Bias and credibility in environmental impact assessment

Can we expect environmental impact statements to be objective? If not, can their assumptions and value judgements be made more transparent? Can their biases be better aligned with the community interest? ***Sharon Beder*** *attempts to answer these questions.*

ENVIRONMENTAL Impact Statements (EISs) have lost credibility with environmental and resident groups over recent years because they are being increasingly perceived as biased public relations documents. This arises in part because the community generally expects that an EIS should be an objective scientific report whilst many consultants and project proponents view an EIS as a supporting document prepared as part of the procedure for gaining approval for a project.

The goal of a completely objective document is illusory because science itself is socially constructed. This is exacerbated by the circumstances of EIS preparation where large investments, careers and the viability of businesses are at stake. It is therefore inevitable that the values and goals of those preparing an EIS will shape its contents and conclusions through the way scientific data is collected, analysed, interpreted and presented.

Why an EIS can't be objective

Because the EIS is done rather late in the planning process the project proponents will almost certainly have committed considerable financial resources to a particular option at a particular site. The EIS at this stage becomes another obstacle in a field of bureaucratic hurdles on the way to their end goal. Naturally, they will want that document to emphasise the advantages of the project to the community and to down play the disadvantages.

Occasionally there are gross abuses of the EIS system by project proponents who leave out vital information or falsify results. For example, the Water Board omitted the findings of two studies of fish from its EISs for the Sydney deepwater outfalls. The studies were undertaken by the Fisheries Research Institute in the vicinity of the ocean outfall sites. In one study, seven out of eight blue groper sampled near the North Head outfall were above the National Health & Medical Research Council (NH&MRC) maximum residue limits for mercury and one red morwong out of eight was also over. In the other study, red morwong and blue groper caught near the sewage outfalls were found to be accumulating dieldrin and DDT and of the 58 red morwong sampled, ten exceeded NH&MRC limits for dieldrin and five exceeded those limits for DDT. Several more were just under these limits for dieldrin and DDT. The omission of these studies enabled the Board to claim that toxic waste coming through the outfalls would not be a problem when they were extended into deeper water.

Such blatant omissions, although sometimes difficult to detect, are probably rare nowadays. More often biases are subtle and arise from the many value judgements that are made at every stage of the preparation of an EIS.

Problem definition

An EIS requires that the proposed project be justified and alternatives considered. Both justification and the framing of alternatives will be shaped by the way the problem is defined that

the project is supposed to be solving. For example, in the Sydney Harbour Tunnel EIS, the problem was said to be traffic congestion. Traffic built up and slowed down on the approaches to the Sydney Harbour Bridge, causing delays to people trying to cross the Harbour by motor vehicle. A second crossing was therefore justified, and alternatives framed, in terms of providing better road access across the Harbour.

Opponents to the Tunnel did not perceive congestion to be a problem at all. Ted Mack, then Mayor of North Sydney, argued that congestion shaped a city by encouraging the movement of people and businesses to other parts of the metropolitan area so that new centres of activity were established. Ross Blunden, emeritus professor of traffic engineering, argued that congestion encouraged people to change their journey times or take public transport. Both concluded that a second crossing, far from removing congestion, would merely attract more car traffic and that congestion on both crossings would be the eventual outcome.

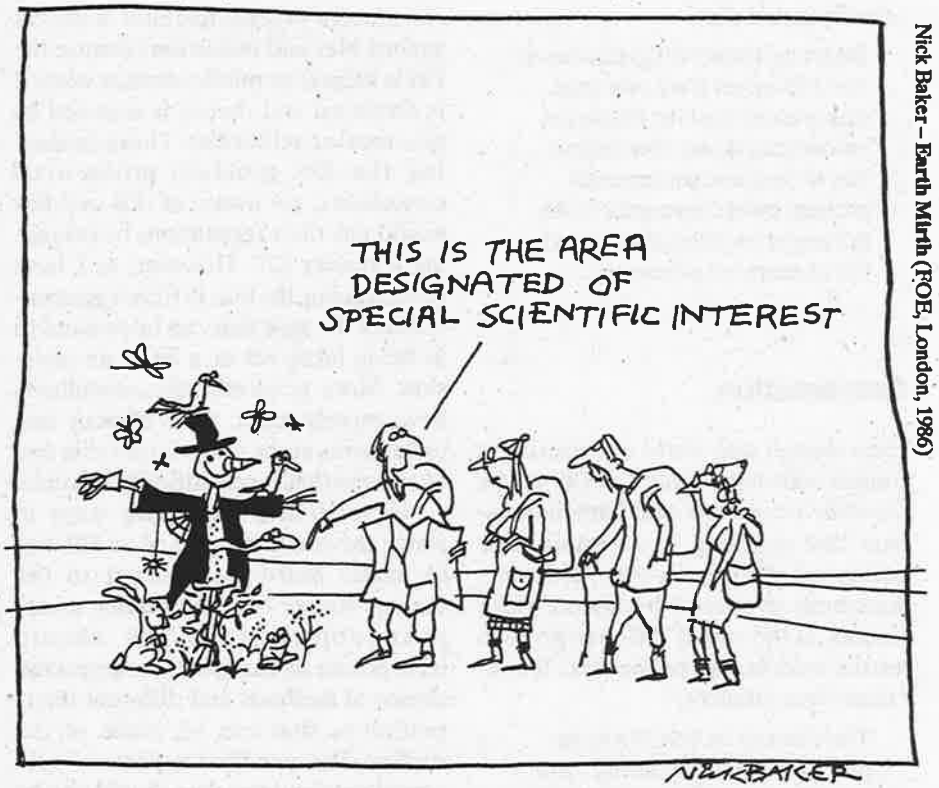
Impacts covered in EIS

The scope of what is to be covered in the EIS is also a matter of judgement and the way it is decided varies from state to state. In NSW, the proponent decides on the scope of the EIS after receiving some direction from the Director of the Department of Planning. In Victoria, it is decided in consultation with the public. A narrow scope can make a project appear more desirable. Using the previous example of the Sydney Harbour Tunnel, one can see that, whilst the proponents could argue that pollution would be reduced in the immediate vicinity of the Harbour because of smoother flowing traffic, a broader scope would have ensured that the wider impacts of increased car usage were also taken into account.

Data collection and analysis

The design of an EIS study requires judgements of what types of impacts will be significant and the collection of data requires decisions about the time period and area over which samples are collected, the species to be studied and the quantities of individual specimens to be collected, and more generally the scale of study. Such decisions are not made only on the basis of what might be considered by a scientist to be appropriate, but are also affected by considerations of cost, time availability, previous studies and perhaps even likely outcome.

Similarly, methods of analysing data can vary in the sorts of results they produce and data they require and those preparing an EIS will choose the methods using many criteria, apart from the 'purely scientific'. Even where the method of analysis is uncontroversial, assumptions and judgements will need to be fed into the analysis. For example, a cost-benefit analysis for a road project will require estimates of the value of time saved and may require estimates of the value of bushland or open space lost to the community. Most EISs require some form of forecasting of population numbers or other human activities and this requires assumptions such as where people are likely to live and work and what their habits will be in the future.



Nick Baker – Earth Mirth (FOE, London, 1986)

Data interpretation

Data collected and the results of analyses can be interpreted in a number of ways. Naturally an EIS is likely to present the most favourable interpretation that is available. Again, Sydney Water Board EISs provide blatant examples. The results of a 1973 fish contamination study were reported in its EISs for the deepwater ocean outfalls. The study showed that heavy metals exceeded maximum residue limits in ten out of eighteen organisms (including fish and mussels) taken near the outfalls. At the time the study was done an internal memo states that the Board and its consultants were concerned about the results:

> It was agreed that, while the data only represented analyses of individual specimens, levels of heavy metals and pesticides detected in this small number of samples were such as to suggest that a potential public health threat or environmental hazard might exist within the study area...

Yet when the EIS for the Bondi outfall was published in 1979, the Water Board

actually stated that:

> Whilst the statistical significance of the 1973 survey is not able to be clearly established the results are encouraging in that they indicate that no serious environmental problem existed even prior to the full implementation of source control of restricted substances...

Presentation

Even though real world engineering is fraught with uncertainties an EIS can be carefully worded to avoid any impression that anything is uncertain. For example, a draft environmental impact statement prepared by Byron Shire Council at the end of 1987 was given to me the week before publication. It contained the sentences;

> There should be little, if any, impact from the development, upon the S.E.P.P. 14 wetland within the site...
>
> A less than satisfactory result in the performance of the works and associated artificial wetlands would result in a forced abandonment of the wetlands disposal option and cause Council to again pursue the ocean outfall option with its inherent high cost and public opposition.

These sentences were omitted from the final published version of the EIS and the following inserted in their place:

> Monitoring results indicate no effect on the adjoining wetland areas...
>
> A close monitoring programme will enable Council to assess the performance of the proposed ponds and to determine the need for additional wetland areas.

Moderating bias and removing conflicts of interest

It is often argued by supporters of the system that the Environmental Impact Assessment process has built in checks against bias and distortion because the EIS is subject to public scrutiny when it is displayed and then it is assessed by government authorities. Those preparing the EIS, generally professional consultants, are aware of this and few would risk their reputations by preparing a shonky EIS. However, as I have been arguing, the bias in EISs is generally not of the type that can be pointed to as being incorrect or a lie or an omission. More generally, the consultants have merely made their choices and judgements at the more favourable end of a range that is scientifically credible.

Nevertheless there are ways in which the social shaping of an EIS can be made more transparent to the reader. Rather than attempting to appear objective an EIS should incorporate discussion of assumptions, choice of methods and different interpretations that can be made of the studies. The unedited reports of sub-consultants' and raw data should also be made publicly available. The final EIS could be subject to peer review.

It has been suggested that peer review be anonymous because of the retribution that can be meted out to those criticising an EIS prepared for a powerful organisation or business interest. However, anonymity can also provide a cover for abuse since the reviewer cannot be held accountable for their comments. It is for these reasons that whistle blowers and those who speak publicly against the work of their peers in the public interest should be encouraged and protected. Employees and sub-consultants should also feel free to speak out when they feel their work has been misrepresented or wrongly interpreted in the EIS.

The major factors preventing a more transparent and accessible EIS and an atmosphere conducive to free discussion of likely impacts arise from the way the Environmental Impact Assessment process is itself structured. Those who prepare the EIS, or hire the consultants to do so, usually have much at stake, financially or politically. The consultants themselves can also have much to lose. Consultants are dependent on the judgement of clients and that judgement is based on whether they are perceived to be able to deliver what is required by the client. Consultants with overdeveloped consciences, who do not put the client's priorities first, are less likely to be given work in future. Professional integrity and codes of ethics don't always withstand such pressures.

Consultants could be more independent if they were not directly hired by project proponents. An independent panel with community representation could choose the consultants from tenders. Proponents would still pay the consultants. In this way a firm which compiled an EIS that led to the abandonment of a project would not be penalised for doing so by being denied EIS work in the future. Of course such a panel would have also to be independent from government because of the prevalence of government projects that would have to be assessed.

Biases would still remain since judgements would still be required but there would be a better chance that those biases would be aligned with the community interests rather than the project proponent's interests. Also there is more likelihood that consultants under such a system would be willing to make EISs more transparent to the public and to discuss uncertainties and unknowns. Nevertheless I have found both developers and EIS consultants opposed to such a scheme because it suits them and the cosy relationship they have with each other.

***Sharon Beder** is a lecturer in the Department of Science and Technology Studies at the University of Wollongong and author of the book **Toxic Fish and Sewer Surfing**.*

A Guided Learning Course on *EISs: Issues for Users* by Sharon Beder is available from Engineering Education Australia (02-955 8200). It contains six hours of video material and several written booklets, and uses the Sydney Harbour Tunnel as a case study.