Center for Quality Growth and Regional Development – Tool for Planning and Analyses

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What is Impact Assessment (IA)?

- Impact Assessment is a method to improve the consideration of those impacts that are typically not included (health, social, environmental, gender, economic) of proposed policies, programmes, etc.

- The impact is a change in health risk reasonably attributable to a policy or project.

- Health Impact Assessment is any combination of procedures or methods by which a propose policy or program may be judged as to the effects it may have on the health of a population.
Health and HIA

- Health is “a state of complete physical, social and mental wellbeing, and not merely the absence of disease or infirmity”
  - Constitution of the WHO (1948)

HIA is “a combination of procedures or methods by which a policy, program or project may be judged as to the effects it may have on the health of a population.”

- Gothenburg Consensus Paper (WHO Regional Office for Europe)
Value added through HIA

- Impacts on human health are not limited to health specific policies only

- While health care policies play a major role in improving people’s health through treatment (remedial approach), tools like HIA can help prevent ill health (preventive approach).
Features of HIA

- Main Characteristics of HIA
  - Multidisciplinary
  - Intersectoral
  - Participatory
  - Use of more than one method
  - Use of quantitative and qualitative evidence
  - Focus on health inequalities
HIA-Level of Application

- HIA can be applied at the level of policy, programme or project.
- Agenda 21 of the WHO lays the groundwork for HIA of policies, both health and non-health related. It stresses on the need for a ‘sustainable urban policy’ that integrates policy at the highest level to “move away from sectoral approaches and to aim towards intersectoral coordination directed towards sustainability.”
HIA-Level of Application

- A number of countries have active HIA policies including UK, Australia, Canada, New Zealand, Philippines, Sweden and Finland.
- The application of HIA at a policy level provides valuable outputs:
  - opportunity to eradicate the source of potential problems before they arise, and which might become acute at other levels of implementation,
  - an understanding of health impacts of policy implementation
  - a framework in which specific programmes and projects can be assessed
Types of HIA

*Prospective HIA* – This looks at some policy, programme or project not yet implemented and attempts to predict its consequences, based on theory and experience with similar decisions in the past.

*Retrospective HIA* – This looks at consequences of some policy, programme or project that is already implemented OR of some unplanned event that has occurred during implementation. It questions the consequences of the implementation.

*Concurrent HIA* – The consequences of some policy, programme or project are monitored during implementation to allow action to be taken promptly to mitigate any negative effects that may occur.
HIA Generic Model

Screening
Does the project pose any significant health questions?

NO
Clearly Beneficial
Well documented

YES
Maybe Harmful
Not completely clear

Scoping
What could be the potential hazards and benefits of the project?

Risk Assessment
How many and which people are affected and how?

Risk Management
Suggestions to reduce/negate impact of harmful factors and maximize effect of beneficial factors

Decision Making
Which choice to accept?

Take No Action
Select one alternative

Take Action
Select other alternative

Implement selected option

Monitor implementation

Results as expected

Unexpected results
Procedures & Methods for Conducting Health Impact Assessment

**Screening** – It is a procedure for determining what kind of policies should be assessed. The criteria may be known hazards, magnitude and severity of likely effects, sensitive sites and public concerns.

**Scoping** – This is a procedure for bounding assessment in time and space and consulting all stakeholders about their concern.
Procedures & Methods for Conducting Health Impact Assessment

**Appraisal** – Main Step in process

- Characterizing the nature and magnitude of the harmful and beneficial impacts of the policy, project or program under consideration.
- Policy, program or project analysis
- Profiling the affected communities
- Identification and characterization of potential health impacts
- Reporting on the impacts and developing a risk management plan
Procedures & Methods for Conducting Health Impact Assessment

- There are three types of appraisals depending on length of time taken to complete them and the procedures or method followed during the appraisal:
  - **Rapid Appraisal** exchanges existing knowledge, both from participants and previous experiences with similar situations and is usually done in limited time with limited resources.
  - **Comprehensive appraisal** comprises of systematic investigation of health impacts undertaken over an extended period of time, using several different methods to consult stakeholders and acquire new information relevant to the assessment.
  - **Intermediate appraisal** is an investigation of health impacts undertaken over a reasonable period of time, using more than one method to consult stakeholders and obtain information relevant to the assessment.
Procedures & Methods for Conducting Health Impact Assessment

Measuring Impact – The preferred measurement is a quantitative estimate of a change in health risk associated with each health hazard for each stakeholder community in each project phase. The health determinants are then categorized in categories and sub-categories. Change in health risk factors is subdivided into change in some health fields which is subdivided into change in some health determinants.

Factors that will be considered are:

- Individual risk factors
- Environmental risk factors
- Institutional risk factors
Procedures & Methods for Conducting Health Impact Assessment

Measuring Impact – A risk management plan is formulated with suggestions on how the effect of the harmful factors can be minimized and how the effect of beneficial factors can be maximized. This needs to be communicated to the stakeholders.

Decision Making - Considers the report of the appraisal and chooses among the options presented so as the harmful effects are minimized and the beneficial effects are maximized. Among other issues the decision makers must make sure to verify the quality of assessment with the standards of the HIA set during scoping, continued transparency and equity in the process and involvement of all stakeholder groups in an appropriate and timely manner.
Procedures & Methods for Conducting Health Impact Assessment

Implementation and Monitoring - Monitoring is particularly useful when adverse consequences are predicted but when their nature, size and timing are uncertain. Monitoring also tests the predictions of the risk management plan and determines the actual effects of proposal implementation so as to generate an evidence base that may be used for other similar proposals in the future.

The process described above may be iterative in nature and not sequential. This five step procedure has been adapted to the use of various models across nations.
HIA Models

- HIA models vary in methodology from country to country depending on whether they follow the broad or the narrow perspective approach, whether they emerge as new methods or are integrated into existing institutional frameworks (EIA, SEA and SIA), the legislative framework and the level of application desired (policy, project or program).

- State of development of country dictated HIA method used. Developing countries primarily encounter ‘traditional’ hazards to human health (ill-health, premature death, inadequate sanitation and waste management, etc.) and developed countries face ‘modern’ hazards (air pollution, municipal waste, poor management of toxic chemicals and hazardous wastes).
The Merseyside HIA Model

- Guidelines for application by employees of the central or local government, the health sector, the voluntary sector and other bodies whose work is influenced by public policy
- Distinguish between *procedures* and *methods* of HIA
  - *Procedures* are frameworks for commissioning and implementing HIAs
  - *Methods* as systems for carrying them out
Integrated Impact Assessment –
the European Union Model

- IIA is an approach that assesses the possible impact of proposals (strategies, policies, programmes, projects, plans or other developments) on a range of issues that previously may have been assessed separately – such as economic, environmental, sustainability, equal opportunities, health, wellbeing and quality of life.

- The EU has developed an IIA Framework for European Union planning and spending as a tool to structure the process of policy making. The new impact assessment method “integrates all sectoral assessments concerning direct and indirect impacts of a proposed measure into one global instrument, hence moving away from the existing situation of a number of partial and sectoral assessments.”
# Integrated Impact Assessment – the European Union Model

## Preliminary Assessment

<table>
<thead>
<tr>
<th>Scope</th>
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<tbody>
<tr>
<td>Identification of issue / objectives and desired outcome</td>
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<tr>
<td>Identification of main policy options available to achieve the objective</td>
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<tr>
<td>Description of preparatory steps already undertaken and foresee, and indication of whether an extended impact assessment is needed</td>
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## Extended Impact Assessment

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<tbody>
<tr>
<td>Analyzing the issue</td>
<td>Identification and analysis of the issue (and urgency of action and risks if possible) in one or more policy areas described in economic, social and environmental terms, as concretely as possible in qualitative, quantitative and monetary (where possible) terms</td>
</tr>
<tr>
<td>Identifying the policy objective</td>
<td>Policy objectives expressed as expected results in a given timeframe and where relevant, previously established objectives set out along with the legal base for the proposal</td>
</tr>
<tr>
<td>Identifying policy options and alternative instruments</td>
<td>Various ways to reach the objective and various policy instruments that can be applied are considered and realistic options (including the no-policy change scenario) are compared</td>
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<tr>
<td>Analyzing the impact</td>
<td>Identifying both direct and indirect impacts (screening) of selected options, explicitly stating possible difficulties in identifications and expressing them in economic, social and environmental term</td>
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<tr>
<td>Implementing</td>
<td>Identify any possible difficulties in implementing options assessed and accounting for the same</td>
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The New Zealand Model

- The policy context for HIA in the New Zealand case is introduced by the recent publication “A Guide to Health Impact Assessment: A Policy Tool for New Zealand” (2004) which expands the focus of the HIA as “a practical aid to help facilitate better policy making that is based on evidence, focused on outcomes and encourages collaboration between a range of sectors and stakeholders.”

- The Guide lists four key stages in the HIA process: screening, scoping, appraisal and reporting and analysis.

- Two appraisal tools are listed: the ‘Health Lens’ tool for a brief HIA (rapid appraisal) and the ‘Health Appraisal Tool’ for a more thorough HIA (comprehensive appraisal).
Finnish Human Impact Assessment

- The development of HuIA in Finland attempts to combine the Health Impact Assessment and Social Impact Assessment methodologies.
- Human Impact Assessment is defined as a tool for planning and decision making that allows ex ante, prospective assessment of potential impacts, the impacts of planned plans, programmes or policies.
- The handbook on HuIA “Environmental Impact Assessment. Health and Social Impacts on Human Beings” published by the Finnish Ministry of Social Affairs and Health considers HIA as a tool that addresses health hazards as defined by the Health Protection Act.
- Minimum values and parameters have been set for factors that may cause health hazards and exceeding them is constituted as a harmful effect. Perceived health hazards are seen as social impacts.
Models based on EIA or SEA

- Health impact assessment, environmental impact assessment and strategic environmental impact assessment have some features in common.
- SEA is a process to ensure that significant environmental effects arising from policies, plans and programmes are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided.
- Environmental Impact assessment attempts to predict and assess the impact of development projects on the environment.
**EIA, SEA and HIA**

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<tr>
<th>SEA</th>
<th>EIA</th>
<th>HIA</th>
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<tbody>
<tr>
<td>Deals with policies and programmes</td>
<td>Deals with specific projects or developments</td>
<td>Can be applied to policies, programmes or projects</td>
</tr>
<tr>
<td>Focuses on environmental objectives and alternatives for policies and aims to achieve them (influence development that is designed in accordance with environmental policy objectives)</td>
<td>Focuses on mitigation (evaluate environmental impacts to reduce negative changes in the environment)</td>
<td>Focuses on health concerns and minimizing negative health impacts and maximizing positive health impacts</td>
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<tr>
<td>Formal procedure with well defined stages</td>
<td>Flexible and continuous procedure</td>
<td>Procedure may be modified according to problem consideration (iterative in nature)</td>
</tr>
<tr>
<td>Focuses on narrow range of issues and requires high level of detail</td>
<td>Focuses on broad determinants, broader territories, broader range of stakeholders but cannot analyze or predict impacts with the same level of precision</td>
<td>Uses holistic model of health to focus on broader issues and inter relationships</td>
</tr>
<tr>
<td>Public participation limited to one procedural stage</td>
<td>Continuous public participation</td>
<td>Includes the perspective and opinions of the groups involved in and affected by the decisions</td>
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The Canadian Model

- To promote HIA within Canada, the Federal/Provincial/ Territorial Committee on Environmental and Occupational Health established a Task Force in 1992 consisting of four federal and four provincial representatives.
- As a result of six regional, multi-sectoral workshops sponsored by the Task Force (1995 and 1996) it was decided that three volumes designed to be guidance for HIA within EA were required. This collectively is labeled as the Canadian Handbook on Health Impact Assessment.
- The Handbook suggests that perhaps the “greatest priority is to strengthen health considerations within EA that is consistent with currently-accepted definitions of health, as well as the known determinants of health. This requires taking into account a community’s social well-being and not just a person’s physical well-being.”
The Ten Step Bielefeld Model developed in Germany

- A component of environmental impact assessment dealing specifically with impact on human health is often called “environmental health impact assessment” (EHIA).
- The Ten Step Bielefeld Model developed in Germany, identifies three steps as critical to an integrated EHIA model – analysis of status quo, prediction of impact and assessment of impact, in addition to communication of results and evaluation of the overall procedure.
USA- NEPA and EA

- Pre-NEPA, government decision-making on projects based on technical capability and cost
- In USA, the National Environmental Policy Act (NEPA), introduced in 1969-70 created a national environmental policy and required an Environmental Impact Statement (EIS) of “any major federal action significantly affecting the quality of the environment.”
- While NEPA established the basic framework for integrating environmental considerations into Federal decision-making, it did not provide the details of the process for which it would be accomplished.
- The Council on Environmental Quality (CEQ) was charged with the Federal implementation of NEPA. The CEQ interpreted the law and addressed NEPA's action forcing provisions in the form of regulations and guidance.
NEPA and EIS- Background

- The Council of Environmental Quality (CEQ) interpreted this statement as applying to policies, plans and programmes, in addition to projects. Thus, in principle, NEPA made provisions for both EIA and SEA.

- But project level EIA developed more quickly than policy level SEA.
NEPA and EIS – Implementation shortcomings

- An EIS is very labor intensive and takes a long time to prepare.
- The law requires consideration of environmental impacts but doesn't actually require that the environment be protected.
- Groups or individuals displeased with a NEPA EIS can challenge it in court indefinitely.
- Includes public participation at certain stages only in the model.
- Project level, not policy level.
NEPA and EIS – Methodological shortcomings

- No systematic gathering of information after a project is done
- Limited information exchange among EIS for similar projects
- Does not consider the fact that human health and the health of the environment are mutually interdependent and such impacts are often transmitted as hidden costs to the health sector
- Does not involve Public Health departments actively and tends to systematically research and include data on few exposures (chemical exposure) but not others (exposure to noise)
- Is only prospective in nature
EIA, SEA and HIA

- Given the shortcomings of the existing EIA process, it is imperative to look for integration of health concerns within the existing framework or develop new models.
- Herein, lessons learnt from international implementation examples of HIA can prove useful.
EIA and HIA integration

Certain advantages are:

- **Addressing public concerns:** The public’s main concern with development projects is related to health, well being and the quality of life. Since EA has a structured process which can accommodate public concerns (public consultation process and the follow up and monitoring stage) the HIA should be integrated with it.

- **Minimizing the need for separate HIAs:** The integration would provide a holistic set of information on economic issues, health and environmental effects to decision makers

- **Demonstrating cost effectiveness:** Integration of EA and HIA would be more cost effective by reducing duplicate effort

- **Minimizing the adverse and maximizing the beneficial effects on health:** Including health in EA process can help mitigate adverse effects and also identify strategies and measures that actively promote health and incorporate them in the project.

- **Contributing to sustainable development**
NEPA and Transportation Decision Making

- Transportation projects vary in type, size and complexity, and have varying affects on the environment. Transportation project may have minor to significant impacts, primary and secondary impacts, direct and indirect impacts.

- Three basic "classes of action" are allowed and determine how compliance with NEPA is carried out and documented:
  - An Environmental Impact Statement (EIS) is prepared for projects where it is known that the action will have a significant effect on the environment.
  - An Environmental Assessment (EA) is prepared for actions in which the significance of the environmental impact is not clearly established. Should environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment, a Finding of No Significant Impact (FONSI) is issued.
  - Categorical Exclusions (CEs) are issued for actions that do not individually or cumulatively have a significant effect on the environment.
NEPA and Transportation Decision Making

It is FHWA's policy that (23 CFR § 105):

- To the fullest extent possible, all environmental investigations, reviews, and consultations be coordinated as a single process, and compliance with all applicable environmental requirements be reflected in the environmental document required by this regulation.
- Alternative courses of action be evaluated and decisions be made in the best overall public interest based upon a balanced consideration of the need for safe and efficient transportation; of the social, economic, and environmental impacts of the proposed transportation improvement; and of national, state, and local environmental protection goals.
- Public involvement and a systematic interdisciplinary approach be essential parts of the development process for proposed actions.
- Measures necessary to mitigate adverse impacts be incorporated into the action.
NEPA and Transportation Decision Making

Thus, provisions for incorporating health concerns in transportation decision making are in place.

Required is:

- Methods to explicitly address health issues
- Revisit the definition of health and what comprises a health risk
- Include both qualitative and quantitative data in the process Systematic research and inclusion of all exposures
- Facilitate interdisciplinary and inter-agency participation
- Provide for feedback loops within the EIA process
- Greater public participation
Next Steps

Existing challenges in the HIA procedure need to be overcome before significant progress is made:

- Methods need to be further developed
- There are serious gaps in the evidence base required to carry out a rigorous HIA
- Local data on size of risks often unavailable, posing challenges to the identification and appraisal of relevant evidence
- HIA is not strictly a science even though it draws on a scientific knowledge base. Uncertainties encountered during the undertaking of HIAs will frequently dictate the need to make assumptions, which may result in challenges to the HIA’s validity. These do need to be explicitly stated so that the reader is free to agree or disagree.
Next Steps

- While it is ideal that an HIA take place early enough in the development of the project to permit constructive modifications to be carried out prior to its implementation, yet, late enough for a clear idea to have formed as to its nature and content, circumstances often make this aim unrealistic.

- As most HIAs are retrospective, the methods used are difficult to validate; attribution of causation i.e. determining whether health impacts are actually due to a policy or project or due to other confounding risk factors.

- Retrospective studies may misestimate risk compared to prospective ones.

- Studies which compare experts’ predictions with actual evidence are rare.

Institutional Integration Challenges