

INDIGENOUS CULTURE, SOCIO-ECONOMICS AND THE SOCIAL LICENCE TO OPERATE

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Abstract

Indigenous people value the environment in a manner different to western society and perceive damage to cultural and natural resource values as a threat to their socio-economic systems and therefore their survival. Disruption to their cultural activities and lands often results in significant opposition to mining and this represents a hidden cost to mining companies seeking to work in remote areas of Australia. These threats are important aspects of the 'social licence to operate' that must be addressed if industrial activity is to be introduced effectively and sustainably where indigenous cultures remain strong. However, it is difficult to express cultural damage in simple monetary terms because few tools exist that provide clear baseline information and estimations of impacts on cultural and socio-economic values from an indigenous perspective.

The links between Traditional Environmental Knowledge, cultural landscaping and risk assessment are demonstrated using the alumina refinery at Gove in Australia's Northern Territory as an example. Their application has helped provide additional information with respect to how mining impacts indigenous culture, patterns of natural resource and land management. As a result, a better estimate of the socio-economic cost to indigenous people may now be obtained and expressed in a manner that can be more easily understood by all stakeholders involved.

1. Introduction

The 'social licence to operate' is a concept related to acceptance of a project by communities upon which the project may have an effect. It is an important determinant of a sustainable minerals industry, because it integrates economic, environmental and social considerations into organisational and operational activities. With the recognition that social opposition can result in expensive delays to projects, acquiring a 'social licence to operate' has become an important part of modern corporate philosophy.

Where several distinct communities or cultural systems are impacted by a project, a number of viewpoints must be considered. The Aboriginal perspective is one such example. The rights of indigenous people to maintain their cultural systems and patterns of natural resource use are often not considered where projects are being developed in countries where indigenous culture has been subsumed. Although legislation that attempts to preserve those rights now exists in a number of countries (e.g. Yukon Environmental and Socio-economic Assessment Board, 2003), these often tend to be applied in a minimalist fashion, particularly where major projects are considered to be of great benefit to the economy. The Gove bauxite and alumina project is one example of this.

Nabalco commenced bauxite mining on the Gove Peninsula in Australia's Northern Territory in 1968 with processing of alumina starting four years later. The area chosen for development represented an area of socio-economic significance to the numerous Yolŋu clans who frequented the area benefiting from its natural resources. The Government's refusal to recognise Aboriginal land ownership protocols at the time led Yolŋu clans to oppose the mine's development and in turn led to a series of court cases that ultimately forged the basis for the Aboriginal Land Rights (Northern Territory) Act of 1976. In part recompense for loss of access to land, the Commonwealth government recommended an Agreement between Nabalco and the local Yolŋu be negotiated.

However, in the 1970's, the 'social licence to operate' was not considered by the mining industry as a concept worthy of attention. In spite of unfolding evidence that a traditional socio-economic structure, based on traditional and cultural knowledge had existed continuously for thousands of years; and a stated

desire by Yolŋu clans to maintain control over management of their lands, an agreement was not negotiated until 2011 – several years after Rio Tinto had purchased the project.

Assessment of socio-economic impacts represents one small part of the 'social licence to operate'. Behind this lays a basic cost-benefit analysis – a tool that should have been applied to economic evaluation of this mining project on Yolŋu culture. A valuable, but often incomplete estimation of socio-economic value of land targeted for mining can be obtained by assessing its agricultural or natural resource productivity in terms of current market values for commodities derived. Depending upon the integrity and depth of information available, this can then be used to provide at least a partial cost to offset against the anticipated 'benefits of mining'.

However, where traditional Aboriginal subsistence based socio-economic systems exist, this type of analysis is not always possible because many natural resources do not have direct market values or an equivalent. In the absence of quantifiable values, it becomes difficult to accurately measure this loss in a meaningful manner and ensure that adequate compensation for that loss is paid. This can ultimately lead to community dissatisfaction and opposition to the development.

To better meet the needs of indigenous cultures and address this part of the 'social licence to operate', alternative concepts based on the Aboriginal perspective, need to be applied and tools developed. Recognising that outcomes defined in monetary terms may not be possible, this paper seeks to describe and apply cultural landscaping and risk assessment tools to the Gove project in an attempt to better define the socio-economic impacts that mining has had on Aboriginal culture. In providing the Aboriginal perspective, it is hoped that the mining industry will better appreciate cross-cultural differences and put in place early baseline studies and on-going programmes to help address Aboriginal concerns and thus reduce the potential for social opposition to their project.

2. Method

Cultural information was collected using a process of participative dialogue with traditional Aboriginal Land owners responsible for areas that had been subsumed for mining or red mud disposal.

Information was gathered in accordance with protocols and procedures developed by the Northern Land Council that have been designed to have no time limitations and which reflect customary Aboriginal law, as shown by Figure 1. Information was collated with extant and archived archaeological and anthropological reports where available; and tabulated for storage into database systems. This allowed it to be transcribed as a series of layers onto maps for visual reference and to produce a detailed cultural landscape of the affected areas.

Socio-economic information related to the natural, cultural and spiritual values of natural resources is known to have several levels of detail and secrecy. This was used to guide the level of access permitted for each person seeking to access the database and forms the basis for protection of intellectual property rights.

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Risk assessments emphasising cultural considerations from the Aboriginal perspective were then undertaken in accordance with international standard procedures (International Electrotechnical Commission, 2009) and a cultural risk matrix derived. Much of the information collected was qualitative or semi-quantitative information, which meant that all risk analyses had to be restricted to a basic consequence/probability matrix as shown in Table 1. An additional category, labelled 'extreme' was introduced by Yolŋu to reflect the intricate links between cultural, spiritual and environmental concerns.

Table 1: Consequence/Probability matrix used for determination of impacts of mining on cultural and socio-economic variables

Probability	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
>80% (Almost Certain)	Low	Medium	High	Extreme	Extreme
>50% - 80% (Likely)	Low	Medium	High	Extreme	Extreme
>30% - 50% (Moderate)	Low	Medium	High	High	Extreme
10% - 30% (Unlikely)	Low	Low	Medium	High	Extreme
<10%(Rare)	Low	Low	Medium	High	Extreme

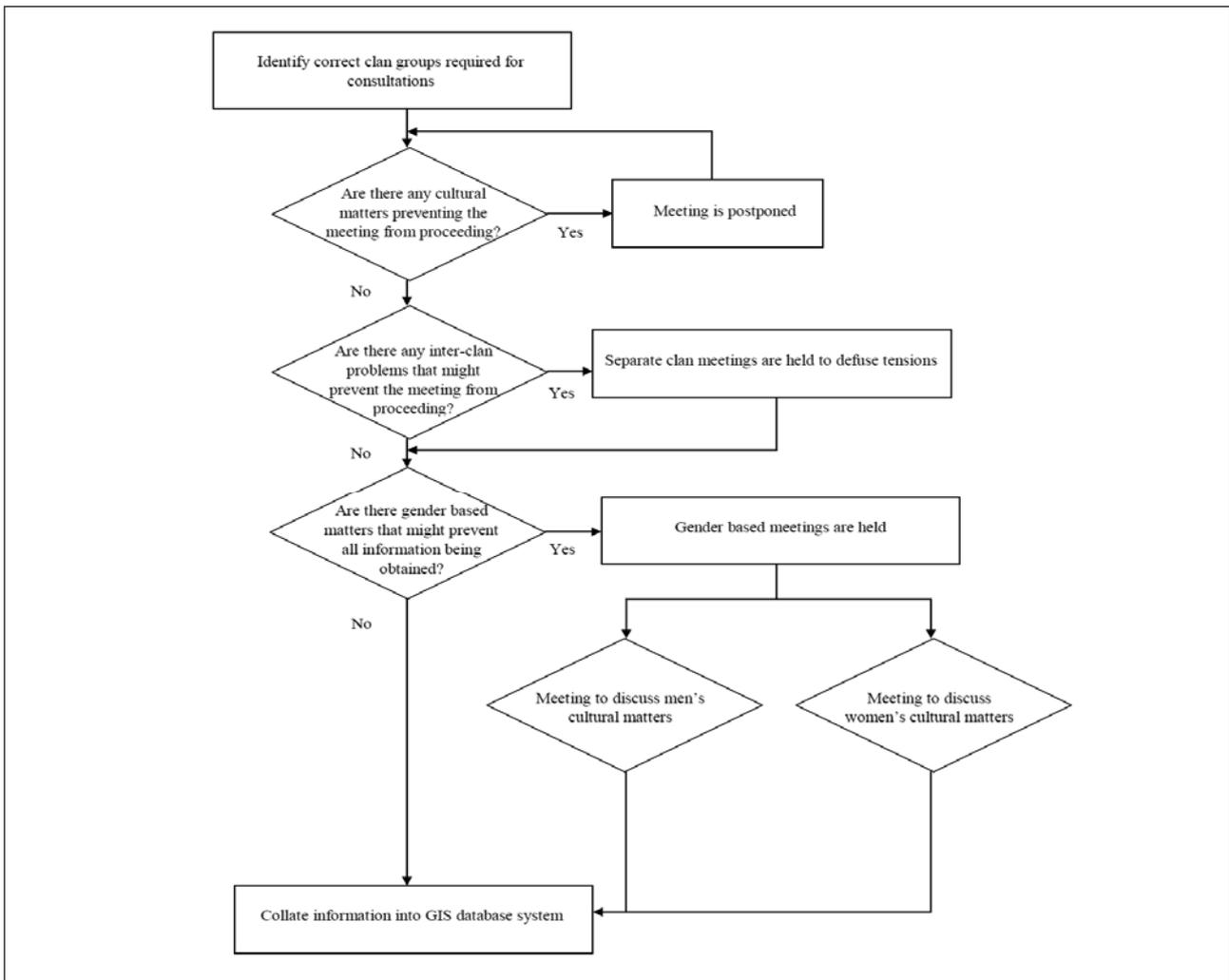


Figure 1: Decision tree used for collection of cultural information.

3. Results and Discussion

When considering the social ramifications of developing mines on Aboriginal land, it is important to understand that Aboriginal people view the natural environment differently to non-Aboriginal people. To them each element of the cultural landscape has a unique cultural, spiritual and natural value that must be respected and viewed in a holistic manner.

Cultural values for some typical species collected from the Gove Peninsula are presented in Table 2. Unfortunately, accurate quantities of resources gathered from the Gove Peninsula by Yolŋu have not been previously recorded and a full inventory of

natural resources and examination of the patterns of land use and their value prior to 1972 was never performed, thus restricting their applicability to standard socio-economic assessments. Although everything is of worth (Rose, 1987) market values can be applied to only a few species traditionally harvested (e.g. mud crabs – *scyllaserrate* and barramundi – *lates calcarifer*), while the cultural and spiritual values placed upon them and other resources cannot be assessed in monetary terms. This makes it difficult to determine both the baseline and current productivity levels required to complete a standard cost-benefit analysis or to assess the value of what has been lost as a result of mining and processing of bauxite.

Table 2: Examples of cultural values for some common Yolŋu natural resources.

Parameter	Aboriginal Name	Scientific Name	Cultural Value
Edible plant species	<i>Muntjitj</i>	<i>Buchanania obovata</i>	Food
	<i>Ngarrani</i>	<i>Syzygium spp.</i>	Food
	<i>Baltji</i>	<i>Dioscorea spp.</i>	Food
	<i>Gundjalk/Gunga</i>	<i>Pandanus</i>	Starch from nuts
Economic values	<i>Gundjalk/Gunga</i>	<i>Pandanus</i>	Basket weaving/String
	<i>Balgurr</i>	<i>Brachychiton populneus</i>	Firesticks
	<i>Baku</i>	<i>Smilax australis</i>	Ceremonial armlets
	<i>Gadayka</i>	<i>Eucalyptus spp.</i>	Bark paintings and brushes
	<i>Maypiny</i>	<i>Eucalyptus spp.</i>	Didgeridoos (<i>yidaki</i>)

Broadly defined, cultural landscapes are visual or interpretive maps that lay out the interactions between people and their environment, including patterns of natural resource distribution and their use. The Yolŋu landscape developed here draws upon Traditional Ecological Knowledge in its consideration of cultural, spiritual and natural activities and values. It provides a unique insight into how Yolŋu view the true worth of each part of the landscape – even if it can be described only in qualitative or semi-quantitative non-financial terms. Collation of Traditional Ecological Knowledge with traditional patterns of land management and natural resource use prior to construction of the Gove alumina refinery allowed visual representation via a cultural landscape represented in Figure 2.

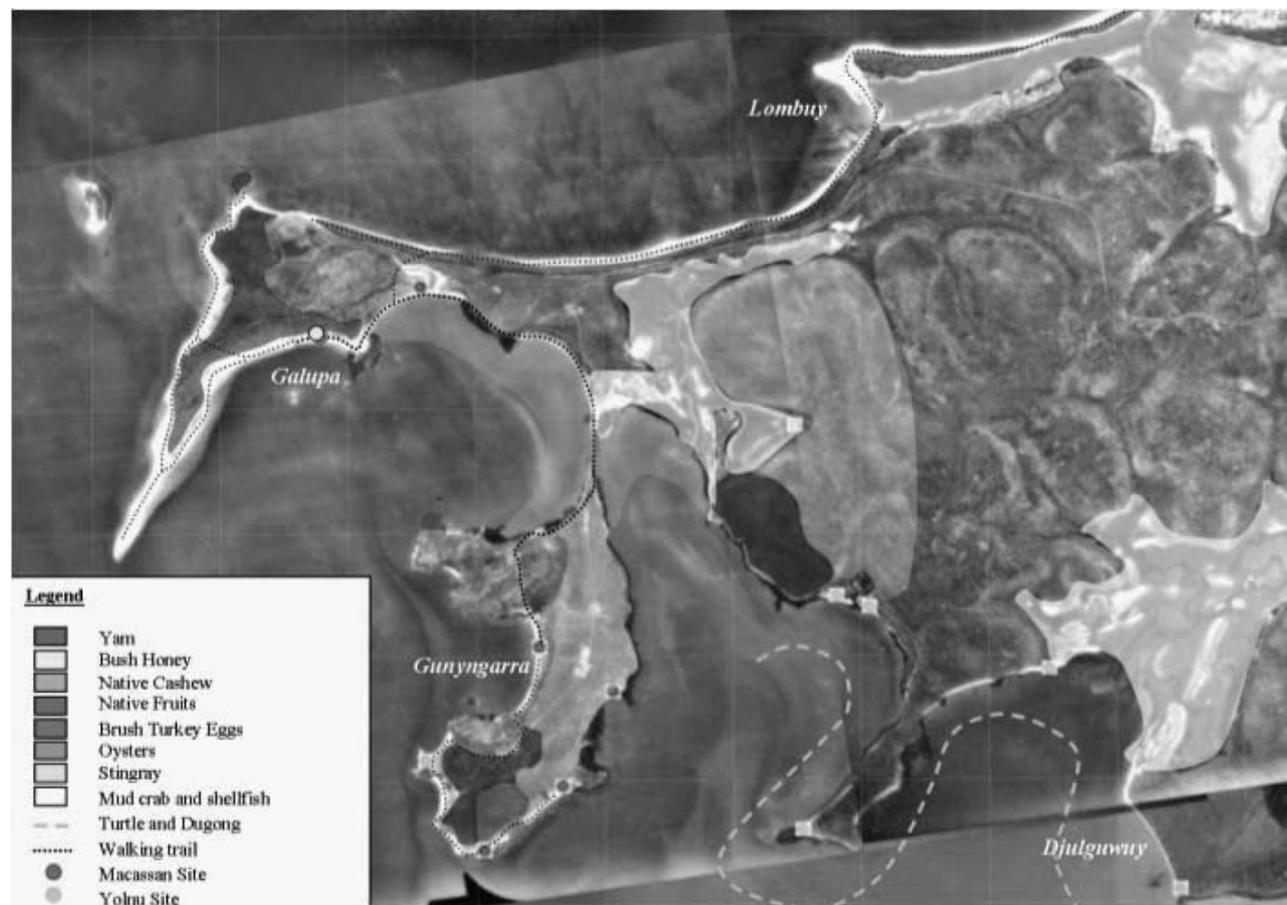


Figure 2: Cultural landscape based on land and natural resource use patterns for the Gove Peninsula environment 1950. Aerial photo courtesy of the Northern Territory Reference Library.

A comparison with the situation in 2009 is presented by Figure 3. It can be seen that construction and operation of the Gove project has resulted in dramatic changes to the natural environment over the past 40 years. Until 1970, this area was dominated by a complex tidal drainage system that fed into a large embayment – the whole area of which was considered to be highly productive and a prime hunting area for Yolŋu people living nearby. With the gradual deposition of large volumes of red mud waste over

the past 30 years, this waterway has been relegated to little more than a drain and few people now visit the area to undertake traditional hunting and gathering activities. Where hunting and gathering activities do occur near this embayment, they are generally restricted to the mudflats and mangroves to the south-east (bottom right of Figure 3), or in the deeper water areas of the Bay.



Figure 3: Landscape of the Gove Peninsula environment 2008. (Source: Google Earth).

Changes in hunting and gathering patterns represent social loss and are interpreted by Yolŋu as an enforced external restriction placed upon their cultural activities. The failure of successive managers of the Gove project to realise an Agreement, or to provide alternatives of equal value to what had been lost to Yolŋu culture, promulgated a backdrop of suspicion and resentment towards the company by many Yolŋu for over 40 years. Had the 'social licence to operate' been considered important in the 1970's, it is likely that the project would have taken a different form provided and greater consideration of the perspectives of Aboriginal people; leading to increased social acceptance.

In the face of incomplete and qualitative baseline data obtained for the Gove project and as a result of the significant environmental impacts, it is no longer possible to make a complete assessment of the net loss to traditional socio-economic systems in monetary terms that can be offset against the 'benefits of mining'. It is also difficult to calculate future loss. For example, caustic leakage from millions of tonnes of red mud waste deposited on land will continue to impact the environment for hundreds if not thousands of years. As a result, the productive capacity of the immediate environment may remain low for a considerable length of time and a return to traditional cultural activities and socio-economic practices, if they ever occur, will be protracted.

Table 3: Summary of risks to cultural concerns and socio-economic structure of Aboriginal clan groups

Category	Sub-categories	Potential risk
Spiritual Heritage	Dreaming trails Totems	Destruction or damage to trails leading to spiritual damage Loss of totemic species leading to spiritual damage
Archaeological Heritage	Rock art sites Artefact scatters	Inability to preserve or protect site due to loss of access Physical loss of artefacts
Anthropological Heritage	Walking trails Hunting practices Ceremonial practices Camping Management of land	Diminished capacity to make contact with the land Loss of access to productive hunting areas Loss of access to ceremonial grounds Loss of culture due to neglect of ceremony Loss of access for recreational activities Loss of access to land preventing traditional land management practices from occurring Loss of cultural knowledge through neglect of practices Loss of connection with the environment leading to inappropriate cultural practices
Environment	Flora Fauna Water Traditional Ecological Knowledge (TEK)	Loss of species having medicinal and food value Increased health risks through contamination of species having medicinal or food value Ecological damage through loss of vegetation patterns Disturbance of land management practices caused by loss of species that act as visual cues Loss of food species Increased health risks through contamination of species having food value Cultural values of water are lost Increased health risks through contamination of water Knowledge lost through a combination of events Culture and knowledge not propagated to future generations Loss or surrender of Intellectual Property Rights
Social Structure	Health Socio-economics	General contamination of the environment Loss of socio-economic structure as a result of loss of TEK and critical species

A second important part of dealing with potential social issues involves the use of culture based risk assessments performed by Yolŋu people. Culture based risk assessment at Gove provided key insights into how Yolŋu perceived their socio-economic and cultural structures could be adversely affected in the future. This should be undertaken immediately after the baseline landscape has been prepared. Had this been done in the 1970's, then the degree to which social dissatisfaction has resulted from the Gove project may have been better managed.

Yolŋu have identified five broad categories and fifteen sub-categories of risk, many of which can produce several detrimental outcomes. These are provided in Table 3. Consistent with the elements of cultural landscaping, the extent of each risk is difficult to quantify because they typically cannot be expressed in monetary terms. They are also subjective concepts – but no more subjective than other forms of risk assessment that are applied by mining companies when preparing their Environmental and Social Impact Assessments in Australia.

Assessment of risk by Aboriginal people is an important step forward for the 'social licence to operate' not only because it provides a form of cross-cultural impact assessment, but because

it serves as a platform to develop a collaborative approach to land management between companies and Aboriginal people. In turn, this can lead to development of programmes designed to address specific concerns in a culturally appropriate manner – something that did not occur at Gove in a meaningful way in the absence of a mining Agreement. For example, the relationship between Traditional Ecological Knowledge and the post-mining environment is a matter of fundamental importance to both indigenous people and the mining industry in terms of relationship building, collaboration and positive environmental outcomes (Smith, 2008; Smith, 2009).

Using this approach, on-going risks to Yolŋu cultural and socio-economic values posed by specific mining and refining activities undertaken at Gove have been identified and are shown in Table 4. Yolŋu consider many to be extreme because these activities are destructive, impact large areas of land or will have long-term chemical impacts on their natural resource base and cultural activities. The challenge to management at the Gove project is now to utilise this information and develop programmes that can minimise future impacts on the Yolŋu socio-economic and cultural structure and foster more positive relationships with Yolŋu within the sphere of the new Agreement.

Table 4: Application of the cultural risk process to the Gove Peninsula embayment area

Category	Mining	Processing	Wastewater Treatment	Red Mud Disposal
Spiritual Heritage	Extreme	Extreme	Low	Extreme
Archaeological Heritage	Extreme	Extreme	Low	Extreme
Anthropological Heritage	Extreme	Extreme	Low	Extreme
Environment	High	High	Low	Extreme
Social Structure	Low	Low	Low	High

4. Conclusions

Most impact assessments in Australia are undertaken primarily from the non-indigenous perspective and fail to consider Aboriginal views. While legislation is generally weighted in the favour of project development, failure to consider the Aboriginal perspective can lead to significant social opposition. This was the case with development of the Gove bauxite project in the early 1970's.

Recently, the need for a 'social licence to operate' has become paramount in corporate philosophy, meaning that alternative tools of assessment are required if cross-cultural concerns are to be adequately addressed. The combined approach of cultural landscaping and cultural risk assessments by Aboriginal people is offered as one tool. It is of value to the 'social licence to operate' because it can provide:

- (i) a vehicle where Aboriginal people can be involved more intimately in the Environmental and Social Impact Assessment process;
- (ii) for consideration of Traditional Ecological Knowledge creating a more complete picture of the environment and the potential impacts;
- (iii) a higher degree of collaboration between mining companies and Aboriginal people, particularly where programmes designed to minimise those impacts are being developed; and
- (iv) development of stronger and more respectful relationships between the mining company and Aboriginal communities.

Although cultural landscaping provides a form of semi-quantitative assessment that places value on natural resources where a value might not otherwise exist, it has limitations because it cannot be used to quantify the net loss to traditional socio-economic systems in monetary terms.

Application of cultural risk analysis sheds greater light on the matters of greatest concerns to indigenous people and allows threats to specific parts of their socio-economic structure to be evaluated in more detail. While it is still not yet possible to quantify these threats in monetary terms, the improved explanations provided can assist mining companies to better understand the strength of social opposition to their projects from many indigenous communities.

The case study presented has demonstrated the level of additional information and interpretation that should be collected prior to work on mining projects. Although the outcomes presented here are limited, on-going work with other Aboriginal groups (e.g. Binj of West Arnhem Land) suggests that it can and should be applied equally to other circumstances. If the tools of cultural landscaping and Aboriginal derived cultural risk assessments can be factored into forward planning that leads to sustainable post-mining environments, then the "social licence to operate" may become easier to obtain in cross-cultural circumstances.

References

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