who are the most vulnerable, least visible and most voiceless, for whom special consultation efforts may have to be made?			
Who supports or opposes the changes that the initiatives or projects will bring?			
Who might have resources to contribute?			
Who are the key decision-makers?			

Source: Adapted from ICMM (2006). Good Practice Guidance for Mining and Biodiversity

A good stakeholder analysis typically involves:

- Identifying the key primary and the secondary stakeholders
- Defining their characteristics
- Identifying the interests of stakeholders in relation to the developmental activity i.e. the mining project
- Identifying possible conflicts of interests amongst the stakeholders with a view to help manage potential sources of conflicts during the course of the mining project
- Identifying relations between stakeholders that may serve to advance the developmental activity;
- Understanding the barriers to and the requirements for the stakeholders' effective participation in the mining project, and;
- Assessing the capacity of the stakeholder groups to participate in the development activities.

In addition to assessing the capacity of the stakeholder groups to participate in the mining project, an assessment of the appropriate level of engagement with the stakeholders needs to be done as well. The engagement may encompass a range of activities, including providing information, consultation, participatory planning or decision-making and partnership in the mining project. The level of interest identified by asking the right questions of each stakeholder helps decide the time commitments with respect to each stakeholder group. Depending on this, the stakeholders may be involved in the different stages of the project with differing levels of engagement ranging from merely providing info to participatory planning or partnerships. The following Stakeholder Participation Matrix must be the outcome of the Stakeholder Analysis. This information will guide a key principle of SIAM, namely that of participation.

Furthermore through Institutional analysis, the key actors and their behavior, institutions and their rules with in the target system should be identified to better appreciate the success of the proposed action as well as the nature of the impacts it is likely to create.

TABLE 2: STAKEHOLDER PARTICIPATION MATRIX

Project stage/ Level of participation	Control	Partnership	Consult	Inform
Identification				
Design				
Implementation				
Monitoring & Evaluation				

Step 2: Profiling

It is possible that the stakeholder analysis does not identify all stakeholders. For this reason, as well as to establish a base-line of current social conditions, a social profile is useful to 'map' the community. A social profile or 'map' can help reveal a communities strengths and weaknesses and therefore its areas of vulnerability to impacts. Data collected for social profiling should be disaggregated by gender, socio-economic status and cultural or religious groups in keeping with the social and gender diversity principle of SIAM. In most cases, the target social system will have a history of development. A critical account of this history through a base-line analysis is also useful in creating a comprehensive social profile. The profiling should describe the social units affected by mining activities and identify indicators to measure impacts. Indicators should be precise, measurable, socially relevant, have a clear link to the potential impact being assessed and readily obtainable. A sample of the indicators across important categories is shown in **Table 3** below.

TABLE 3: SAMPLE INDICATORS FOR PROFILING

<p>Demographics</p> <ul style="list-style-type: none"> • Population • Distribution and projections • Age distribution • Population density/structure • Net migration trends • Fertility rate • Life expectancy 	<p>Employment</p> <ul style="list-style-type: none"> • Occupations • Employment rate by gender • Employment rate by age • Employment rate by industry • Unemployment rate • Economic dependency 	<p>Agricultural family financial characteristics</p> <ul style="list-style-type: none"> • Agricultural family income • Non agricultural income • Value of land • Rate of Return • Debt servicing ratio
<p>Housing</p> <ul style="list-style-type: none"> • Dwelling structure classification • Housing tenure trends • No. of owner-occupier dwellings • No. of Rented dwellings 	<p>Education</p> <ul style="list-style-type: none"> • Education institutions • Highest qualification obtained • Qualification by area of study • Participation rates by age and gender 	<p>Economic dependency</p> <ul style="list-style-type: none"> • Agricultural Sector • Mining sector • Manufacturing sector • Service sector • Relative importance of different sectors • Economic Diversity
<p>Households</p> <ul style="list-style-type: none"> • Household size • Families without children • Single parent households • Female-headed households • Single person households • Group households 	<p>Income</p> <ul style="list-style-type: none"> • Individual Income • Household income • Household income by occupation • Overview of incomes trends in predominant industry/s 	<p>Linkages</p> <ul style="list-style-type: none"> • % of regional income dependent on exports • Trends in world prices for commodities produced • Terms of Trade
<p>Cultural diversity</p> <ul style="list-style-type: none"> • Place of Birth • % Ethnic/language groups • Language/s spoken at home • Language/s spoken at home by age 	<p>Social Infrastructure</p> <ul style="list-style-type: none"> • Major centres of region • Access to Health services • Access to Community services • Level of local government support • Level of State/Federal govt. agency presence/investment 	<p>Indigenous</p> <ul style="list-style-type: none"> • Population • Age profile/Life expectancy • Criminal justice rates • Education/employment data • Community Development Programs • Income/Poverty levels • Linkages with external society • Land tenure/ownership • Language groups • Sacred cultural sites
<p>Industrial infrastructure</p> <ul style="list-style-type: none"> • Manufacturing setups • Processing setups • Other small-medium businesses 	<p>Land tenure</p> <ul style="list-style-type: none"> • Freehold • Types of leases • National Park • Indigenous 	

Adapted from: Queensland Dept. of Natural Resources, Mines and Energy 'Compiling regional social and economic profiles: a practical guide for regional NRM bodies in Queensland'

Making Sense of Profiling in Practice

In addition to describing the current social and economic conditions, a good profile should include social and economic trends already underway in the region. An in-depth profile can assist in the formulation of social investments and community development activities and strategies aimed at improving social outcomes of the mining project, increasing benefits and mitigating the negative impacts on the community.

A social profile tells us about a community's potential to benefit from the opportunities arising out of the proposed action. For instance, if the profile identifies relatively high education levels then this might give an insight into the possibility of local employment arising from the mining project. If the profile reveals economic hardship due to poor levels of investment, infrastructure and education combined with low employment, income and productivity levels, then it suggests that community-specific social investments in education, skills training and livelihood programs are needed to increase the region's potential to benefit from the mining project.

The level of economic dependency according to industry sector and occupations will also give insights into how the community is likely to be affected by economic changes. For example, the profile may reveal the sectors that are susceptible to impacts from the mining project. In that case mitigation measures must be put in place to minimize the adverse economic and subsequent social impacts. Other indicators might suggest factors that might hinder participation. Appropriate measures such as transport, childcare facilities may then be initiated to encourage participation.

Table 3 opposite gives examples of socio-economic indicators for a community profile that can be used to identify likely impacts and stakeholders that may be particularly vulnerable, inform decisions about the subsequent stages of the SIA process, as well as mitigation and social investment strategies.

Step 3: Preliminary projections

This activity is to determine what and who is likely to be impacted as a result of the action of the actor system on the target system. In consultation with the various stakeholders, the potential adverse as well as favorable impacts need to be identified. This initial assessment serves as a first step towards participation of all the key stakeholders and should be used as a means to gain better understanding of the issues, as well as the stakeholders that need to be dealt with carefully in later stages of the assessment process and the project. As mentioned previously, the stakeholder analysis may be done in greater detail at this stage to get a better understanding of the issues and likely sources of conflict from the viewpoint of the stakeholder. At this stage, the level of impact need not be determined.

Strategic techniques need to be used to target the various community sectors to ensure participation. For example, interviews may be used as a part of the consultation process when there are issues that are specific to each stakeholder and/or that the stakeholders would need confidentiality. Similarly, Workshops may be used to involve stakeholders in brainstorming about impacts and their associated problems as well as possible solutions.

Step 4: Re-examine profiling

Based on the discussions with various stakeholders and initial projections, we must check whether there is a need to collect more data and information to expand and increase the accuracy of the social profile.

Step 5: Projection

After reexamining the social profile and collecting additional information if required, the scoping and projections of the range of impacts as carried out in Step 3 may be repeated again in light of additional information. At this key stage of a SIA exercise, projections of the range of impacts and who is affected needs to be made under various scenarios: if the proposed development proceeds, if it is abandoned or if alternatives are adopted. If it is deemed that the proposed development should proceed as planned, the projection of impacts should be broken down according to each activity level of the project's operations (such as transportation of goods, tailings dam, use of smelter and crusher and so forth). The mechanisms of each activity that cause the impacts need to be clearly established and the stakeholders who are likely to be impacted by that particular activity need also be identified.

At this stage, the independent personnel undertaking the SIA and the results of consultations with the various stakeholders will provide the data that identifies the social changes and specific impacts that will arise, as well as their likely solutions. The key indicators to measure impacts should also be identified. This should be accompanied by an identification of 'cause and effect' linkages and feedbacks between the impacts and the indicators. Examples of such feedbacks include increased migration for mining work (demographic impacts) leading to a range of social, economic and environmental impacts - such as social division and conflict, increased crime, increased pressure on natural resources such as water, infrastructure resources such as sanitation, roads and housing and increased inflation and rent-seeking behaviour leading to increased poverty and hardship for some members of the community.

FRAMEWORK FOR INITIAL SCREENING

The framework below by Branch and Ross can be used for scoping the range of impacts at the preliminary projection stage. Understanding the interactions between the environmental and human impacts of the proposed action and the social context is required in order to scope the likely social impacts that may arise. The scoping and projections of the full range of impacts can be reiterated using this framework in Step 5.

Attributes of proposed action with potential to cause social change (direct inputs, changes or reductions):

Environmental aspects

- Landscape and natural resources
- Land use and built environment
- Air, water quality
- Toxic materials storage and use

Human aspects

- People
- Jobs
- Income
- Organisations & Regulations
- Proponent approach

< Interaction >

Attributes of social environment that will mediate/interact with direct inputs, changes or reductions:

- Community resources*
- Community social organization#
- Cultural and personal attachment to places
- Values, attitudes, expectations and perceptions
- Supplementary resources/interventions from outside
- Other projects
- Media coverage

Types of social impacts that could result from interactions:

- Community resources*
- Community social organization#
- Indicators of well-being^

Outcomes of impacts:

- Equity
- Community Sustainability
- Acceptability

Community resources =

- Physical environment & natural resources
- Historical experience
- Demographic features
- Labor force characteristics
- Facilities/services/fiscal resources
- Organisational & regulatory structure
- Political skills and leadership
- Cultural characteristics and values

Community social organization =

- Diversity/complexity
- Outside linkages
- Distribution of resources/power
- Coordination & cooperation/conflict
- Personal interactions and relationships

Indicators of wellbeing =

- Health and safety
- Sovereignty
- Conflict
- Co-operation
- Employment
- Cohesion
- Satisfaction
- Perceived risk

Source: Branch, K.M & Ross, H (2000) 'Scoping for Social Impact Assessment', Goldman, L (Ed) Social Impact Analysis: An Applied Anthropology Manual, Berg, Oxford: 93-126

Stage 2: Impact Assessment

Step 6: Assessment

After identifying the various impacts, the magnitude of impacts need to be ascertained, their significance and the likely reaction of people affected by it. The assessment should also determine the potential for mitigation or if possible, avoidance.

The summary of changes and the social impacts identified during Stage 1 should be used to assess the significance of impacts to the relevant stakeholders. The significance of the impacts may be gauged by considering a range of criteria such as magnitude, duration, the number of people affected and how it affects community/regional development aspirations and plans. Ascertaining the significance, degree and duration of the impacts needs to be done in consultation with the community as they are the affected parties and it is their perception regarding the impacts that needs to be understood and managed. To identify and demonstrate these impacts, an assessment technique appropriate to the length and intensity of the SIA needs to be chosen. Using the profile of social indicators, the changes can be monitored over a period of time.

Step 7: Evaluation

An evaluation of the net benefits in light of the social impacts must be done to understand and identify the beneficiaries as well as those adversely impacted by the mining project. The evaluation must take into account the mitigation measures planned through management action to reduce the social impacts as well as other community social investments that are likely to improve key social indicators. If the proposed management action is not acceptable even after accounting for the mitigation measures, an alternative course of action may be pursued. If this is the case, parts of the SIA may need to be repeated to evaluate the revised course of action. A complete evaluation should incorporate the impacts, net benefits, potential mitigation measures as well as the alternatives. Based on this, appropriate actions should be recommended as far as management action is concerned.

Stage 3: Impact management

Step 8: Mitigation

Depending on the outcome of the evaluation stage, mitigation measures must be finalized along with an action plan to achieve those measures. The International Council for Minerals and Metals (ICMM) discusses a hierarchy of mitigation measures, from most desirable to least desirable, used to reduce biodiversity impacts. A similar set of actions may be used for mitigation measures for social impacts. ICMM's mitigation measures for biodiversity impacts remain relevant, since they are likely to affect the economic and social conditions of local communities whose livelihoods and lifestyles are closely intertwined with their biophysical environment. The ICMM recommends:

Avoiding impacts by modifying a proposed mine or existing operation in order to prevent or limit a possible impact. The highest priority should always be afforded to avoidance measures. Changing the location or design of a processing plant is a simple example. A more extreme example of avoidance is not to proceed with the development. For example, if an economically attractive mineral deposit were offered to an ICMM member within a World Heritage Site, ICMM's policy on 'no go' areas would dictate that the project could not proceed.

Minimize impacts by implementing decisions or activities that are designed to reduce the undesirable impacts of a proposed activity on biodiversity. An example would be installing tertiary treatment to remove phosphates from effluents that could lead to eutrophication of wetlands and changes in species composition, with resultant impacts on aquatic biodiversity.

Rectify impacts by rehabilitating or restoring the affected environment. This would include attempts at habitat re-creation, to restore the original pre-mining land uses and biodiversity values.

Compensate for the impact by replacing or providing substitute resources or environments. Compensatory measures should be used as a last resort and might include so-called offsets, such as purchasing an area of equivalent habitat for longer-term protection.

Step 9: Ongoing monitoring

This final stage involves the development of an ongoing monitoring and evaluation plan to measure actual impacts against predicted impacts. Lessons learnt can be fed back into mitigation strategies, policies and planning.

Lastly, the results of the SIA process need to be prepared as a transparent and publicly accessible document which details the outcomes, stakeholders, institutional and community groups that have been consulted.

Case Study: Anglo Coal Australia, Drayton Mine, Upper Hunter Valley, New South Wales, Australia

In 2004, researchers from the University of Queensland's Centre for Social Responsibility in Mining undertook a research project funded by the Australian Coal Association Research Program (ACARP) to help Anglo Coal Australia develop a community impacts monitoring management strategy (CIMMS) for its Drayton open cut mine, in the Upper Hunter Valley region of NSW. The Drayton operation is located a few kilometers from the town of Muswellbrook, which has a population of 10,000 people.

In the following extracts from the final project report, *Monitoring the Impact of Coal Mining on Local Communities* by CSR researchers David Brereton and Jenny Moffatt, the key stages of the CIMMS process, including methods of stakeholder engagement are outlined.

What was involved

The CIMMS process, as developed and applied at Drayton, consisted of three main components:

Profiling

This initial stage involved developing an overview of Drayton and the surrounding community to identify:

- Drayton's main local stakeholders
- The main points of contact between the mine and the local community
- The processes currently being used by the site to monitor and manage community impacts
- Existing and potential sources of data about the social performance of the site
- Current and likely future corporate policy and reporting requirements
- Demographic, economic and social characteristics of the local community
- Relevant government policy, applicable legislative controls and approval conditions

This profile was created from discussions with site-based personnel, representatives of other mines in the area and regulators, published and unpublished reports, and various data sources held by Drayton (e.g. complaints records, annual reports, internal management plans).

Engagement

In the second, and more resource intensive stage, a broad range of local stakeholders provided input on what they saw as the key issues for Drayton and other mines in the area, and made suggestions about how progress in dealing with these issues should be measured.

Engagement involved a two step process: (1) an initial round of 28 one-on-one interviews with a broad cross-section of stakeholder representatives; and (2) a half day, multi-stakeholder, workshop attended by 15 external participants, plus representatives from Drayton and the adjoining Mt Arthur Coal mine.

Synthesis

In the final stage, the information that had been collected was used to develop a CIMMS for Drayton. This took the form of a document that:

- Identified key community issues for the operation
- Described existing processes for dealing with these issues and proposed additional management strategies
- Proposed how the site's performance in dealing with these issues should be monitored and measured

The document was designed to provide the foundation for the development of more detailed operational plans for the site.

Obtaining Stakeholder Input: Process and Outcomes

A two-pronged approach was used for this project, consisting of one-on-one interviews with a cross-section of stakeholder and community representatives, followed by a multi-stakeholder workshop. These techniques were used in preference to a quantitative survey because they provided greater scope to explore and probe issues. Also, the initial stakeholder analysis highlighted the significance for Drayton of its 'near neighbours'. This was a numerically small group whose views would have been lost in a 'representative' survey. The same is also true of the Indigenous community.

The primary rationale for including a workshop, rather than just relying on one-to-one interviews, was to see if broad agreement could be reached amongst participants about the key issues concerning the impact of mining on the local community. Another valuable function of the workshop was to provide participants with an opportunity to voice their concerns directly to other members of the community and industry representatives, rather than just to University of Queensland researchers.

The Stakeholder Interviews

Methodology

Potential interviewees were identified by key informants (Drayton personnel, local government, Chamber of Commerce) and by the research technique known as 'snow ball sampling'. Twenty-eight interviews were conducted between June and August 2004, covering the following sectors: near neighbours, regulators, MineWatch, local Indigenous groups, local government, local business, education, health, community development and other land users. This provided a good cross-section of the community.

The interview questionnaire consisted of unstructured and structured components. The interview was expected to take approximately 45 minutes; however, the initial questions stimulated a high level of interest and typically took over an hour.

The Multi-Stakeholder Workshop

Methodology

The workshop was conducted over a half day, using a locally based independent consultant. The workshop was designed to promote dialogue among multiple stakeholders and to explore the scope for reaching broad agreement on: (a) the key issues that warranted attention by Drayton and other mines in the area; (b) what should be done to address these issues; and (c) how progress in dealing with these issues could be measured.

Personnel from Drayton and Mt Arthur mines and three researchers from CSRSM were also present as observers. The SHEC Manager for Drayton opened and closed the workshop, but otherwise industry representatives did not participate actively in the discussion, instead taking the view that they were 'there to listen'.

Participants were told that information from the workshop would contribute to a broader review that Drayton was conducting of its management of community issues as well as to CSRSM's research project. Prior to the workshop, participants were provided with briefing papers which outlined the objectives of the exercise and summarised the findings from the stakeholder interviews.

On the day, workshop participants were formed into two groups and each group was asked to consider three broad questions:

1. What has Drayton mine and the local coal industry done well?
2. What have the mines not done so well and how could this situation be improved?
3. How could these improvements be measured?

The first session focused on the economic impacts of mining, the second on the management of 'near neighbour' issues and the third on the management of broader environmental and social impacts. At the end of each session, a member of each group presented to the workshop as a whole on the issues that had been identified by their group. Industry personnel and CSRSM researchers left the room while the smaller groups met, but returned to hear the feedback to the larger group.

The workshop concluded with the SHEC manager for Drayton thanking attendees for their contribution and reiterating that Drayton would provide a follow-up response to specific issues that had been raised in the course of the workshop.

Strategy Formulation

The final stage of the project involved framing a CIMMS for Drayton. This entailed:

- prioritising the key community issues for the site, based on the input provided by external stakeholders
- documenting how the site currently deals with each of these issues and proposing additional strategies where appropriate
- developing a set of measures for monitoring the site's performance in these key areas.

Prioritising Issues

The stakeholder engagement process drew out a broad range of issues and concerns. Some of these issues were complex and, to a significant extent, outside the 'sphere of control' of Drayton and other mines.

High salience issues were defined as those where Drayton could suffer significant negative consequences, or forgo a significant opportunity, if it failed to respond appropriately. These issues were deemed to warrant a sustained investment of time and resources by the site.

Moderate salience issues were defined as those where the issue was of importance for the local industry, but of only secondary significance for Drayton specifically. These issues were considered to warrant a moderate investment of time and resources on the part of Drayton.

Low salience issues were classified as those matters that were of limited concern to stakeholders and/or were outside of Drayton's sphere of influence. These issues were deemed not to warrant further attention at this stage by Drayton.

Reviewing Management Strategies

Having identified the salient issues for the site, an assessment was then made of how Drayton was currently dealing with them. Additional or alternative strategies were then identified where appropriate. Again, this was done with input from the site.

Developing a Monitoring Framework

The third and final step in formulating the CIMMS was to select measures that could be used by Drayton to report on the social performance of the site and to monitor trends in key impact areas.

Most of the additional measures proposed were quantitative, but in some instances it was more appropriate to use qualitative measures (such as 'feedback from Indigenous organisations'), than to develop artificial and potentially misleading numerical indicators. Also, the emphasis was on using data that is routinely generated by existing organisational processes and systems, rather than on developing stand-alone data collection procedures.

Drayton management has indicated that the outcomes of the CIMMS process will be shared with the community members and organisation representatives who attended the multi-stakeholder workshop and will also provide the basis for follow-up discussions with specific stakeholder groups. This provides a good framework for maintaining regular communication with key stakeholder groups, which will be essential for the long term success of the strategy.

In addition to the project report, CSRMs have produced an industry sourcebook of community impact measures based on the research undertaken for Drayton. The sourcebook, titled 'Developing a Community Impacts Monitoring and Management Strategy: A Guidance Document for Australian Coal Mining Operations' can be downloaded from the CSRMs website: http://www.csrms.uq.edu.au/docs/CIMMS_Guidance1.pdf

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