# Session 4: Health Impact Assessment and Socially Responsible Infrastructure Development

## HIA and Socially Responsible Infrastructure

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I.</strong></td>
<td>INTRODUCTION</td>
<td>3</td>
</tr>
<tr>
<td>A.</td>
<td>Background</td>
<td>3</td>
</tr>
<tr>
<td><strong>II.</strong></td>
<td>SOCIALLY RESPONSIBLE INVESTMENT</td>
<td>3</td>
</tr>
<tr>
<td>A.</td>
<td>Infrastructure and Development in Asia</td>
<td>3</td>
</tr>
<tr>
<td>B.</td>
<td>Health Implications of Infrastructure</td>
<td>4</td>
</tr>
<tr>
<td>C.</td>
<td>Socially Responsible Investment and Rationale for HIA</td>
<td>5</td>
</tr>
<tr>
<td><strong>III.</strong></td>
<td>HEALTH IMPACT ASSESSMENT METHODS</td>
<td>6</td>
</tr>
<tr>
<td>A.</td>
<td>The Scope of Health Impact Assessment (HIA)</td>
<td>6</td>
</tr>
<tr>
<td>B.</td>
<td>HIA and Other Impact Assessments</td>
<td>6</td>
</tr>
<tr>
<td>C.</td>
<td>Basic Models of HIA</td>
<td>7</td>
</tr>
<tr>
<td>1.</td>
<td>Safeguarding</td>
<td>7</td>
</tr>
<tr>
<td>2.</td>
<td>Economic Analysis of Health Impacts</td>
<td>8</td>
</tr>
<tr>
<td>3.</td>
<td>Other Approaches to HIA.</td>
<td>9</td>
</tr>
<tr>
<td><strong>IV.</strong></td>
<td>HEALTH IMPACT ASSESSMENT PRACTICES</td>
<td>11</td>
</tr>
<tr>
<td>A.</td>
<td>HIA in Development Institutions</td>
<td>11</td>
</tr>
<tr>
<td>1.</td>
<td>International Finance Corporation</td>
<td>12</td>
</tr>
<tr>
<td>2.</td>
<td>International Petroleum Industry Environmental Conservation Association</td>
<td>12</td>
</tr>
<tr>
<td>3.</td>
<td>International Council of Mining and Minerals</td>
<td>13</td>
</tr>
<tr>
<td>4.</td>
<td>World Bank</td>
<td>13</td>
</tr>
<tr>
<td>5.</td>
<td>European Investment Bank</td>
<td>13</td>
</tr>
<tr>
<td>6.</td>
<td>PREVENT Program</td>
<td>14</td>
</tr>
</tbody>
</table>
7. Asian Development Bank

B. HIA in South East Asia
   1. Cambodia
   2. Laos
   3. Thailand
   4. Vietnam
   5. Malaysia
   6. Philippines

V. FINDINGS AND RECOMMENDATIONS ........................................ 19
   1. Limited Awareness of Health Implications from Infrastructure Development 19
   2. Identify Priority Sectors
   3. Better Health Indicators
   4. Guidance on Using HIA
   5. Capacity Development
   7. Studies and Advocacy

VI. REFERENCES ............................................................................. 22
I. INTRODUCTION

A. Background

Governments, private sector, and partners recognize the need for greater emphasis on health impact of development plans, programs and projects in other sectors including agriculture, education, power, transport, and water and sanitation. Health impact of plans, programs and projects can be assessed in terms of both positive and negative effects of investments, and changes can be made to enhance positive health impact and mitigate negative health impact.

Health Impact Assessment (HIA) refers to a suite of methods ranging from participatory planning to economic analysis to evaluate the health impacts of policies, plans and projects. The approach aims to enhance the use of data and participatory approaches to improve quality and transparency of decision making for investment. HIA is not only to benefit health, but can help governments, private corporations and partners reaching other goals as well. Yet adoption of the approach is not widespread across the region. The report recommends adoption of HIA as part of the operating principles of socially responsible infrastructure.

Many of the required actions to mitigate negative health impact or enhance positive impact require engagement of other sectors. The World Conference on Social Determinants of Health in 2011 recognized that addressing health in other public policies would be crucial to the achievement of successful health outcomes and supported the 2009 WHA resolution endorsing a "health in all policies" approach. To achieve concrete health outcomes, multiple stakeholders from non-health fields must be engaged in order to systematically incorporate health issues into the myriad of relevant national security, labour, migration, and economic development policies.

II. SOCIALLY RESPONSIBLE INVESTMENT

A. Infrastructure and Development in Asia

The Asia Pacific region has been growing rapidly, at an average of 6% in the last 20 years. Infrastructure development (roads, power, telecom) has been at the heart of this success, combined with trade liberalization and capacity building. Rural unemployment and opportunities in industry and services have led to a major rural urban migration. Per capita income has increased sharply, and poverty and infant mortality have reduced by about half.

Despite this growth, some 0.8 billion Asians lack electricity, 0.6 billion cannot source safe water and 1.9 billion\(^1\) are thought to be without access to basic sanitation. Financing new infrastructure and replacing existing capacity is a substantial challenge, with ADB calculating that to simply maintain current growth rates between 2010–2020 requires an investment of $8.22 trillion\(^2\) in the region. Around half of this expenditure would be required for energy infrastructure,\(^3\)

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\(^2\) 2008 real terms
a third for transport, and the balance in key sectors such as water and sanitation and communications.\(^3\)

Infrastructure development on this scale has both positive and negative health implications. Much of the development in the region has benefitted health, and improved health has also benefitted productivity and poverty reduction. HIA is perceived as a process to prevent irreversible damage to population health. Given the potential for infrastructure to also generate health benefits, the use of HIA as a tool to maximise social wellbeing also needs to be explored.

B. Health Implications of Infrastructure

Examples of negative and positive health impacts for different types of infrastructure are included in Table 1. For example, the connection of a house to electricity as a result of a power plant development project may reduce reliance on the indoor burning of biomass for cooking and heating. The consequent reduction in smoke could reduce the incidence of respiratory problems such as coughing and eye irritation – resulting in considerable positive health benefits. In the case of households surrounding the power plant, emissions may result in increased particulate matter, SO2, and nitrogen oxides inflicting negative health benefits.

<table>
<thead>
<tr>
<th>Infrastructure Type</th>
<th>Potential or Actual Positive Impact</th>
<th>Potential or Actual Negative Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Increased food production and improved nutrition</td>
<td>Creation of dams may increase refuges for disease vector breeding</td>
</tr>
<tr>
<td>Roads</td>
<td>Accident rates may decrease and improved access to health facilities may reduce case fatalities</td>
<td>Vehicle emissions are carcinogenic. Increased traffic may increase dust and noise pollution</td>
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<tr>
<td>Ports</td>
<td>Reduced occupational accidents compared with using facilities with limited capacity and out-of-date equipment</td>
<td>Workers and followers during construction can introduce HIV, STIs, or TB</td>
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<tr>
<td>Hydropower</td>
<td>Stable power supply leads to improved temperature control of housing reducing incidence of respiratory diseases.</td>
<td>Less physical exercise in fuel collection may elevate cardiovascular, diabetes and other NCD prevalence. Dam development may displace agricultural communities reducing food supply.</td>
</tr>
<tr>
<td>Coal fired plants</td>
<td>Connection to electricity reduces reliance on indoor burning of biomass, leading to less respiratory and eye irritation issues. Biomass may also produce carcinogens</td>
<td>Air pollution from power generation results in particulates, SO2, nitrogen oxides for communities near to power stations</td>
</tr>
<tr>
<td>Water supply</td>
<td>Improved sanitation – through latrine construction and personal hygiene; changes reduce potential</td>
<td>Dams, irrigation channels, and water courses may provide increased breeding sites of disease vectors. Contamination of</td>
</tr>
</tbody>
</table>

Education Improved sanitation in schools reduces water borne disease incidence. Education may lead to changes in diet or cultural practices adversely impacting health.

The World Health Organisation (2011)\(^4\) reported that nearly 1.3 million people die each year as a result of road accidents and traffic accidents have become the leading cause of death for people aged 15–29 years\(^5\). Most pertinent for development - is that 90% of the burden of traffic accidents occurs in low-income and middle-income countries. WHO (2011) estimated that, without action, road accidents will cause the deaths of approximately 1.9 million people annually by 2020. The development of new roads, coupled with road safety, can lead to substantial positive health benefits through reduced accident rates. New roads could also improve access to basic health services, increasing utilisation and decreasing case fatalities for a range of diseases. On the other hand, increased traffic can lead to elevated dust pollution and noise disturbance, creating negative health impacts.

C. Socially Responsible Investment and Rationale for HIA

A key objective underpinning the notion of socially responsible infrastructure is that of minimising the negative affects developments have on local communities and their work forces. This theme is found in the Equator Principles (EPs), which are derived from the environmental and social performance standards of the International Finance Corporation (IFC). These standards ensure major projects are socially responsible and encompass acceptable environmental management practices. EPs\(^6\) have been adopted by 79 financial institutions in 35 countries as a framework for assessing and managing environmental and social risks.

Examples of socially responsible infrastructure in this context were identified in this review of infrastructure projects at ADB. They mostly relate to energy projects in the Mekong where dams have resulted in the resettlement of large populations. For example, the HIA of the Nam Theun 2 hydroelectric project in Laos involved an assessment of health risks for 11 health areas covering respiratory diseases, vectored diseases, STIs, soil and water borne disease, accidents, food and nutrition, exposure to hazardous materials, health services, social determinants and cultural practices\(^7\), for 10 potential impact areas of concern over the various phases of infrastructure development. Public health plans were developed to mitigate risks for each of the impact areas. Interventions included provision of health infrastructure, human resource development, health education, service delivery and surveillance and monitoring. A review of implementation during construction in mid 2007 found achievements of the plans to have been


\(^5\)http://www.who.int/gho/road_safety/en/index.html

\(^6\)www.equator-principles.com

substantial. Achievements include improved nutritional status of children, reduced infant mortality, improved utilization of health services and reduced parasitic infestation.

The Chiang Mai Declaration on HIA highlighted the role of the EPs in promoting HIA in Asia, but also noted that ‘all government agencies have a major responsibility in enhancing good health. ..[and] ..any policy and program must take health issues into account by conducting HIA’. This declaration implies that HIA needs to go further than merely safeguarding. Developing methods for enhancing health benefits, rather than simply protecting against environmental and social risks are required. Prior to discussing the potential for expanding HIA to meet this objective, an overview of HIA practices and their use in major development institutions and GMS countries is provided.

III. HEALTH IMPACT ASSESSMENT METHODS

A. The Scope of Health Impact Assessment (HIA)

Health Impact Assessment (HIA) is broadly defined as ‘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’. It involves a range of methodologies from safeguarding as part of environmental and social impact assessments, participatory approaches, or cost benefit analysis.

B. HIA and Other Impact Assessments

HIA is one approach in the wide field of impact assessment (IA). IA seeks to identify the potential consequences of proposed activities, as opposed to the situation if they did not go ahead. The most developed impact assessment approach is that of environmental impact assessment (EIA) which emerged from the environmental movement in the 1960s. Some EIAs only investigate environmental considerations while others include the social and health impacts of development proposals. Within EIAs, health is often assessed in relation to changes in water, soil and air quality. There are advantages of integration due to less duplication of effort and less time needed to complete the overall assessment. Integrating approaches reduce the likelihood of “impact assessment fatigue”. The downside of integration is that the various dimensions of health may not be provided adequate attention during consultation and risk assessment. WHO defined health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’. The Gothenburg HIA framework established in 1999 highlighted that in addition to health considerations, four values would be emphasised in

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8 2008 Asia and Pacific Regional Health Impact Assessment Conference, 24 April 2009, Chiang Mai, Thailand
10 Social impact assessments (SIA) examine the social consequences of planned developments on issues such as demographics, gender, ethnicity, local employment and business opportunities, lifestyle, behaviors, social infrastructure and governance mechanisms
12 International Health Conference, New York, 19-22 June, 1946
HIA, being democracy, equity, sustainable development, and ethical use of evidence\(^\text{13}\). Various HIA models have emerged to meet integrated assessment, advocacy and equity demands.

**C. Basic Models of HIA**

Most HIA in developing countries is conducted as part of integrated assessments to meet regulatory or statutory requirements. This ‘safeguarding’ type of approach is most often observed as part of industry-funded major project assessments\(^\text{14}\) and the International Finance Corporations guidance on HIA\(^\text{15}\). Economic analysis of health impacts is also undertaken by development banks to justify and advocate for investment in infrastructure that improves health outcomes. Three other approaches to HIA are outlined in this section using the typology provided by Harris and colleagues.\(^\text{16}\) They include decision support, advocacy and community-based approaches.

1. **Safeguarding**

   a. **Comprehensive**

   A comprehensive ‘safeguarding’ HIA includes collection of new data, literature searches and interviews with stakeholders using focus groups and surveys. Baseline social and health characteristics of affected populations are gathered to determine potential health impacts. Quantitative models could also be developed to estimate the health impacts of the project. A comprehensive approach is generally pursued for large projects, particularly if resettlement or an influx of people to the development is anticipated. Comprehensive studies may take up to 4 months and involve a number of specialists and survey enumerators. Comprehensive studies have been supported by ADB for a number of hydro-electricity projects in the GMS. The Nam Theun 2 Hydropower Project in Lao commenced operation in March 2010 and was subject to EIA, SIA and HIA.

   b. **Rapid Assessment**

   Rapid ‘safeguarding’ assessments\(^\text{17}\) comprise literature review and a broad assessment of health impacts. They are less labour intensive, typically taking an analyst 2-3 weeks and do not entail in-country consultation. The outcome of the desktop HIA may be the definition of scope


\(^{14}\) IPIECA. A guide to health impact assessments in the oil and gas industry. London: International Petroleum Industry Environmental Conservation Association; 2005

\(^{15}\) IFC. Introduction to health impact assessment. Washington DC: International Finance Corporation; 2009

\(^{16}\) Taken from Harris-Roxas B, Harris E, Differing forms, differing purposes: A typology of health impact assessment, Environ Impact Asses Rev (2010)

\(^{17}\) Taken from IFC 2009
for the HIA, or whether further assessment of health impacts is required. Rapid assessments are appropriate where considerable primary data is available and in situations where project impacts are thought to be limited.

c. Depth of Analysis and Cost

IFC\textsuperscript{18} note there are no definitive guidelines to prescribe whether a project needs a comprehensive or rapid HIA. Most HIAs fall between rapid and comprehensive classifications, involving desk top analysis, literature review and limited community consultation.

2. Economic Analysis of Health Impacts

Economic analysis of health impacts at a development institution – such as ADB – typically begins at the early stage of project development. In general, the purpose of economic analysis of health benefits is to justify investment and ensure the distribution of project benefits and costs are in line with project objectives. Most economic analyses of health impacts at ADB have utilised cost-effectiveness analysis.

a. Cost-effectiveness analysis

The first step of economic analysis involves a comparison of costs in relation to health impacts from different project alternatives. Following the World Bank burden of diseases study in 1993, disability adjusted life years\textsuperscript{19} have been commonly used by health economists as the metric for measuring health outcomes. Using this approach the projected costs of a project divided by the number of disability adjusted life years avoided to determine the cost effectiveness of a project. If the cost per DALY avoided is less than GDP per capita in the implementing country, the project is deemed to be cost-effective. Estimating lives saved and DALYs avoided requires extensive pre and post implementation burden of disease data.

b. Cost-benefit Analysis

Cost-benefit analysis of health impacts generally requires health outcomes be valued in economic terms. There are various possible approaches including willingness to pay for different health states using contingent valuation approaches and the ‘human capital approach’ to valuing labor productivity. The main component of the human capital approach is the discounted present value of future income forgone due to premature death or morbidity. Avoided medical and administrative costs also need to be added.

\textsuperscript{18} IFC. Introduction to health impact assessment. Washington DC: International Finance Corporation; 2009

\textsuperscript{19} The disability-adjusted life year (DALY) measures the number of years lost due to early mortality, or years lived with a disability. See World Bank. 1993. World Development Report: Investing in Health. Washington.
3. Other Approaches to HIA.

Harris-Roxas and colleagues categorise HIA into mandated (safeguarding), decision support, advocacy and community led approaches. Decision support HIAs have been developed to assess policies and programs, rather than projects, with more consideration of the social dimensions of health. Organisational learning processes are given greater consideration in this type of HIA, when compared to mandated safeguarding assessments. They are usually conducted on a voluntarily basis and in a less formal manner. The approach is most often used in developed economies, as part of health equity filtering of policies and for scoping the benefits of conducting HIA. The authors also noted that HIA can also be used as an advocacy tool, with the objective of influencing decision-making. Used in this context, HIA aims to ensure health considerations are addressed in project and policy design. The Chiang Mai Declaration on HIA and Gothenburg consensus both highlight the rights of people within affected communities to have a say in the formulation, implementation and evaluation of decisions that affect their wellbeing. To meet this demand communities are leading HIA. Some 30 communities who may have been affected from mining, industrial, energy, water management and other developments have conducted community HIA in Thailand. The process was thought to empower communities and make social values more transparent.

D. HIA Steps

All IA approaches follow the same general approach. A proposal is screened to determine whether IA is warranted, then scoped to determine which issues require coverage. Risk assessment is undertaken; then a plan developed and implemented to mitigate key risks. All forms of HIA follow this structure. They all involve establishing a project rational, screening, scoping, risk assessment, a health plan to mitigate identified risks and implementation and monitoring.

a. Project Description

The first step of an HIA is to outline the rationale, objectives and activities of a proposed infrastructure development. The description should include project scope, phasing, construction processes, types of equipment, volumes of inputs, and the nature of by-products.

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b. Screening

During screening the decision as to whether the proposal warrants HIA is determined. Direct and indirect influences of the project on health determinants need consideration. If these influences are deemed to be significant, then a HIA should be undertaken. The decision to perform a rapid or comprehensive HIA is also executed during screening. As already mentioned, such factors as the scale of the project, potential health, environmental and social hazards, and community concerns are taken into considerations, along with primary data availability.

Box 1: HIA Steps

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23 Tools for HIA. http://www.apho.org.uk/resource
c. Scoping

Scoping aims to identify the key issues that need to be considered in the HIA. The Australian HIA guidelines state that ‘scoping firstly involves determining the factors to be considered, alternatives to the project, and the potential effects of the project to be considered. Secondly, prioritizing the issues to be addressed and determining the appropriate level of effort.’ The geographical, timescale and population dimensions of the HIA are established at this stage.

d. Assessing Health Risks and Impacts

Potential health impacts of a proposal are identified during risk assessment. Both positive and negative impacts may be analysed. Assessment of risk may be done by assessment against checklists or using qualitative techniques. Some guidelines note that impacts could be quantified during risk assessment. A review of 98 published HIAs in 2005 identified that quantitative techniques were used in only 16 studies.

e. Public Health Plan.

Risk management involves the assessment of various options to mitigate identified health risks and development of an action plan. In considering an appropriate action plan it is noted that ‘decision making will incorporate scientific, technological, social, economic and political information [and] alternative actions may be identified through a community consultation processes’. Plans are typically prepared for different sub-populations affected by the project and for different phases of development.

f. Monitoring and evaluation

Monitoring and evaluation is required to determine whether the public health plan is effectively implemented and if the health status of the community has been sustained or improved. Evaluation also provides feedback on the accuracy of risk assessments conducted during the HIA.

IV. HEALTH IMPACT ASSESSMENT PRACTICES

A. HIA in Development Institutions

Only a small proportion (6%) of published HIAs have been conducted in developing countries. Most of these studies follow a safeguarding approach and tend to be project-


Session 4: Health Impact Assessment and Socially Responsible Infrastructure Development
orientated and triggered by large infrastructure projects. Development institutions require environmental and social mitigation strategies be integrated into the planning and implementation of investments with high environmental and social risks. Mitigation measures could relate to environment, safety of dams; pest management, indigenous peoples, involuntary resettlement, cultural property, and health and safety. Most agencies integrate health mitigation within broader environmental and social considerations. Policies at major development institutions and selected governments in the GMS are summarised in this section.

1. **International Finance Corporation**

HIA guidelines were developed in 2009. The objective of the HIA guidelines was to present methodological approaches to assess and mitigate potential community health impacts. The trigger for conducting HIAs as part of SIA/EIA is articulated in IFCs performance standards footnotes. PS1 footnote (26) refers to disclosure of project information and that the decision to conduct a HIA depends on the scale, risk and impacts of a project. Depending on the scale of the project mitigation could range from IAs to summaries of key issues and commitments.

2. **International Petroleum Industry Environmental Conservation Association**

The global oil and gas industry association for environmental and social issues (IPIECA) developed guidelines in 2005 using similar a similar framework and expertise as the IFC guidelines. The guide defines and outlines the purpose and value of HIAs within the oil and gas industry. It is noted that impact assessment in the industry has evolved from environmental performance, to include a greater social focus, where they are increasingly asked to address health problems outside of occupational health and safety within the geographical boundaries of a proposed project. The decision to undertake a comprehensive HIA is also governed by the size, complexity and profile of concerned projects.

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30 Section 1 addresses the types of HIAs, and how to determine which type of HIA is appropriate for the project. It also describes how an HIA fits into the social and environmental impact assessment process. Sections 2 and 3 explain when a comprehensive HIA may be required. Sections 4 and 5 focus on the required levels of analysis and the baseline data needs. Sections 6 and 7 address health-specific stakeholder engagement and risk assessment aspects. Sections 8 and 9 provide information on the development of the health action plan and monitoring and verification.


33 IPIECA. A guide to health impact assessment in the oil and gas industry. London: International Petroleum Industry Environmental Conservation Association, 2005
3. **International Council of Mining and Minerals**

ICMM developed a set of tools\(^{34}\) in 2010 to help practitioners assess and address health risks posed by hazards in the mining and metals sector. The guidance is designed to complement IFC and IPIECA safeguarding and accompanies the 2009 Good Practice Guidance on Occupational Risk Assessment. The tool provides an overview of how mining can affect health, summarises the HIA approach proposes a rapid assessment methodology. The guide stresses the need to integrate health impact assessment with environmental and social impact assessments.

4. **World Bank**

The World Bank has a range of environmental and social safeguard policies and a separate policy framework for using country systems. The World Bank provided input for the 2009 IFC HIA guidelines. Given the Bank's 2-3 year lead time in project preparation, safeguarding specialists at the bank anticipated the number of projects warranting HIA would be very low.\(^ {35}\) *Environmental, Health, and Safety (EHS) Guidelines* have been developed for different industries and are used in conjunction with safeguard policies. Clients are expected to refer to the EHS Guidelines together with other internationally recognized sources when evaluating mitigation strategies for a project. The numerical guidelines and performance indicators are considered to be default values applicable to new projects. These guidelines are currently being revised by the IFC. The objectives of the intended revision are to develop revised benchmarks to reflect the current state of good international practice\(^ {36}\).

5. **European Investment Bank**

The EIB’s environmental and social safeguard policies are derived from the 2006 Declaration on the European Principles for the Environment (EPE) supported by the EIB and a number of major European multilateral financing institutions\(^ {37}\). The policies do not contain explicit HIA procedures in relation to when an assessment should be conducted or how an HIA needs to be advanced in the course of due diligence. HIA currently rests on the assessment of the nature, severity and probability of impacts on public (and/or occupational) health as well as the

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\(^{37}\) The Council of Europe Bank (CEB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Nordic Environment Finance Corporation (NEFCO) and the Nordic Investment Bank (NIB); www.eib.org/epe
professional judgement exercised by the assigned social development specialist who determines whether an HIA is required

6. PREVENT Program

The USAID-supported PREVENT program notes the International Finance Corporation (IFC) have procedures to conduct HIA. Although these guidelines include veterinary and zoonotic diseases, they emphasize vector-borne diseases and diseases of livestock and domestic animals. USAID-PREVENT have developed a supplemental guide for incorporating risk assessments of emerging infectious diseases of zoonotic origin. Key risks include, amongst others, resettlement and influx increasing person-to-person contact and amplification of disease; water management providing insect-breeding habitat; and increases in the potential for shared use of water between humans and wildlife.

7. Asian Development Bank

In 1992, ADB published its first guidelines on the conduct of health impact assessment of development projects. A second publication came a decade later in 2003. While both guidelines were applied by WHO and other partners, ADB’s own HIA practice focused on a safeguards approach to reduce negative health impacts, specifically through social assessment, and community and occupational health and safety. HIA has started to be operationalized at the project level under EIA, mostly for Category A and B for environment, following harmonized guidelines for multilateral development banks. Only for HIV/AIDS mitigation may it be possible to analyze if more proactive health approaches in infrastructure and other non-health activities can yield better health outcomes.

The current Safeguard Policy Statement (SPS) which encompasses environmental and social safeguards for ADB’s operations was adopted in 2009. The objectives of the SPS are ‘to avoid, or when avoidance is not possible, to minimize and mitigate adverse project impacts on the environment and affected people, and to help borrowers strengthen their safeguard systems and develop the capacity to manage environmental and social risks’.

In the case of environment, this involves pollution considerations impacting human health, along with occupation and community health. As part of involuntary resettlement and indigenous safeguards, communities need to be provided resettlement plans that ensure that livelihoods and standards of living of displaced persons are improved, or at least restored to pre-project (physical and/or economic) levels. Access to health facilities is one such consideration. Health considerations follow standards in the World Bank Group’s Environment, Health and Safety Guidelines. These guidelines cover sectors such as forestry, agribusiness/food production,

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38 Personal communication, E. Kyrou, Social Development Specialist, Environment, Climate and Social Office (ECSO) Projects Directorate, European Investment Bank. 10th July 2013.

39 Proposed Supplemental Guidance to the IFCs Introduction to Health Impact Assessments, June 2012


chemicals, oil and gas, power (wind energy, geothermal, thermal, transmission), mining, manufacturing, and general infrastructure\textsuperscript{42}.

ADB’s long term strategy, known as Strategy 2020,\textsuperscript{43} states the bank ‘will contribute to improvements in health mainly through infrastructure projects such as water management and sanitation and through governance work that focuses on public expenditure management for cost-effective delivery of health programs and services to all population groups’. At a strategic level, it logically follows, that health considerations should be articulated in operational plans and policies for key sectors such as transport, energy and water.\textsuperscript{44} The Sustainable Transport Initiative Operational plan 2010\textsuperscript{45}, Energy Policy 2009\textsuperscript{46} and 2011 Water Operational Plan\textsuperscript{47} include health considerations to varying degrees. For example, an objective of sustainable transport system development is improving access with consideration of accident and pollution implications for human health.\textsuperscript{48} The 2009 Energy Policy\textsuperscript{49} states that MDG targets (including health) could not be met without access to modern energy as the burning of traditional biomass results in higher incidence of health problems, such as bronchial diseases, and lower productivity. Research by ADB’s evaluation department examining the impact of electrification on general human health in rural Bhutan supports this conclusion, with 2.8, 5.6 and 13.5% less incidence of cough, respiratory problems eye irritation in households connected to electrification as a result on an ADB project\textsuperscript{50}.

\begin{itemize}
  \item Water and Sanitation, Waste Management Facilities, Health Care Facilities, Retail Petroleum Networks, Crude Oil and Petroleum Product Terminals, Telecommunications, Toll Roads, Gas Distribution Systems, Shipping, Airlines, Airports, Ports, Harbors and Terminals, Railways, Tourism and Hospitality Development
  \item ADB. 2008. Strategy 2020: Working for an Asia and Pacific Free of Poverty,
  \item ADB. 2009. An operational plan for improving health access and outcomes under Strategy 2020, ADB. Manila
  \item ADB. 2010. Sustainable Transport Initiative Operational Plan, ADB. Manila
  \item ADB. 2009. Energy Policy, ADB. Manila.
  \item ADB. 2011. Water Operational Plan 2011-2020. ADB. Manila
  \item The contribution of vehicle emissions to high air pollution levels and implications for respiratory ailments and other disease are noted in the sector plan. Similarly, the contribution of road accidents to the estimated 1.18 million global deaths and millions of injuries is recognized.
  \item ADB. 2010. Asian Development Bank’s Assistance for Rural Electrification in Bhutan - Does Electrification Improve the Quality of Rural Life, IED. Manila.
\end{itemize}
BOX 1. HIV Impact Assessment in Infrastructure Projects

Following on from Strategy 2020, a target of 70% of all ADB infrastructure projects having HIV/AIDS mitigation components initiated as a result of social and poverty analysis was envisaged\(^{51}\). A number of pilot prevention programs have been undertaken in the GMS to develop guidance for mitigation activities. They include the Baolong Healthy and Safe Action (BHSA) Project\(^{52}\) as part of the $582 million Western Yunnan Roads Development Project in the People’s Republic of China (PRC). The $1 million HIV prevention program focussed on providing prevention services in a range of settings, and was followed by evaluation that found HIV knowledge and condom use with risky sex had improved in most groups except unskilled workers and drivers. \(^{53}\) The 22-km Northern Economic Corridor Project in Lao People’s Democratic Republic also incorporated an awareness and prevention education program on HIV, illicit drug use and human trafficking valued at $340,459.\(^{54}\) Energy projects, such as the O Mon Thermal Power Project in southern Vietnam, included around $223 thousand to support activities encompassing HIV/AIDS/STI awareness and promote behaviour change among construction workers, health care providers, community population, and commercial sex workers.

Key issues which posed a challenge to the development of HIV risk mitigation programming included a lack of HIV and AIDS data associated with mobility and the infrastructure sector, a need for a harmonized approach when engaging government counterparts and the lack of specifications for a minimum package of HIV prevention activities. Given the large number of HIV prevention sub-projects required to meet a target of 70% of infrastructure projects having this component there is a need for non-health project officers being able to effectively assess the need for HIV-related mitigation and effectively design and implement HIV/AIDS programs. Within the bank’s *Strategic Directions Paper on HIV/AIDS 2011–2015* it was also noted that tools would be developed for monitoring the implementation of contractual obligations on HIV prevention by construction contractors. It was not clear during consultations as part of this HIA assessment as to whether this had occurred. Concern was expressed among interviewed staff about the inability of local contractors to implement HIV prevention activities and that monitoring was inadequate.


\(^{52}\) ADB. 2010. Practice guidelines for harmonizing HIV prevention initiatives in the infrastructure sector. ADB.

\(^{53}\) ADB. 2003. Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the People’s Republic of China for the Western Yunnan Roads Development Project. Manila

B. HIA in South East Asia

1. Cambodia

In 1993 the Royal Government of Cambodia enacted legislation to protect the environment and health of the people in Article 59 of the Environmental Protection Act. HIA legislation is also being developed. A National Committee for Environment and Health was established in 2006, although a HIA policy has not yet been approved. HIA is seen as having the potential to be combined with other impact assessments such as EIA, SIA, Cumulative Impact Assessment and Strategic Environmental Assessment. A major challenge is advocacy to engender political commitment.

2. Laos

A HIA policy was developed and approved by Prime Minister in March 2006. Decree No: 54/MP, 23/03/2006 on the declaration of use and Implementation of National Policy on HIA was issued to implement the law. The policy aims to contribute to poverty alleviation and sustainability through the timely identification of adverse health effects of development and opportunities for health protection and promotion in the planning. The country has established a HIA team and focal point and prepared practical guidelines for HIA. Large projects such as Nam Theun II requested HIA, which was undertaken with the assistance of WHO, the Ministry of Health and experts. HIAs have also been considered for traditional artisanal mining activities, indoor air pollution and assessments of climate change impacts.

3. Thailand

The introduction of the National Health Act in 2007 and amendments to the Thai Constitution in the same year clarified the nature and purpose of HIA. In 2010, 11 types of projects were specified in Section 67 of the Constitution as requiring an EHIA: Projects include offshore or coastal landfill, mine operations, industrial estate, petrochemical productions, steel or ore mills, production, modification or disposal of radioactive material in operations of hospital, veterinarian clinics, or research, disposal facilities, airports, piers and ports, dams or reservoirs and non-gas power plants. Key challenges for further advancing HIA in Thailand include increasing the number of experts with experience of conducting HIA, developing a common understanding of definitions, process, and limitations of HIA and improvements in health data.

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55 2nd Workshop of ASEAN Focal Point on HIA (AFPRIA) October 4-6, 2012 Bangkok, Thailand
58 The law recognizes the right of a person to participate .. in the protection, promotion and conservation of the quality of the environment for usual and consistent survival in the environment which is not hazardous to his health and sanitary condition, welfare or quality of life, shall be protected appropriately’.
sets, health indicators, and health criteria for HIA. HIA guidelines for local people need to be developed to improve the general understanding of EIA and HIA.

4. Vietnam

The Law on Environmental Protection was issued in 1993 and the associated decree regulates HIA as a part of EIA. Currently HIA focuses on assessing occupational health. The Law on Prevention and Control of Infectious Diseases was issued in 2007 and states in Item 2, Article 17 ‘that all projects on construction of industrial area, urban area, residential parks, healthcare facilities of infectious diseases can be built only after having the HIA evaluation’. Technical guidance on how to implement this law has not yet been issued. An HIA Guideline’s has recently been developed. It provides an overview of rapid and comprehensive assessment methods, states the intensity of conducting HIAs should be appropriate to the level of existing resources and capabilities, the scope of the project and the size of potential impacts. The Ministry of Health with support from WHO and the Asian Development Bank implemented a pilot HIA for the Song Bung 4 Hydroelectric plant in 200760. Viet Nam is working to streamline procedures for planning, design, implementing, and monitoring development projects, as outlined in the Hanoi Core Statement on Aid Effectiveness. This statement commits partners to use strengthened country safeguarding systems, with at least 30% of project assessments being carried out using government systems. Scope for strengthening HIA systems, capacity development and policy support needs to be assessed.

5. Malaysia

On April 1, 1988, the Environmental Quality Act of 1974 was enforced, with the overall aim of ensuring the environmental impact of developmental projects by requiring an EIA. The EIA, was defined in the legislation as “the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made61.” Similarly, the Department of Environment notes that environment impact corresponds to the “net change in man’s health and well-being, including the ecosystems on which man’s well-being depends, that results from an environmental effects.” Thus, HIA to a limited extent has already been incorporated into the EIA.

6. Philippines

Presidential Decree number 1586 Philippine Environmental Impact Statement in 1978 requires an Environment Compliance Certificate (ECC) for environmentally critical projects and projects within environmentally critical areas. The 1997 Philippine National Framework and Guidelines for Environmental Health Impact Assessment feeds into the ECC as a secondary requirement prior to obtaining approval for project construction.

60 Nguyen Huy Ng. 2012. 1st HIA for ASEAN Workshop held on 13-14 February 2012, Phuket, Thailand

V. FINDINGS AND RECOMMENDATIONS

1. Limited Awareness of Health Implications from Infrastructure Development

There appears to be a lack of awareness and appreciation of the health-related implications of infrastructure development. In the case of ADB, only a limited number of project monitoring frameworks in water, transport, education and agriculture were found to have health-related indicators. In a recent study of ADB’s support for the MDGs, it was calculated that some 63% of financing that was not classified as directly supporting MDGs was in major infrastructure sectors such as energy and transport. Efforts have been made in the past to encourage staff to consider health affects in projects and publications such as ADB. 2003. A Primer on Health Impacts of Development Programs were developed to provide menus of indicators for agriculture and forestry, water and sanitation, energy, transport, urban development, education Sector, public-private partnerships and regional public goods. Clearly greater efforts are required to raise awareness of the health impacts from these types of investments. The development of user friendly ‘tip sheets’ such as those for gender, and thematic studies could help in this regard.

2. Identify Priority Sectors

Not all infrastructure development will have significant health implications. Water and sanitation projects have been identified as having large health benefits. Potential benefits may also be evident in sectors where health indicators are not commonly used. Improved sanitation in the education sector, guarding against creating refuges for vector-borne disease as part of irrigation projects or improving solid waste management in urban development projects may equally have important health benefits. HIA commentators have noted that two major issues of critical importance to human health in the Asia are water and biodiversity. Case studies should be conducted to highlight the potential magnitude of these benefits, or costs, in high health impact sectors currently neglecting health considerations.

3. Better Health Indicators

Some sectors are developing indicators to better track health outcomes. For example, the ADB transport sector is developing the Sustainable Transport Appraisal Rating (STAR) tool for assessing the sustainability of ADB’s transport projects. The tool measures improved access to health care, reduced transport-related pollutants and cutting accident rates. In the case of water and sanitation, mortality rate indicators are included in project monitoring. A major gap in water sector health impact analysis is establishing causality between mortality data, project coverage, facility utilization, and output data at the project level. Systematic reviews have, however, established the link between water quality and mortality. The need for confirming this

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62 ADB. 2013. ADB’s Support for Achieving the Millennium Development Goals, IED, Manila.

63 From the standpoint that MDGs were designed to mobilize effort beyond the usual attention of governments and aid agencies

64 Harris-Roxas B. Health impact assessment in the Asia Pacific. Environ Impact Assess Rev 2011;31:393-5

Session 4: Health Impact Assessment and Socially Responsible Infrastructure Development
relationship in every project is costly. The use of proxy indicators such as water quality could be used as a surrogate measure for health impacts in such cases. A range of proxy indicators should be identified for health benefits (e.g., water, soil, and air quality) in other sectors where empirical evidence of causality is sound. Identifying proxy health indicators that professionals in each field commonly use may facilitate greater attention to project level health benefit determination. A literature review and consultation with experts to identify useful proxies, along with development of indicator tip sheets may help facilitate use of health-related indicators.

4. Guidance on Using HIA

Most development institutions have adopted an integrated approach to HIA, as part of EIA or SIA processes. The templates and timeframes for rapid and comprehensive approaches are provided in the IFC guidelines. Given the time pressures associated with project processing it is likely most development financing agencies will continue to follow this type of approach. Although health considerations are thought to be given insufficient attention in some cases, HIA integrated within an EIA process reduces duplication, costs of consultation and leverages existing impact assessment approaches. Reviews of the use of HIA have noted key challenges to greater adoption are a lack of clarity about the definition of HIA and its methodological criteria; limited capacity for HIA practice; lack of cooperation between sectors and difficulties of budgeting and project management when integrated HIAs are being conducted. Guidance notes need to be developed on when to undertake an HIA. Most current triggers relate to the scale or sensitivity of project risks. Triggers should be more explicit and specify whether rapid or comprehensive assessment is required.

5. Capacity Development

Countries need to develop their own systems for delivering safeguards. This objective is in line with the Paris Declaration on Aid Effectiveness. Many national safeguarding systems are not equivalent to development institutions and legislation may not support HIA. In the case of ADB, a large number of IAs are conducted by borrower countries. A review of country led and ADB supported assessments is required to identify whether health impacts are covered in sufficient detail and any gaps in current practice identified. Training activities and education should be pursued to improved HIA practice and augment the body of health professionals able to conduct HIA. WHO's Western Pacific Regional Office has established a thematic working group for HIA, with more than 1000 HIA practitioners across Asia. ASEAN has been active in developing HIA capacity and networking across the region. The Regional Forum on Environment and Health in Southeast and East Asian Countries established a thematic working group on HIA in July 2010 to share information and knowledge on HIA practices, to develop and promote HIA and to build capacity.


6. **Improved Monitoring and Evaluation.**

An ADB evaluation of the bank’s current safeguard policies noted that considerable emphasis was placed on meeting procedural requirements and milestones during project processing, however limited supervision was provided in achieving results during project implementation. The study noted that ‘there is almost no monitoring of environmental matters after project completion’. This observation was also made during this review when discussing health mitigation strategies under current safeguarding - particularly in relation to HIV prevention. A review of the constraints on implementing HIV prevention and current performance of HIV prevention within infrastructure projects is required. Methods for improving monitoring and evaluation, such as strengthening project completion reporting were suggested as means for addressing this issue.

7. **Studies and Advocacy**

An interest in enhancing the health impacts of projects, and minimising negative impacts needs to be fostered. WHO note that ‘the promotion of HIA in the developing world is constrained by the small number of available references of best practice that can be used as benchmarks for future HIA.. [and].experience gained in HIA practice in the high-income countries is rarely directly applicable to a low- or middle-income country context’. Where appropriate; development agencies and governments should pilot HIAs in sectors currently lacking these assessments. Economic appraisal is commonly used to justify investment. Health benefits are infrequently considered due to methodological complexities associated with human health valuation. It is unlikely health considerations would be included in routine project processing assessments due to this constraint. Economic case studies should be undertaken where health benefits are not currently perceived to be significant to engage stakeholders from non-health fields.

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VI. REFERENCES


