

“The Importance of Local Knowledge”

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Abstract

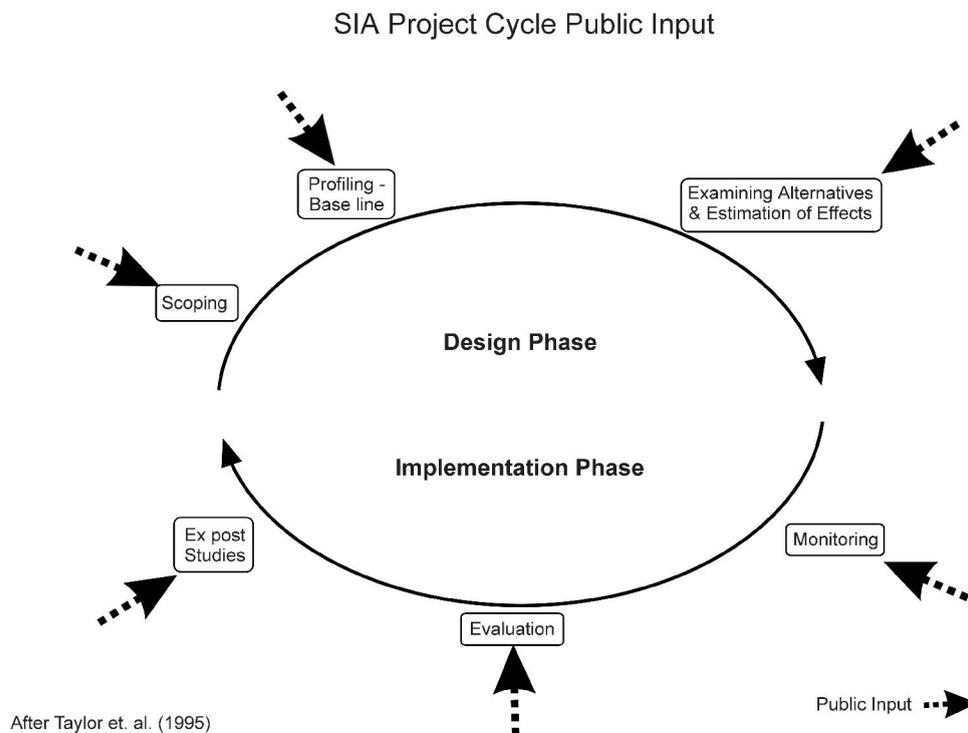
Host communities have important knowledge to share, based on their direct experience and observations of the operation of facilities and infrastructure. Professionals in Impact Assessment are important gatekeepers in accessing such knowledge and making it available to others - other host communities, local government planners, policy makers and decision makers. This paper highlights lessons learned from applying social assessment to the evaluation of solid waste facilities from the perspective of their host communities. The paper will outline the actual host community experience, as well as discuss methods in assessment, issues for interpreting results and the potential for this work to contribute to improved assessment, improved management (mitigation) and improved regulatory oversight of facilities and infrastructure.

¹ Copies of the paper and other related reports are available from the Taylor Baines website - www.tba.co.nz

1 Introduction

The concept of local knowledge can be used to examine the role of community consultation and participation in social impact assessment (SIA). Taylor *et al* (1995, p.94) present the concept of the 'project or programme cycle' in order to demonstrate how the social impact assessment process can provide an interface between the knowledge and interests of project proponents and that of host communities² - see Figures 1 and 2. In this paper, we wish to highlight the two main phases of the cycle - the 'design phase' and the 'implementation phase'. In so doing, we wish to contrast the use that is usually made of local knowledge in these two phases.

Figure 1 SIA project/programme Cycle



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The term 'host community' is used to refer to the community resident in the geographic area most clearly associated with a particular project. It is not limited only to those residents who may experience direct physical effects from the operation of a project. It extends to include members of a coherent community - perceived in a social sense - that already exists at the time the project siting decision was taken, and which will continue to develop in ways that may or may not be affected by the presence of the project in its locality.

Local knowledge refers to information and understanding about the state of the bio-physical and social environments that has been acquired by the people of a community which hosts (or will host) a particular project or programme. In the case of the operation of solid waste facilities, this local knowledge is based on people's direct experience and observations of the operation of those facilities and the associated infrastructure.

Practitioners of SIA are important gatekeepers in accessing local knowledge. Traditionally, the main focus of their efforts has been during the design phase of a project in preparing environmental impact assessments (EIAs and SIAs). The potential for local knowledge to contribute to the implementation phase of the project/programme cycle has yet to be realised.

Through experience, many practitioners have become convinced of the potential and real importance of using local knowledge in the site selection process, and to improve project design. Community consultation at the design stage has often identified a range of mitigation initiatives that limit the extent of negative impacts and enhance the likelihood of positive impacts in a proactive way. It is often a vital factor in establishing or building community acceptance around a project. Despite the manifest benefits that such community consultation has brought to project planning, many of us recall that it has taken a very long time and a great deal of argument and persuasion for developers and other project proponents to buy into this approach and back it up with the necessary skills and resources. Indeed, it has usually required a strong legislative push.

The issue of resistance to local or indigenous knowledge has been recognised in relation to different SIA paradigms. Lane *et al.* (1997) note that these have been characterised typically as "technical" and "political" approaches. The use of participatory methods to gather data for SIA involves an implicit assumption that local knowledge is valuable to the process. It requires an understanding of how local people perceive effects - not just how various technical experts understand them.

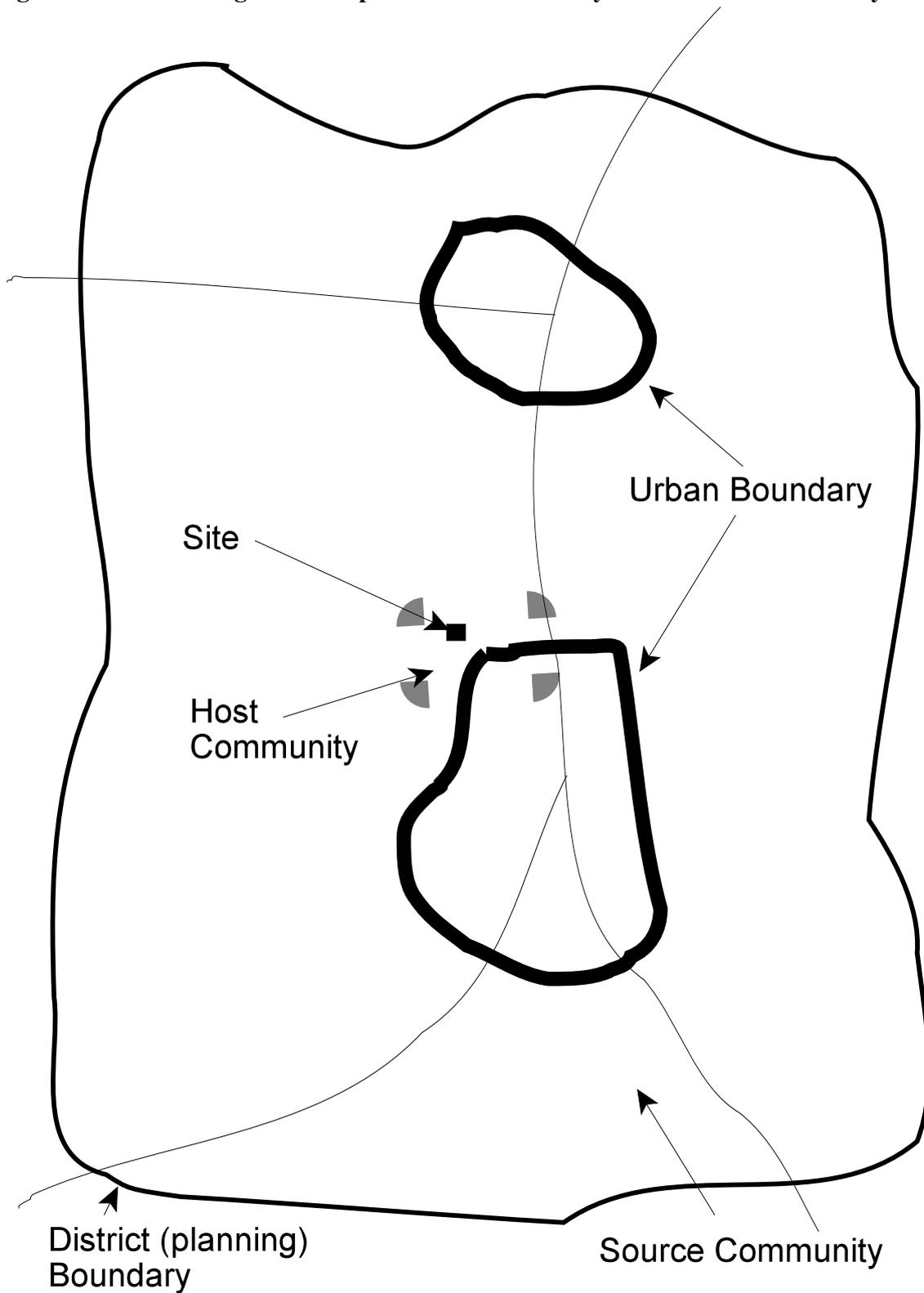
Many of us are also aware that it is still very much 'the norm' for SIA to be dispensed with once the planning process is over. Ex-post monitoring and evaluation of any kind for major projects has been slow to evolve in practice. SIA is generally not a component when it does take place.

This paper is based on research carried out in New Zealand³ to investigate the actual experience of 'host' communities in the vicinity of seven solid waste facilities. In this paper, we describe the research and its findings, and discuss the potential for using such local knowledge to improve the practice of impact assessment, the management of the solid waste facilities, and their regulatory control. As such, we hope it will contribute to achieving the vision set out in the 'project/programme cycle' where participatory social impact assessment becomes an integral part of both 'design' and 'implementation' phases.

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Figure 2 Relating the concept of 'host community' and 'source community'.



2 The research and its findings

The research - focus, approach and methods

The research employed social assessment approaches (Taylor *et al.*, 1995) to investigate the basic question 'what effects have members of host communities actually experienced from the operation of a landfill nearby?'

The approach involved accessing a range of sources of local information in order to understand and describe the nature of the landfill facility and operation and the nature of the neighbouring community. Each case study report contains sections describing the following:-

History and description of the facility:

- the geographic location of the facility
- the planning process, including the effects projected by the EIA
- the progressive development of the site and the facility over time
- the current situation regarding operation of the facility (at the time of the case study field work)
- the nature of on-going liaison between the facility operators and the host community
- roles and responsibilities in monitoring

The host community:

- demographic characteristics
- population change
- the pattern of land use in the neighbourhood
- development and changes over time

Operational (day-to-day) effects of the facility on neighbours and businesses:

- what effects are noticed by neighbouring residents and business people
- what these effects are attributed to (their sources)
- spatial distribution of effects
- timing, frequency and trends in effects over time
- mitigation efforts
- impacts and acceptability to neighbours
- summary evaluation of each effect as experienced in the host community

Long-term effects of the facility on settlement patterns and development in the locality:

- neighbours perceptions
- perceived impacts on property value

Two methods were used to access local knowledge. Firstly, a structured interview schedule was developed. This aimed to investigate the personal experience of individuals in the host community regarding effects and impacts from the landfill. Initially respondents were asked an unprompted question to identify any effects that they had experienced. Then they were prompted from a list of effects generated from EIA and other consent material for the facility.

Whenever an effect was identified then a set of questions were asked to elaborate on the nature, location, and timing of the effect and exactly how the respondent or their household were affected. Between 40 and 100 such structured interviews were conducted for each case study, with a deliberate sampling strategy to cover all geographic directions and a range of separation distances. Nearby residents and business people were the main targets for interviewing, although recreational users of the locality were usually included as well⁴. An important feature of the structured interview was the clear separation between ‘unprompted’ and ‘prompted’ questions as described above.

The second method for accessing local knowledge was the use of semi-structured interviews with key informants from the local community (‘host’), the wider community (‘source’), and the facility operators, administrators and regulators. Such in-depth interviews focussed on elaborating the social and community context for the landfill and its operations, as well as establishing the detail of operations and mitigating measures in practice, and corroborating observations of neighbours with those of the operators and monitoring agencies.

The research findings

General findings of the case study research have been summarised under several themes:-

Standards of facility operation:

- In all cases, effects of the solid waste operations are experienced off site. Unpleasant odours, roadside litter and heavy traffic noise were the most common effects reported, although the impacts were not always considered unacceptable. Other minor or less frequently reported effects included visual effects, road safety impacts, and birds.
- In a few instances (e.g. with landfill gas smells) neighbours were noticing effects at the margin of detection.
- In most cases there were other significant sources of similar effects in the neighbourhood. These included other sources of odour (e.g. piggeries, meat processing facilities, chicken farms, sewer lines), other destinations for heavy transport (e.g. quarries, forestry operations), and other sources of industrial noise (e.g. quarry crushing plant, timber processing, metal foundry).

⁴ Recreational interviews often became key informant interviews. Similarly, some interviews with local residents covered their experience of off-site effects both on their own properties as well as in their recreational use of the neighbourhood. Residential respondents close to the site often provided substantial, in-depth local knowledge and this was treated as "key-informant" information, additional to that provided and organised by the structured questionnaire. Key-informant data were key-worded and the content analysed using software for qualitative data analysis.

Host community perceptions and experience of waste facilities:

- Factors such as the wind regime, topography, separation distances and certain types of land use are critical to the distribution of the off-site effects that are experienced. Plantation forestry, industrial land use and certain types of agriculture or horticulture can mask off-site effects such as odour and noise.
- The concept of ‘buffer zones’ separating landfill operations from neighbouring activities is important to host community experience. Buffer zones can be thought of as mere space, separating one activity from another. However, intervening activities in that space can also be influential (e.g. a forest plantation can provide a barrier to odour, noise, windblown litter and visual intrusion). All the landfills studied in the research had significant elements of recreational use in the buffer zone, reflecting the fact that occasional occupation of the buffer zone is less likely to lead to unpleasant experiences than continuous occupation.
- Neighbours with particular experiences of facilities (lots of effects, or peculiar effects that others don’t tend to notice) were invariably very close to the facility boundary (small separation distances).
- Actual effects were invariably viewed by neighbours as less extreme than projected effects.
- In two cases where current operations are on sites used previously for waste disposal, current operations were experienced as being much improved on previous operations. This can be attributed to the higher operational standards required under the 1991 resource management legislation.

Quality of effects assessments:

- The case studies revealed very few off-site effects that were not at least identified at the planning stage, although in most EIAs the analysis was very limited.
- Some projected off-site effects identified for each of the facilities during the planning stage were not reported as being experienced by our interviewees during the implementation stage (i.e. they were not actual effects).
- Most EIAs have been very general in their descriptions of effects, particularly as they relate to members of the host community (e.g. little discussion of severity/significance; no mention of expected frequency, or likelihood, or areas likely to be affected). Some of the more recent EIAs appear to have been more explicit and realistic in their acknowledgement and projection of effects (but still lack useful detail).
- Given the importance of wind conditions (e.g. patterns of speed and direction) to a range of common off-site effects (e.g. noise, dust, odour, litter), it is surprising that no EIAs included data on the local wind regime in their assessment of effects.

- EIAs generally ignored the community context in their descriptions, and generally did not discuss the social consequences of the effects (i.e. they tend to ignore the social environment)

Facility-host community relationship:

- In only one case was a liaison group set up prior to the permitting process as part of the procedure for community consultation (i.e. early on in the planning process).
- Even if consultation was part of the facility's planning process, participants in the planning process have generally not viewed this as a basis for contributing to future monitoring of the operations - i.e. they have generally not sought to incorporate local knowledge into on-going monitoring. Nor have local government agencies generally made the connection. The implication appears to be that local stakeholders' interests will be adequately addressed by initial siting decisions or initial permit conditions.
- Many people noticed effects but did not do anything (e.g. make a complaint) about them, suggesting that in many instances the effects were seen as minor.
- Only two of the seven solid waste facilities studied had any on-going formalised liaison mechanism between the facility operator and members of the host community.
- Sometimes the logging of complaints was not as systematic as it could be, and often appeared to be not well co-ordinated between various participants.
- In respect of complaints, different organisational cultures were evident. Most operators and administrators tend to see complaints as indications of failure or poor performance, while others see complaints as opportunities for improvement.

3 Discussion - issues for interpretation

In carrying out this research, the research team had to address several issues relevant to interpreting the results. These included the debate about 'perceived' or 'real' effects, the need for corroboration, and the importance of timing or context as a potential influence on individual responses.

The research was clearly targeted at investigating people's experiences of living or working near waste management facilities. The results are therefore based on a large body of individual perceptions of effects. In some feedback discussions, the distinction was made that these effects are "only people's perceptions; they're not necessarily real." The question arises therefore as to what is the difference between a 'perceived' effect and a 'real' effect? Can 'perceived' effects ever become 'real' effects? It is not the place of this piece of research to answer such a philosophical question. Nevertheless, in practical terms, the research identified clearly the proportions of those interviewed who perceived (experienced) certain types of effect.

Furthermore, wherever possible, the research sought to investigate these effects from other respondents and from independent sources (e.g. local key informants; secondary data records) or different perspectives (e.g. the facility operator)⁵. As researchers, it was pleasing to note how in the great majority of cases neighbours' perceptions and experience was strongly corroborated by the perceptions and experience of the facility operator.

We would acknowledge that a number of factors have a bearing on individual perceptions. Different people have different thresholds for noticing effects depending, for example, on their ability to hear or to smell, or on their perception of what is 'exceptional'. Increasing sample size addressed this factor. Different living or recreational patterns are likely to influence people's experience of effects - whether they are on the property all day, every day, or working off the property. Day-time interviewing addressed this factor by increasing the likelihood of including individuals with a relatively high rate of occupancy. People get used to effects after a while - they can seem less exceptional. Following unprompted questions with prompted questions addressed this factor, by allowing interviewees 'a second chance' to respond.

Ultimately, we are forced to ask whether the distinction between 'perceived' and 'real' effects matters. The primary purpose and value of the research is to answer two types of question - (i) if neighbours around the facility are experiencing certain effects, and finding that they have unacceptable impacts, what can be done to reduce or eliminate the effect, or make it less likely to happen? (ii) if neighbours around facility A experienced certain effects and impacts from its operation, what is the likelihood that neighbours around potential facilities B, C or D will experience similar effects and impacts? In either situation, whether such effects are labelled as 'perceived' or 'real' is probably immaterial. However, we would make this observation - from a "technical" perspective, replication of reported effects is important to their validation, while from a "political" perspective, the perceptions of just a few people affected can be sufficient to galvanise social action.

The tendency for potentially affected parties to distort or exaggerate the likelihood of effects, when participating in EIA activities is not an uncommon experience for SIA practitioners. Indeed, in one of the case studies for this research, background documentation from an environmental tribunal declared this point explicitly. Another set of findings which support this behaviour was noted previously - actual effects were invariably viewed as less extreme than projected effects. In the research, this factor was addressed by ensuring that all the case studies were carried out on facilities which had no active permit applications or review processes.

⁵ As a matter of assessment methodology, we have adopted the stance that unless more than two individual neighbours reported and corroborated the same effect, or unless a neighbour's observation could be corroborated by an independent source, the effect would not be reported in detail, but simply noted. This reflects the stance that, while social assessment acknowledges the importance of individual observations, such observations still need to be subject to verification.

4 Lessons for improved assessment, management and regulatory control

Although the major objective of our research programme has been to document the experiences of particular host communities as a basis for improved site selection and design of solid waste facilities in future, the research has provided important insights into how local knowledge can be used during the implementation phase. Not only can effective use of local knowledge improve the practice of social impact assessment, contrasts between the experiences of different host communities make it clear that local knowledge, and the mechanisms and protocols which are established to access such knowledge, can also assist with improving operating standards and regulatory oversight, as summarised below.

Improved impact assessment

In New Zealand, planning legislation acknowledges that neighbours are likely to be affected parties. This research has confirmed that indeed they are affected parties, and continue to be during the implementation phase. The importance of local knowledge (from ex-post evaluations) for improving impact assessment derives from:-

- the demonstrable accuracy of their collective observations,
- the value of having credible, comparative case information,
- the ability to link environmental effects to their social consequences, and
- the ability to provide detail on spatial extent and likelihood of effect and impact.

Improved facility management

Using local knowledge provided by neighbours to a facility to improve its management and reduce off-site effects requires re-defining the type of relationship that usually exists between facility operators and their host community. This depends on:-

- attitudes that are cultivated, where operators need to take complainants' observations seriously, neighbours need to be willing to report experience in a timely and objective manner, and both parties need to demonstrate good faith
- effective contact channels, so that neighbours know how they can make contact quickly and their observations can be linked to the activities that cause them
- staff/resource capacity which reflects a commitment to continuous improvement, and a readiness to respond

Improved regulatory oversight

Good practice (as revealed in the minority of cases at the present time) suggests that regulatory oversight can be made more effective - more transparent and accountable - by a variety of features

which connect the host community to the facility operations and regulatory agencies, including:-

- a formal incident log, which documents neighbours calls and records the date, time, nature of the problem, cause, response, response time, and outcome
- a formal community liaison mechanism, dedicated to the facility (i.e. not a general community representation mechanism where neighbours and facility operators do not meet or consult directly with each other)
- clear and distinct lines of accountability from the consent authorities to both ratepayers and the host community (e.g. separate administrative sections involved),
- periodic social monitoring activities by the consent agencies to complement the bio-physical monitoring and incident reporting which is already a standard condition for resource consents on such facilities.

4 Conclusions

There must be greater recognition by practitioners as well as operators and administrators that SIA is an ongoing process which occurs throughout the life cycle of a particular facility. Management of the operation, and mitigation of its off-site effects will only remain effective if information is obtained systematically from local residents and used as an integral part of the ongoing assessment.

While SIA practitioners in 2000 may be convinced that the use of local knowledge is essential to good project planning, by 2010 we believe that the benchmark for good practice will have shifted. Indeed, by 2010, the benchmark for good SIA and project/facility management will acknowledge that the use of local knowledge is essential for effective monitoring, evaluation and continuous improvement.

References

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