Health Impact Assessment

Oil and gas production : Offshore

Purpose

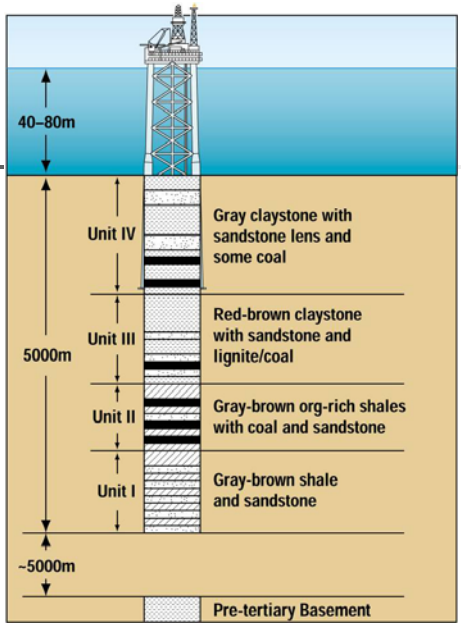
- Establish baseline of existing health conditions
- Evaluate potential impacts related to project
- Involve and engage stakeholders

Project activities

- Installation & construction
- Operation
- Decommission

Study area

- On-shore facilities
  - Community at zone of influence
- Off shore platform/Living quarter
  - worker



Determinants of health

- Biological factors
- Health baseline data/information
- Lifestyles
- Physical environment
- Health services and facilities
- Socio-economic conditions
- Employment
- Incomes and living standards
- Education
- Community safety

Methodology

- Scoping
- Stakeholder engagement
- Impact analysis
- Development of mitigation options
- Report

Scoping

- Health statistical data
- Existing environmental data
- Field survey
- In-depth interview
- Records, reports

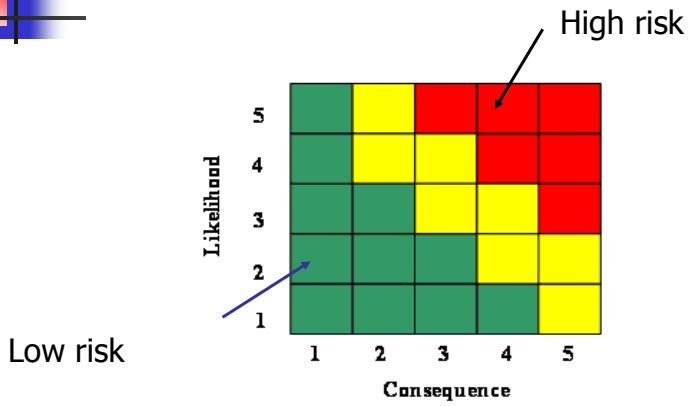
Stakeholder engagement

- Identification
- Informal meeting
- Focused group meeting
- Public participation/hearing

Impact analysis: tools

- Using risk matrix (qualitative)
- If possible, quantitative method
  - Deterministic risk assessment

แผนภูมิความเสี่ยง (Risk matrix)



Health issues and impacts

- Negative impact
  - Changes in disease spectrum
  - Living conditions
  - Changes in demand on infrastructure
  - Logistics
  - Mercury
- Positive impact
  - Employment
  - Incomes
  - Dependency ratio
  - Housing & utilities

Impact analysis method

- Risk matrix

โอกาสของการเกิด	ระดับผลกระทบ		
	ต่ำ	ปานกลาง	สูง
น้อย	**ต่ำ**		
ปานกลาง		ปานกลาง	
มาก			**สูง**

Impact analysis method

- Deterministic risk assessment
  - Probable dietary intake (PDI) /probable total dietary intake (pTDI) ratio
  - Hazard quotient
    - Exposure = $\frac{FCxconcxEFxED}{BWxAT}$
    - HQ = $\frac{ID}{RfD}$

Impact analysis: construction/Negative

- Changes in disease spectrum
  - Respiratory disease
  - Gastro-intestinal
  - Infectious disease
- Impact =Moderate

- Factor
  - Numbers of worker
  - Migrant worker
  - Health status of worker
  - Health statistics

Impact analysis: construction/Negative

- Living conditions
- Impact = low

- Impact = low
- Factor
  - Increasing of worker
  - Availability
  - Accessibility

Impact analysis: construction/Negative

- Changes in demand on infrastructure
  - Health infrastructure
  - Health service
  - Emergency team

- Impact = Medium
- Factor
  - Increasing of worker
  - Change in spectrum of diseases
  - Existing management system
  - Availability
  - Accessibility

Impact analysis: construction/Negative

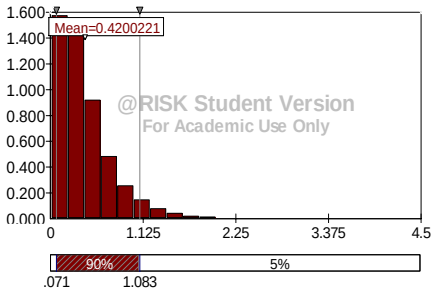
- Logistics
  - Road traffic
  - accident

- Impact = low
- Factor
  - Increasing of production
  - Existing management system
  - Availability

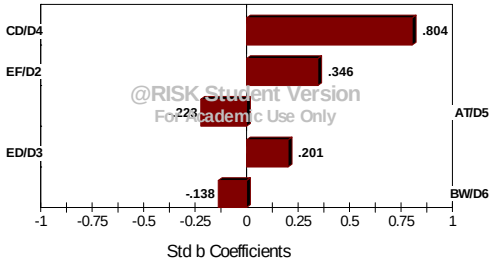
Impact analysis: construction/Negative

- Mercury
  - PDI/pTDI ratio = low
  - HQ = 0.4 = low

Distribution for HQ/D9



Regression Sensitivity for ID/D8



Impact analysis: construction/Positive

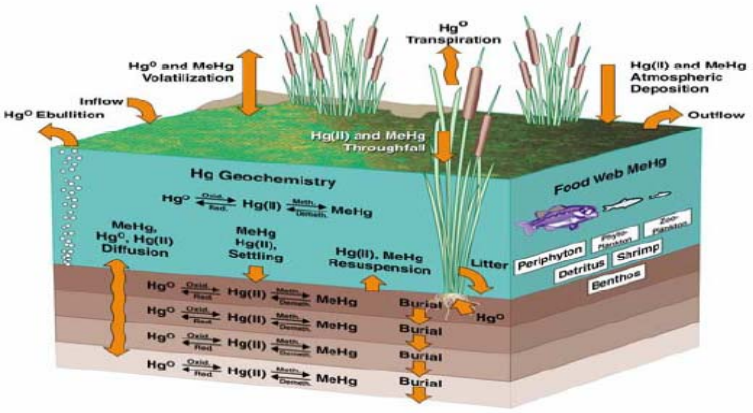
	Impact
Employment	Medium
Incomes	Medium
Dependency ration	Medium
Housing & utilities	Low

Impact analysis: Operation/Negative

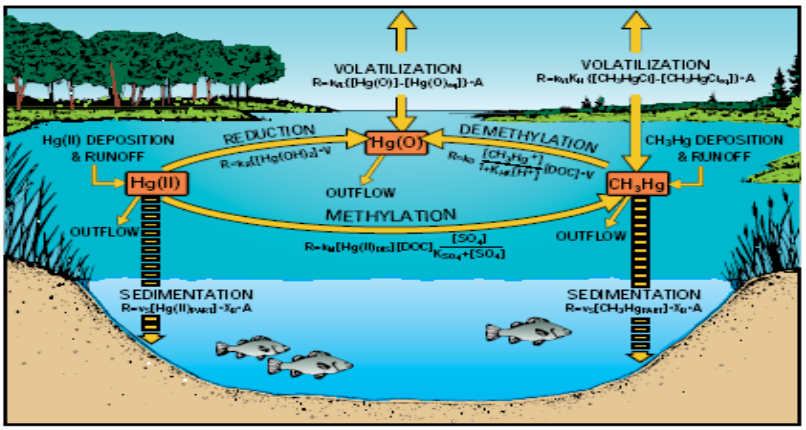
- Negative impact
  - Changes in disease spectrum
  - Living conditions
  - Changes in demand on infrastructure
  - logistics
- Positive impact
  - Employment
  - Incomes
  - Dependency ratio
  - Housing & utilities

Mitigation & Monitoring

- Change in spectrum of infectious diseases
- Health facilities
- Mercury contamination

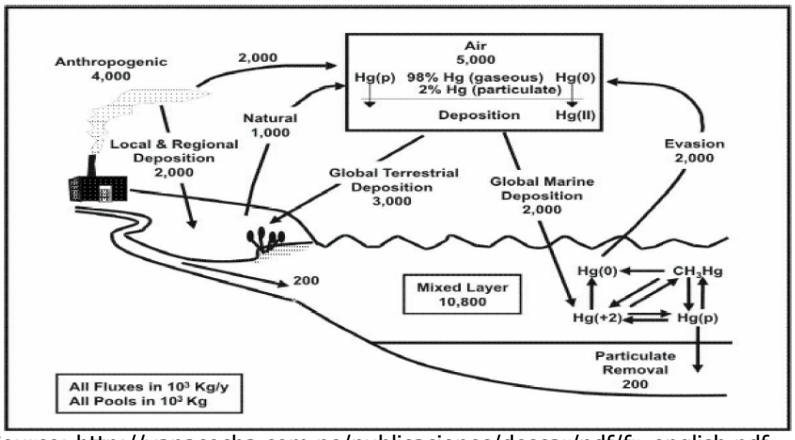


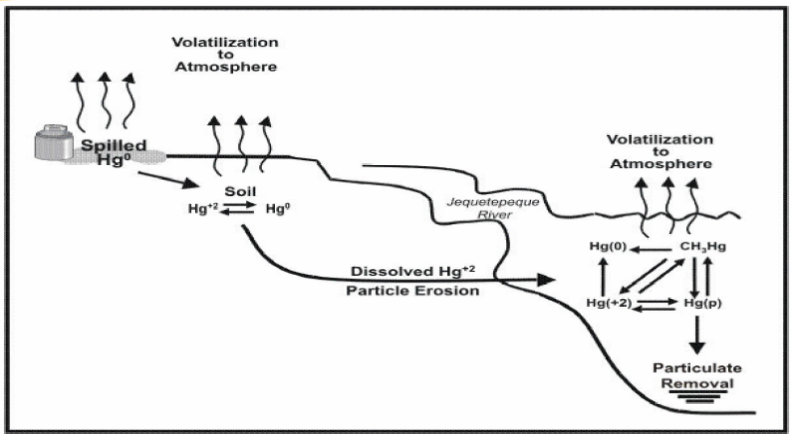
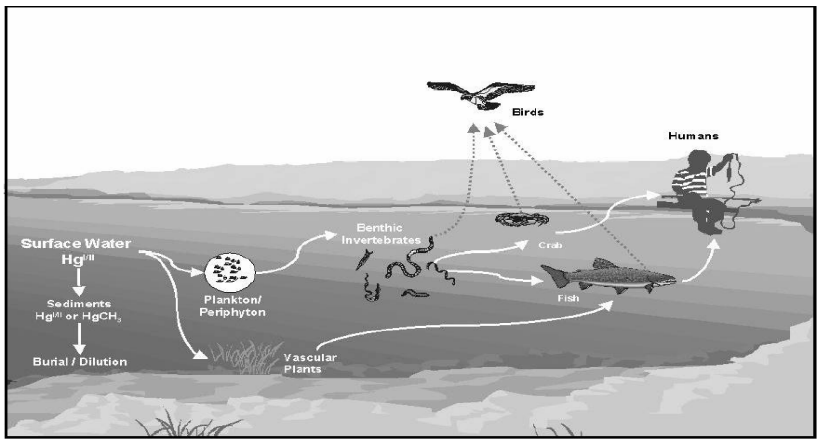
Source:http://rd.tetratech.com/DraftHgBrochurev2.pdf



Source:http://rd.tetratech.com/DraftHgBrochurev2.pdf

Global cycling and fluxes of mercury



Source: http://yanacocha.com.pe/publicaciones/descar/pdf/fr_english.pdf

Local cycling