

## ABSTRACT

Communicating environmental risk in the developing world: the case of the Aral Sea disaster

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### Introduction

Risk communication has become an increasingly important aspect of the modern world. The term refers to activities related to public health education and personal risk abatement support. The possibility of an adverse event or hazard being present in the environment, or identified as such, has greatly increased; therefore, communicating about such hazards and their possible risks becomes an important endeavour to be undertaken by the appropriate authorities. It is important because it is often a legal and moral responsibility, usually of governments or industries, to inform the population about the environmental, technological, and health hazards to which it might be exposed. The process of informing the public must be science- or evidence-based and provide the most up-to-date assessment of the likely risks, given the particular characteristics of the hazard and the characteristics of the population. It must also recognize the perceptions of risk and hazard held by the general public.

In 2003, the Health and Environment Consortium, in partnership with Médecins Sans Frontières (MSF), conducted a consultancy to address issues related to risk communication in the area affected by the Aral Sea disaster. The central task of this consultancy was to develop a provisional strategy for the communication of results of MSF operational research conducted in the Aral Sea Area.

### Method

**Sample.** Over the period of September 24 - October 2, 2003, a total of 22 separate interviews and meetings were conducted in the Aral Sea Area (ASA).

Twelve key informants were interviewed, including the Karakalpakstan Deputy Minister of Health and Deputy Minister of Education, directors of various governmental agencies, MSF staff, local academics, directors of local NGOs, etc. Ten focus group meetings were convened with various stakeholder groups, including the Karakalpakstan Farmers' Association, representatives of various international NGOs, local scientists, health care professionals, school teachers, and university students.

**Procedure.** Key informant interviews and focus group meetings were scheduled in advance at the convenience of individual participants. Key informants were provided with background documents in advance of the consultation.

Topics of discussion included: environmental health impacts of the Aral Sea disaster, professional and lay perceptions of local health concerns, the MSF Operational Research Program, the issue of risk, and strategies for effective risk communication. Key informant interviews typically lasted one hour; the focus group meetings lasted an average of 90 minutes.

### Findings

The vast majority of participants indicated an urgent need for a public awareness/health education campaign on the environmental health impacts of the Aral Sea disaster. It would appear that while most local residents are aware of the environmental degradation in the area, there is only a rudimentary understanding of specific health risks such as food contamination.

A recurring theme was that, in this context of high unemployment and poverty, the issues of food security and nutritional balance are more pressing concerns than that of food contamination. One participant explained that, for many residents of Karakalpakstan, there are three levels or phases of thinking about food: (1) access to food, (2) nutritional balance, and (3) food contamination. To communicate health messages regarding dietary exposure to POPs without addressing these other food-related issues would therefore jeopardize the credibility of the strategy; the utility and feasibility of linking the risk comm strategy to the Sprinkles initiative should be explored.

It is important to note that the salience of specific food-related issues (i.e., food security, nutrition, contamination) corresponds closely with level of education and income. In light of this, and owing to the complexities of both the local context and the information to be communicated, a multi-pronged approach to risk communication is indicated. A number of potential target audiences were identified: school-aged children, teachers, health care professionals, the scientific community, farmers, neighbourhood associations, and government officials. Data were collected to inform the development of comprehensive strategies for each identified target audience.

The consensus among participants was that it would be unacceptable in this context to communicate the risk associated with consuming contaminated foods without providing practical alternatives. (The provision of specific risk-reducing strategies is widely accepted as good practice in risk communication.) There is clearly a demand for remedies in addition to the facts.

Another recurring theme was that it will prove a great challenge to change food-related behaviour in this context as there are long-standing cultural practices and traditions related to food. There was discordance in the strategies recommended to overcome this challenge. A number of informants noted that it would be necessary to alarm residents in order to influence their thinking and behaviour (which runs counter to Western risk communication theory). This strategy was rejected by representatives of international NGOs in favour of a more sensitive, creative, and participatory approach. The latter is clearly better suited to the present purpose.

The issue of trust - central to effective risk communication - was raised by many participants. The consensus was that the association of a particular message with an international NGO lends credibility, but that trust stems from the involvement of the local community and building relationships over time. Thus while it is important to work with Gov't officials, recruiting the participation of mahallas, local NGOs, neighbourhood/village associations will be essential.

#### Recommendations

A number of next steps are recommended to advance development of the risk communication strategy:

- o Develop a preliminary list of specific health messages to be communicated. Building upon data now available to inform strategy development, results of Operational Research to be translated into explicit protective actions/behavioural changes that encourage risk reduction.
- o Convene a day-long workshop with various local stakeholder groups to assess suitability and appropriateness of proposed health messages. Messages should then be pilot-tested with representatives of identified target audiences prior to implementation.
- o Establish local partnerships in ASA to assist with the implementation of the final risk communication strategy. Pursue especially the potential for collaboration with Counterpart.
- o Advocacy for public policy development, increased targeting of government resources to health promotion/public health initiatives, and ratification of the Stockholm Convention.

#### Conclusions

The risk communication consultation (which has led to a further consultation by Dr. Nita Choudry) revealed that the principles and theory of risk communication, as conceived in the Western democratic world, are not well understood in Uzbekistan and Central Asia, more generally. Of more concern, however, was the revelation of an almost complete lack of understanding of the impact of persistent organic pollutants on human health and how the environment is an important determinant of health. This has led to a modification of our original risk communication strategy.

The "right to know" is not generally present among the population of Uzbekistan; in fact, information in the Uzbek context is tightly guarded, a traditional or a Western-style risk communication plan will likely neither be feasible nor effective. There is, however, the opportunity to engage communities and raise awareness and education of environmental health issues. The risk communication strategy has therefore been transformed to focus on public education, targeting particularly school-age children. Two template educational interventions are under development, one on environmental health and the second on water more specifically. We believe that this revised strategy focused on enhancing environmental health education through partnership with local communities and schools will lay a solid foundation for future risk communication efforts in the Aral Sea Area.