

Curtin University

# **A Guide for the Evaluation of Health Impact Assessments carried out within the EIA process**

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## Introduction

Environmental Impact Assessment has been part of the project approvals process in most countries for many years. This process has been effective in predicting the potential adverse impacts of development projects on the environment. There are usually well-defined procedures to carry out this function established by the government. In recent years there has been increasing concern about the positive and negative impacts of development projects on the health and well-being of the community likely to be affected by the development projects.

The current decision making processes give some coverage of the biophysical environment (mainly air, water, soil and noise) and many of the standards used have some basis in the effects that these parameters have on human health. However, there may not be sufficient coverage of the wider range of parameters (including social and equity factors) that impact on the health of the community. In addition to consideration of the negative impacts on communities, the assessment process needs to consider the potential to have positive impacts on human health and well-being. This is an important feature of Health Impact Assessment (HIA) compared with Environmental Impact Assessment (EIA) which normally only considers negative impacts.

Usually the countries that require EIA have developed guidance documentation on the processes required for conducting the EIA. Recently, there has been increasing interest in the inclusion of health and well-being considerations as part of the process and a need for some guidance for health officials and others on how well health components have been covered.

This document outlines the processes for undertaking and evaluating HIA within the EIA process.

## Objectives

The purpose of the process described in this Evaluation Guide for HIA statements within EIA is to provide guidance to ministry of health staff and others on the information needed to be able to evaluate a health impact assessment statement (report) conducted by or for proponents as part of the process of gaining approval for a development project. This process may also be of value to those involved in the preparation of the health impact assessment part of an Environmental Impact Statement (EIS), other government sectors, local government staff, proponents and consultants. The guidance provided here will complement existing guidance documents on the EIA process used within the relevant jurisdictions.

Although the Environmental Impact Statements (EIS) prepared by proponents and consultants may vary in structure and format it is expected that the information provided here will enable users to evaluate how well the HIA identifies, evaluates and

sets out control measures to minimise the negative impacts and enhance the positive impacts on human health and well-being of the development project. The outcomes of the evaluation can be used to:

- Identify the level of adequacy of coverage of the HIA components
- Identify the adequacy of the process used to evaluate the health impacts
- Provide feedback to the proponent, other government sectors and community on the acceptability of the HIA undertaken

An EIS covers aspects of the biophysical environment, including that of humans. This evaluation guide considers the health impact assessment component and also includes coverage of all factors (including psycho-social, community and equity) that may affect human health and well-being.

The format of this evaluation guide is presented as a series of questions on the content of the EIS that the evaluator needs to consider. Responses should then be provided on the effectiveness of the EIS in addressing the impacts on human health and well-being. Responses could range from good coverage to unsatisfactory or risks unacceptable with more information/evidence needed.

In summary the objectives of this evaluation guide are to:

- Provide guidance on the evaluation of the HIA component of an EIS/EIA report
- Enable adequate initial preparation for the review by health professionals
- Ensure that there is a suitable description of the proposed development
- Ensure that there is an appropriate profile of the communities (including vulnerable sections) and their relationship to the proposed development
- Ensure that there is full consideration (coverage and understanding) of the potential health impacts both positive and negative
- Ensure that the risks to health are clearly identified, evaluated and mitigated/managed
- Ensure that sufficient and appropriate evidence is given to support claims and conclusions.
- Establish appropriate conditions for ongoing management of risk to health to be set for approval
- Ensure that the quality of the HIA component of report is of a satisfactory standard

## **Types of Evaluation**

To enable the effective evaluation of activities data needs to be systematically collected from a range of participants and sources so that the reviewer can:

- Make judgements about the activity's value
- Reflect on what has been undertaken
- Determine if the activity's objectives have been achieved

The World Health Organisation indicates that evaluation processes can be of the following types:

- **Process evaluation:** Measures the processes that occur while an activity or program is in operation. It includes identifying the participants and the effectiveness of the separate activities of the program.
- **Impact evaluation:** Measures the immediate effect of a program (particularly its objectives).
- **Outcome evaluation:** Measures the long-term effects of a program (particularly its goals).

The evaluation processes used in this guide are a form of Impact evaluation and provide a direction for the determination of the potential impacts to health and wellbeing before commencement of the proposed activity. The evaluation process requires review of the data used to determine the benefits and risks to health and their management options and assesses them against the standards established by the World Health Organisation, the United States Environmental Protection Agency and other groups and adopted by the relevant jurisdiction. These evaluations should determine if the benefits and risks have been considered appropriately and that the health and well-being of the community is secured.

## Evaluation of HIA

The evaluation process that follows is presented in separate sections to facilitate a logical sequence and recognises that different people may take responsibility for specific sections. Of importance is ensuring that sufficient and appropriate evidence has been provided throughout the whole EIS.

The specific components of the evaluation to be considered are:

1. Preparation
2. Project description
3. Scoping
4. Profiling
5. Assessment of health impacts/risk assessment
6. Conditions for approval/Decision making
7. Overall report quality

Example titles of additional documents that provide clarification of government requirements, such as policies, position papers, guidance documents, codes of practice etc. have been identified in the tables (in italics). It is recommended that jurisdictions provide appropriate information for proponents and others on expectations and requirements for carrying out HIA.

Additionally, it is important that the review process makes notes on and provides feedback and comments on the general quality of the report. Issues that should be considered include the:

- clarity and readability of the report,
- overall structure,
- logical format of the approaches used,
- the language and expression, use of illustrations,
- degree of duplication/unnecessary or irrelevant information.

These will be of particular importance during the public review period to ensure that the community can readily understand the information and outcomes provided.

In order to facilitate the review/evaluation process in a logical sequence, a series of tables are provided to allow to evaluator to work through the evaluation process.

**Table 1**

This table deals with the requirements for establishing the review process and highlights the participants and their roles and responsibilities. The review coordinator would normally be a senior Ministry of Health (MOH) (or equivalent) representative and this person would take prime responsibility for leading the evaluation as well as bringing together the relevant members of the evaluation team who have the required expertise and skills for the specific project under consideration. The coordinator would ensure that the timeframe that meets with other government requirements is set and establishes protocols for communication, collecting necessary documentation and collating the final report.

**Table 2**

The EIA/EIS/HIA documents should appropriately describe all aspects of relevance to the proposal including the physical environment, the processes quantities and materials to be used by the facility, surrounding land uses and communities and other projects in the neighbourhood. This table outlines the issues of relevance.

**Table 3**

The scope of the proposal should include all issues of relevance for the assessment. The determinants of health form a key component and should be as a “checklist” to ensure that all significant potential impacts on health have been considered. It is essential that community consultation and stakeholder involvement have been undertaken and key issues identified are included and addressed in the EIA/EIS/HIA document. Additionally, agreements among key stakeholders on processes to be undertaken are clearly outlined.

**Table 4**

This table guides the evaluation of community demographics and other relevant living, working and leisure components of the community’s activities. It is important to ensure that not only the broader community profile is described and understood but also that potentially vulnerable or disadvantaged groups have been identified and their needs addressed. This information should cross-correlate with the information provided in Table 1 but have a focus that addresses the health and well-being of the community.

The profile included in the HIA should provide an information/data base by which any predicted changes to the health and well-being status of the affected population can be judged, vulnerable sections of the affected population should be clearly identified and include physical social and equity considerations. The information and data in the profile should be about the specific population likely to be affected by the project and its proximity to the proposal.

#### **Table 5**

This table considers the assessments of the impacts identified in the scoping and community profiling sections.

This section should identify and evaluate the potential impacts on human health and well-being both positive and negative. Malaysia has health-based guidelines to be used to reliably assess risks to human health and safety. These standards/guidelines are mainly for exposures to physical, chemical and microbiological hazard exposures in the environmental or occupational settings. WHO and other international agencies also have standards of this type that may be used.

The health impact assessment component should clearly identify the potential hazards, the predicted levels of exposure and a comparison of the predictions against national and/or international standards or guideline values. Supporting evidence should be provided.

#### **Table 6**

This table completes the assessment process and provides for development of feedback to other assessing sectors. The information in this section of the EIA/EIS/HIA should include sufficient detail to enable the reviewer to evaluate the potential effectiveness of risk management options for the impacts on health and well-being of the project activities during construction, operation and decommissioning.

At the conclusion of the assessment process there are usually conditions imposed to ensure that the potential adverse impacts are controlled and the positive impacts enhanced as far as reasonably practicable. The conditions should be normally set and administered by the approving bodies including the MOH.

#### **NOTE:**

**If any elements for each of the tables are not included in the document or have deficiencies, there may be a requirement to request further information or evidence that was used to support their statements from the proponent.**

**Table 1. Preparation for the HIA Review**

<b>1. Preparation</b>			
Preparation for the review of the HIA component of the EIA should consider:	<b>Responsibility</b>	<b>Outcome</b>	<b>Comments</b> (Can include the identification of MOH requirements, specific issues for the proposal type etc)
<ul style="list-style-type: none"> <li>The review co-ordinator</li> </ul>			
<ul style="list-style-type: none"> <li>The review team and their roles and responsibilities</li> </ul>			
<ul style="list-style-type: none"> <li>Identification and involvement of those with special expertise in areas that may need to be addressed</li> </ul>			
<ul style="list-style-type: none"> <li>The time frame for the evaluation and constraints</li> </ul>			
<ul style="list-style-type: none"> <li>Relevant legislation, codes of practice, guidance documents</li> </ul>			
<ul style="list-style-type: none"> <li>Identification and use of previous reviews that may have covered similar projects in Malaysia</li> </ul>			
<ul style="list-style-type: none"> <li>Identification and use of previous reports available in the literature in published journals or in the grey literature</li> </ul>			

**Table 2. The description of the Proposal**

<b>2. Project Description</b>					
Does the EIS/HIA report adequately describe the following:	Satisfactory/ Acceptable	Further Action Required			MOH guidance document/reference
		Unsatisfactory/ Unacceptable (does not meet expectations or requirements)	Evidence or Information Required	Recommended Action	
<ul style="list-style-type: none"> <li>The physical aspects of the site and surrounding area and planning, construction, operation and decommissioning arrangements, including time frame for each component, for the project</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Processes, materials and equipment to be used to allow you to have a good understanding of the proposed project</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Quantities and nature of inputs and outputs of the process</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Current use of the site and surrounding area and demands of the project on local infrastructure and services</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Description and location of the communities likely to be affected by the proposed development</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>The relationship to other</li> </ul>					<i>HIA Policy</i>

proposals or projects in the area/region					
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**Table 3. The Scope of the Assessed Health Impacts**

<b>3. Scoping</b>					
Are all potential health impacts for the development appropriately addressed?	Satisfactory/ Acceptable	Further Action Required			MOH guidance document/reference
		Unsatisfactory/ Unacceptable (does not meet expectations or requirements)	Evidence or Information Required	Recommended Action	
<ul style="list-style-type: none"> <li>Using the list of the determinants of health (See Appendix 1) are the potential impacts on health and well-being adequately identified?</li> </ul>					<i>The Determinants of Health</i>
<ul style="list-style-type: none"> <li>Are the identified impacts adequately evaluated in terms of potential adverse and beneficial impacts?</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Are the timescale, geographical boundaries and the potentially affected population (including sectors of the population of special concern) clearly identified?</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Are all stakeholders that need to be involved been identified?</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>Have details of the processes to be used to conduct the risk assessment been agreed by the proponent, the Ministry of Health/Local Health Authority and other stakeholders?</li> </ul>					<i>Health Risk Assessment in Malaysia</i>

<ul style="list-style-type: none"><li>• Has a systematic process for community involvement/public participation been established and carried out?</li></ul>					<i>Community Profiling and Engagement</i>
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**Table 4. The Profile of the Community and its Environment**

<b>4. Profiling</b>					
The information/data provided should include characteristics of the population such as:	<b>Satisfactory/ Acceptable</b>	<b>Further action required</b>			<b>MOH guidance document/reference</b>
		<b>Unsatisfactory/ Unacceptable (does not meet expectations or requirements)</b>	<b>Evidence or Information Required</b>	<b>Recommended Action</b>	
• Population size, age and gender profile					<i>Community Profiling and Engagement</i>
• Population density and distribution					<i>Community Profiling and Engagement</i>
• Ethnicity					<i>Community Profiling and Engagement</i>
• Socioeconomic status					<i>Community Profiling and Engagement</i>
• Vulnerable groups/locations such as schools, aged care facilities, hospitals					<i>Community Profiling and Engagement</i>
• Health status from clinics and other authorities					<i>Community Profiling and Engagement</i>
• Sources of and types of employment					<i>Community Profiling and Engagement</i>
• Health behaviour indicators such as physical activities, smoking drug use					<i>Community Profiling and Engagement</i>
• Environmental conditions such as air, water, soil quality					<i>Community Profiling and Engagement</i>

<ul style="list-style-type: none"> <li>Roads and other infrastructure such as power, water, transport – rail, road, air, and so on</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>Housing types and quality</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>Health services such as hospitals, clinics</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>Community services such as police, ambulance, fire and other emergency services, recreation,</li> </ul>					<i>Community Profiling and Engagement</i>
<ul style="list-style-type: none"> <li>Other determinants as relevant</li> </ul>					<i>Community Profiling and Engagement</i>

**Table 5. Assessment of the Health Impacts/Risk Assessments**

The questions in this table should be used for **each** identified health determinant.

<b>5. Assessment of health impacts/risk assessment</b>					
<b>For each health determinant:</b>	<b>Satisfactory/ Acceptable</b>	<b>Further action required</b>			<b>MOH guidance document/reference</b>
		<b>Unsatisfactory/ Unacceptable (does not meet expectations or requirements)</b>	<b>Evidence or Information Required</b>	<b>Recommended Action</b>	
• Has the Exposure Pathway been identified?					<i>Health Risk Assessment in Malaysia</i>
• What is the Predicted exposure level or conditions?					<i>Health Risk Assessment in Malaysia</i>
• How does this compare with the exposure standard (for environmental risks) or acceptable condition (for social, community or psychological risks)?					<i>Health Risk Assessment in Malaysia</i>
• Have the potential positive and negative health impacts been identified and discussed?					<i>HIA Policy</i>
• Have populations more vulnerable to this impact been identified, discussed and mitigations proposed?					<i>HIA Policy</i>
• What is the current availability of health services for this health impact in the locality/region?					<i>HIA Policy</i>
• What level of risk has been					<i>Health Risk Assessment</i>

designated for this impact?					<i>in Malaysia</i>
• What justification has been provided for this risk level?					<i>Health Risk Assessment in Malaysia</i>
• What mitigation measures have been proposed?					<i>Health Risk Assessment in Malaysia</i>
• Has a residual health risk level been determined and mitigated where practicable?					<i>Health Risk Assessment in Malaysia</i>
• Have community concerns been identified and adequately addressed?					<i>Community Profiling and Engagement</i>

**Table 6. Decision Making and Establishing Conditions**

<b>6. Conditions for approval</b>					
<b>For each health determinant:</b>	<b>Satisfactory/ Acceptable</b>	<b>Further action required</b>			<b>MOH guidance document/reference</b>
		<b>Unsatisfactory/ Unacceptable (does not meet expectations or requirements)</b>	<b>Evidence or Information Required</b>	<b>Recommended Action</b>	
<ul style="list-style-type: none"> <li>Have appropriate conditions been set for the positive and negative impacts on health been set?</li> </ul>					<i>HIA Policy</i>
<ul style="list-style-type: none"> <li>Have monitoring and surveillance processes been established for each of the identified risks?</li> </ul>					<i>HIA Policy</i>

## Appendices

## Appendix 1: The Determinants of Health

<b>Modifiable Determinants of Health</b>		
<b>Main determinant</b>	<b>Determinant Sub-category</b>	<b>Example</b>
<b>Individual and Family</b>	Physiological	Vaccination status Nutrition
	Behavioural	Lifestyle and daily routine Physical activity Use of tobacco, alcohol and other drugs Risk Taking behaviour Acceptability of health services
	Socio-economic Circumstances	Income and wealth Education and learning Employment and economy
<b>Environmental</b>	Physical	Housing and shelter Transport and connectivity Exposure to chemicals Agriculture and food supply Land and spatial – soil, water, air
	Social	Community infrastructure Crime and safety Leisure and recreation Arts and culture Faith, spiritual and traditional Social capital and community cohesiveness
	Economic	Employment and economy Investment Access to goods and services Affordability of health services
<b>Institutional</b>	Organisation of health care	Availability of health services Accessibility of health services Adequacy of health services Quality of health services
	Other institutions	Social care Police service Emergency services Judiciary NGOs Local Government
	Policies	Governance and public policy - industrial, health, transport, housing etc Private sector norms Third sector norms



## Bibilography

- EnHealth. 2001. *Health Impact Assessment Guidelines*. Commonwealth of Australia
- International Council on Mining and Metals. Undated. *Good Practice Guidance on the Importance of Health Impact Assessments* (online) <http://www.icmm.com/document/792>
- World Health Organisation. Undated. *Evaluating your HIA*. (online) <http://www.who.int/hia/evidence/eva/en/>