Health considerations in Impact Assessment

IAIA Webinar 25 April

Presenter: Francesca Viliani
Head of Public Health Consulting Services and Community Health Programs – International SOS

Twitter: @fravili
Email: francesca.viliani@internationalsos.com
International Association for Impact Assessment

www.iaia.org

Webinar moderator: Bridget John (bridget@iaia.org)

The leading global network on impact assessment
Housekeeping

Recording?
✓

Questions?
✓

Slides available?
✓
Francesca Viliani is the Head of Public Health at International SOS and a Chatham House fellow. She is a specialist in public health and crisis management with over 20 years of working experience. At International SOS, she oversees the capacity building for and delivery of Health Impact Assessment and public health programs for the extractive and energy sectors, as well as for mega-infrastructure development.
Agenda

• Health and its determinants
• HIA & Regulations and requirements
• Why health in Impact Assessment?
• Health data and indicators
• Examples
• Q&A
Today Webinar

Yes
• Definitions & References
• Intro on how to go about health inclusion
• Focus on projects – extractive and infrastructure
• Examples from low and middle income countries

No
• Assessment of policies, programs, plans
• Health in SEA
• Occupational Health
• Detailed methodology for quantifiable risk assessment
Health and its determinants
Health, we all know is important

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

Preamble to the Constitution of the World Health Organization (WHO), July 1948
Health or Disease?

What determines health? (A fuzzy pie chart)

- Genetics: 10-25%
- Individual Level Risk Factors: 20-40%
- Opportunities/Socioeconomic Status: 20-30%
- Healthcare Services: 15-30%
- Environment & Place: 5-15%
- Healthcare Services: 15-30%


Ben Harris Roxas Health Impact Assessment (2014)
Determinants of health

With sensitivity to determinants and definitions important to communities, example from First Nations in Canada

First Nations Health Council
http://fnhc.ca/initiatives/the-work/
Health Impact Assessment
HIA definition and values

“[…] a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan, programme or project on the health of a population and the distribution of those effects within the population. HIA identifies appropriate actions to manage those effects”


HIA practice is underpinned by the following values: recognition of human rights, democracy, equity, sustainable development, and ethical use of evidence. HIA strives to be inclusive and uses comprehensive definitions of health

From “Health Impact Assessment - FasTips” No. 8 July 2014
Health impact assessment (HIA) is a combination of procedures, methods, a program, or project that may be judged as the health of a population, and the distribution of health outcomes over the population. (1998 Gershom Ben-Dov) 8.

Objective: To identify and evaluate potential health effects of programs, policies, or development projects. This, in turn, provides a foundation for changes likely to be affected by such projects.

The major steps in conducting an HIA are:

- screening (identify projects or programs);
- scoping (identify which health effects);
- assessing health effects; and
- evaluating health effects.
Triggers: Health in IA

Key drivers for the consideration of community health and safety in ESHIA are:

- **International funding requirements** – IFC PS4 and similar
- **National** health or sectoral plans, assessment guidance, legislation, monitoring
- **Company internal policies** and commitments
- Interest in identifying positive impacts and support community investments
- Typologies of projects known for leading to long lasting negative community health impacts
International Funding

 Requirement that human health be considered according to IFC Performance Standard (PS) 4 on Community Health, Safety, and Security and their supporting guidance:

- Loan agreement with IFC
- Loan agreement with any financial institutions that might require the fulfillment of EPFI

Other Development Financial Institutions/Regional Banks have safeguards that require to address community health and safety. For example Asia Development Bank, European Investment Bank, etc...
National Requirements

Different types of legislations and requirements at national or sub-national level specific on HIA/EIA:

- Some Asian countries (e.g. Republic of Korea, Lao People's Democratic Republic, the Philippines, Thailand and Viet Nam)
- Certain states of Australia (e.g. Tasmania and Victoria), Canada and New Zealand
- EU Directive

Mining codes or legislations might require to address health issues (e.g. Democratic Republic of Congo). Similarly any legislation on natural resources might have an “health” clause

Health legislation at national or sub-national level

Other legislation (e.g. Water quality, Labour and welfare, etc…)
Company Policies
Health Leading Performance Indicators IOGP/IPIECA

Why health in Impact Assessment?
## Environmental Health Areas (EHA)

<table>
<thead>
<tr>
<th>Environmental Health Areas</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Vector-related disease</strong> – malaria, leishmaniasis and ectoparasites, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>2 Housing and Respiratory issues</strong> – acute respiratory infections (bacterial and viral), pneumonias, tuberculosis; respiratory effects from housing, overcrowding, housing inflation.</td>
<td></td>
</tr>
<tr>
<td><strong>3 Zoonotic Diseases</strong> – animal to human disease transmission; potential disease distributions secondary to changes in animal migration patterns due to project-related activities or infrastructure, emerging infectious diseases</td>
<td></td>
</tr>
<tr>
<td><strong>4 Sexually transmitted infections</strong> – HIV/AIDS, syphilis, gonorrhoea, chlamydia, hepatitis B.</td>
<td></td>
</tr>
<tr>
<td><strong>5 Soil, Water, Sanitation and Waste related diseases</strong> – e.g., giardia, hook and pin worms, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>6 Food and nutrition related issues</strong> – changes in subsistence practices; stunting, wasting, anaemia, micro-nutrient diseases (including folate, Vitamin A, iron, and iodine), gastroenteritis (bacterial and viral); food inflation.</td>
<td></td>
</tr>
<tr>
<td><strong>7 Accidents/injuries</strong> – road traffic related spills and releases.</td>
<td></td>
</tr>
<tr>
<td><strong>8 Exposure to potentially hazardous materials</strong> – road dusts, air pollution (indoor and outdoor related to industrial activity, vehicles, cooking, heating or other forms of combustion/incineration), landfill refuse or incineration ash, any other project related solvents, paints, oils or cleaning agents, by-products.</td>
<td></td>
</tr>
<tr>
<td><strong>9 Social Determinants of Health (SDH)</strong> – psychosocial, resettlement/relocation, violence, and security concerns, substance misuse (drug, alcohol, smoking), depression and changes to social cohesion.</td>
<td></td>
</tr>
<tr>
<td><strong>10 Cultural health practices</strong> – role of traditional medical providers, indigenous medicines and attitudes and beliefs regarding health enhancing and lowering practices.</td>
<td></td>
</tr>
<tr>
<td><strong>11 Health services infrastructure and capacity</strong> – physical infrastructure, staffing levels and competencies, technical capabilities of health care facilities.</td>
<td></td>
</tr>
<tr>
<td><strong>12 Non-Communicable Diseases</strong> – hypertension, diabetes, stroke, and cardiovascular disorders.</td>
<td></td>
</tr>
</tbody>
</table>
# Screening

1. Assemble the team and ensure a person with health expertise is involved
2. Identify legislative and relevant corporate requirements for health
3. Gather and review relevant project information
4. Evaluate Health Context (gather data and assess reliability of them)

<table>
<thead>
<tr>
<th>A. Location</th>
<th>B. Influx &amp; resettlement</th>
<th>C. Culture/Socio-economic</th>
<th>D. Vulnerable / marginalised groups (both socially and physiologically)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>Temporary</td>
<td>Social structure/Tribal/Clan</td>
<td>Resettlement Indigenous/ethnical minorities</td>
</tr>
<tr>
<td>Urban</td>
<td>Permanent</td>
<td>Subsistence agriculture</td>
<td>Children</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>Countries or locations of origins (workers and communities)</td>
<td>Level of wage/cash economy</td>
<td>LGBT</td>
</tr>
<tr>
<td></td>
<td>Resettlement</td>
<td></td>
<td>Disable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elderly</td>
</tr>
</tbody>
</table>

5. Review project design

- Water bodies
- Waste management
- Roadways, pipelines
- Construction camps
- Operation facilities
- Source of potential exposure
- Transmission-line corridors
- Protected Areas/Biodiversity concerns

6. Review the possible health impacts using environmental health areas

7. Identify potentially health impacted geographic areas and potentially affected communities

8. Identify key-stakeholders

9. Determine whether a deep health consideration is needed

Adapted from IOGP/IPIECA HIA guidance
Health in ESHIA process

ESHIA PHASES

1. Screening
   - High-level ESH impacts assessment based on secondary data

2. Scoping
   - Definition of information and data gaps
   - Focus on key ESH impacts
   - Definition of methodology

3. Baseline
   - Definition of baseline conditions of the area (including field surveys)

4. Impact assessment
   - Assessment of ESH impacts (type and significance)

5. Mitigation and enhancement
   - Identification of mitigation measures related to identified impacts in a comprehensive management plan

6. Monitoring and evaluation
   - Identification of monitoring measures related to identified mitigation measures in a comprehensive management plan

IMPLEMENTATION AND FOLLOW-UP

SCOPE OF CONSULTATION

- Identification of relevant/ key stakeholders
- Identification of inputs and concerns from key stakeholders
- Feedback on the results of the baseline analysis; identification of community needs
- Validation of the findings of the assessment
- Support in the identification and evaluation of options for mitigation measures
- Support in the identification of monitoring measures
- Participation of stakeholders in the monitoring programme and grievance mechanism

STAKEHOLDER ENGAGEMENT—CONSULTATION
Health data and indicators
Health baseline and secondary data...

What do data represent?

How reliable data are?
Health indicators for what?

- **Understand** existing health conditions communities

- **Recognise** expectations and **needs** of communities

- Assist with **prediction of impacts** (changes and interactions among the determinants of health)

- **Inform management plan** (culturally relevant, socially acceptable, and cost effective)

- Support **monitoring** procedures and assess effectiveness of recommendations
Understanding in order to manage…

From M. Birley and F. Viliani (2010) “HIA of a Gas Project” poster presented at WHO HIA day
...and monitor and report

**Two cross-sectional surveys:**

- at baseline prior to project development (2011) & four years into development.
- Prevalence of Plasmodium falciparum, anaemia and stunting, and hookworm infection in children in communities impacted and comparison communities not impacted by the project.
- Impacted communities were better off in 2015 and better health status than comparison villages.

Primary data collection and observations
Health surveys and studies

From F. Viliani et al (2012) "Baseline Health Survey in a Sparsely Populated Part of Papua New Guinea" SPE-157448
Examples of health inclusion in IA

<table>
<thead>
<tr>
<th>Project Activity</th>
<th>Detriment of health</th>
<th>Pathway</th>
<th>Health effect</th>
<th>Time scale</th>
<th>Geographical scale</th>
<th>Probability</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IMPACT CHARACTERISTIC (magnitude)  

IMPACT IMPORTANCE (value)

IMPACT SIGNIFICANCE

Potential Consequences

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Positive</th>
<th>Hardly any</th>
<th>Little</th>
<th>Considerable</th>
<th>Great</th>
<th>Extreme</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Positive</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Major</td>
<td>Major</td>
<td>Major</td>
</tr>
<tr>
<td>Medium</td>
<td>Positive</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Major</td>
<td>Major</td>
</tr>
<tr>
<td>Medium low</td>
<td>Positive</td>
<td>Minor</td>
<td>Minor</td>
<td>Moderate</td>
<td>Major</td>
<td>Major</td>
</tr>
<tr>
<td>Low</td>
<td>Positive</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Minor</td>
<td>Minor</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
HIA can be comprehensive

- Spread of vectors associated with malaria and yellow fever
- Spread of zoonotic diseases
- Workforce arriving in the area could have re/introduced diseases that were no longer present in the area (ex. Risk of importing Yellow Fever from Africa)
- Altering of water quality (water borne diseases) and soil quality (affect livelihoods, nutritional status)
- Increased risk of disease transmission (HIV, STIs)
- Increase of traffic injuries
- Increase of air pollution
- Lack of inclusion of health in emergency response plans

HIA of paper mill and supporting forest plantation in China
Health included early

- The screening considered STI a potential impact and included it in the ESHIA.

- The scoping phase identified a dramatic increase in the number of AIDS cases in general in country.

- FGDs were conducted with 3 main groups: High risk groups (transgender; CSWs); Villagers; and Local health workers. This allowed to understand the power dynamic and the local market for “sex.”

- The HIA considered both transgender and the local men at high risk of contracting HIV and STIs, because none of them was mindful of practicing unprotected sex with high risk partners.

- Recommendations & mitigation measures were developed suggested in HIA for the community as well as for the employees, and were based on the national HIV strategy and discussed with the local district health teams.
# HIA, pathways and health outcomes

## Impact Assessment Table: Malnutrition

<table>
<thead>
<tr>
<th>Group affected</th>
<th>Pathway</th>
<th>Examples of mitigation measures</th>
<th>Partnership</th>
<th>CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban area</td>
<td>Inflation</td>
<td>• increase production; • improve quality and standards of agricultural products; • local procurement for canteen.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rural area</td>
<td>Deforestation</td>
<td>• strengthen the forest protection program; • to support alternative income generation activities.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Women/ Single Mothers</td>
<td>Existent need</td>
<td>• to support kindergarten attendance and daily meals for their children; • to devise micro-finance programs targeting their specific needs; • Promote favorable food distribution in the family (gendered education)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

HIA of a project located across urban and rural area in Madagascar.
Perceived misinformation
Lack of trust in information
Poor/delayed information

Information

Food insecurity
Loss of cultural/traditional practices
Economic losses
Increased competition

Fishing

Emotional stress

Potential health effects

Unhealthy behaviors (e.g. alcohol, smoking, over-eating)

Inter-community conflicts
Intra-community conflicts (e.g. mine employees)
Conflict with company and government
Violation of rights

Conflict

Destruction of river system and land

Environment

Obesity
Diabetes
Cardio-vascular diseases (CVDs)

HIA and risk register

Lack of proper sanitation, periodic flooding, no potable water, internal migration of population, no response capacity within the district.


The approach to manage the risk was rooted in the understanding of ecosystem services, socio economic issues, roles and responsibilities of different authorities, and health context.

Public health program and other initiatives started, budget and supervision carried out by HSE project manager.

HIA of a mining project in DRC
Health and resettlement

Living quarters might be associated with the spread of infectious diseases and indoor air pollution.

Community cohesiveness and organisation is important for health seeking behaviours, among other things such as psychosocial support.

Waste management and hygiene practice influence many diseases.

Services such as medical care, schools, water directly affect health status of communities.

Soil fertility and pollution impact nutritional status.

Livelihoods essential for income, plus nutritional status. Be aware of livestock for zoonotic diseases.
Impacts of the Highly Improbable?
Emerging and re-emerging infectious diseases, 1990-2013

Source, Koenig K, Shultz C, 2014, University of California
Health not properly included

- If the health assessment is a subset of the social one: than all the environmental determinants of health have not been considered;

- If the health baseline only describes morbidity and mortality: health is a positive concept and diseases are just one part of it;

- If the health baseline does not describe how reliable are the health indicators collected at the health facilities, does not link the local data to the national/regional ones, does not provide reference to the national policy and resources;

- If health and safety considerations have not been made with respect to cross cutting issues such as ecosystem services, animal health, livelihood, resettlement, emergency response, etc....
Conclusion and recommendations

-Pacific Community health and wellbeing will be the long lasting legacy of any project

-Pacific HEALTH should always be included as there are always health and safety impacts, both positive and negative

-Pacific Health inclusion is more than asking a local doctor to provide some health indicators

-Pacific It does require a multidisciplinary approach and not just a last minute health addition

-Pacific Be part of the force for change and get a health expert involved early in the process or become a health expert to ensure health is properly covered!

-Pacific Join the Health section of IAIA and keep the dialogue going!
Thank you!
References 1

References 2

- Society of Practitioners of Health Impact Assessment (SOPHIA) https://sophia.wildapricot.org/
- HIA Connect http://hiaconnect.edu.au/
- Ethical standards and procedures for research with human beings (check all quoted references) http://www.who.int/ethics/research/en/