

## KEYS TO UNDERSTANDING AND COMMUNICATING ENVIRONMENTAL HEALTH ISSUES

Reference tool

The purpose of this reference tool is to provide a list of the main questions that need to be addressed in analyzing an environmental health issue, and in communicating human health hazards.

### Description of environmental situation

- ▶ What is the nature of the environmental change (e.g., chemical, biological, physical, or climate related)?
- ▶ Will the issues be ad hoc, recurring or permanent?
- ▶ How is the change expected to evolve over time (expand or regress)?
- ▶ Are the issues local, regional or broader in scope (country, continent, planet)?

### What are the sources of these issues?

- ▶ Are the sources natural or anthropogenic (related to human activities)?
- ▶ In the case of natural and anthropogenic sources, what is the relative contribution of each one?
- ▶ Are there any local sources with a significant contribution in relation to all other sources?
- ▶ How and where is the source of contamination spreading?

### What are the potential environmental effects?

- ▶ Could changes to the aquatic environment have an impact on other environmental components (air, soil)?
- ▶ What are the potential effects on ecosystems?
- ▶ Could there be changes to quality of life (e.g., landscape, noise level or condition of property)?

### Community profile

- ▶ Does the community include vulnerable groups?
- ▶ What is the economic, social and health status of the community?
- ▶ What lifestyles have been impacted by the environmental change (e.g., importance of fishing to the community)?
- ▶ What are the challenges (economic, cultural, personal, health, etc.) in relation to the environmental issues under study?

### How can health hazards be communicated effectively?

- ▶ Thorough knowledge of community (challenges, concerns, sensitivities, etc.).
- ▶ Send out clear messages.
- ▶ Address questions/concerns in straightforward manner.
- ▶ Ensure that messages are heard and understood.
- ▶ Get community involved in the process associated with the issues (before, during and after).
- ▶ Know which organizations to contact in the event of an emergency.





# POTENTIAL LINKS BETWEEN THE ENVIRONMENT AND HUMAN HEALTH, AND CONSIDERATIONS WITH REGARD TO COMMUNICATING INFORMATION

## ENVIRONMENT

### Aquatic environment

- ▶ Is the impacted environment (river, groundwater) a source of drinking water?
- ▶ Is the water contaminated?
- ▶ Could sediment be contaminated? Could it serve as a reservoir?
- ▶ What is the behaviour of chemical and biological agents in the environment?
- ▶ Which aquatic organisms would be the most contaminated (food chain)?
- ▶ Has there been any physical disturbance to the aquatic environment (e.g., disappearance of spawning grounds)?

### Air

- ▶ Could indoor/outdoor air quality be affected?
- ▶ Consider long-distance atmospheric transport.

### Soils

- ▶ Could the soils be contaminated?
  - Consider contamination of plants, air, water and indoor dust.
- ▶ Could the incident have an impact on agricultural land?

### Potential effects on ecosystems

- ▶ Massive mortality?
- ▶ Vulnerable species?
- ▶ Long-term effects?
- ▶ Habitat degradation/destruction?
- ▶ Anticipated population decline?

### Living environment

- ▶ Could the landscape be altered?
- ▶ Would there be any nuisances (noise, odours or dust)?
- ▶ Is the environment healthy?

## HUMAN HEALTH

### How could human beings be exposed?

- ▶ By ingestion of water, food, soil/dust, etc.
- ▶ By inhalation of indoor and outdoor air.
- ▶ By dermal contact with water, air, soil/dust, etc.
- ▶ Through mother-child transfer during pregnancy (*in utero* exposure of foetus) or breast-feeding.

### What are the potential health effects?

- ▶ Accidents.
- ▶ Infectious or chemically induced diseases:
  - Are there known effects (acute or chronic exposure)?
  - Are the effects reversible?
  - Could there be dramatic consequences (e.g., death or cancer)?
- ▶ Psychosocial effects (related to stress, impacts on community, physical health and/or the environment)
- ▶ Pay attention to causal links associated with environmental conditions and to limitations of knowledge.

## COMMUNITY

### What are the socio-economic effects?

- ▶ Could community revenues and expenses be impacted?
- ▶ Consider extent of impacts:
  - direct impacts (e.g., damage to facilities or resources becoming inaccessible or prohibited).
  - indirect impacts (e.g., road closures).

### What are the socio-cultural effects?

- ▶ Could lifestyles be altered (in the short, medium or long term)?
  - Breakdown in social ties?
  - Restricted or limited access to sites (e.g., watercourses), facilities or resources (e.g., restricted consumption)?
  - Access to health services?
  - Conventional values or customs?

### Who are the most vulnerable groups?

- ▶ In terms of their exposure.
- ▶ In terms of their sensitivity.

### What are the psychological factors?

- ▶ What personal property (furniture, real estate or memorabilia) could be affected?
- ▶ Will people have to be evacuated?
- ▶ Could there be devastating circumstances (e.g., drownings or injuries)?
- ▶ Could the situation lead to social or family conflicts (e.g., divorce)?
- ▶ Will people have to abandon or delay personal plans (e.g., trips or retirement)?
- ▶ Could the situation entail fear of illness for oneself or one's children, or the transfer of health problems to future generations?
- ▶ Could the situation be stressful (before, during or after)?
- ▶ Could there be a recurrence of the situation?

## COMMUNICATING RISKS

### Anticipating perceived risk

- ▶ Is the main cause of the risk human or natural?
- ▶ Is the main cause of the risk something new, or fairly familiar?
- ▶ Is the risk perceived as being inevitable?
- ▶ Is the risk unequally distributed?
- ▶ Are children the most vulnerable?
- ▶ Does the danger pose an immediate or future risk?
- ▶ Will lifestyles have an impact on the risk?

### Send out a clear message

- ▶ Ensure that the dangers and health risks are explained clearly and plainly.
- ▶ Would it be possible to better understand and anticipate the environmental situation (analyses, forecasts)?
- ▶ Ensure that the information is thoroughly understood.
- ▶ Is the general public receiving conflicting or confusing messages from responsible authorities?
- ▶ Track the information conveyed by the media.
- ▶ Are protective measures clear, accepted by the community and well understood?

### Communicating effectively

- ▶ Should more ties be established with the community? Should people be made more aware?
- ▶ Consult, plan and make forecasts in cooperation with the community.
- ▶ What are emergency response priorities?
- ▶ Has a response plan been developed and are resources (support, supplies) available?
- ▶ Should response plans for potential health problems be prepared?
- ▶ Should a monitoring program for at-risk populations be put in place?
- ▶ Should efforts be made to join forces with established organizations?