Consequence Management
Lessons from the People of Fukushima

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Overview

- CRPPH Stakeholder Involvement History
- CRPPH Involvement after Fukushima
- CRPPH Lessons Learned
Coordination and Collaboration

• Common issue discussed yesterday
• No clearly existing “universal” mechanisms

• The INEX 5 exercise has been designed to help to identify:
  – Aspects where coordination would be of value
  – An idea of the magnitude of resources needed
INEX 5

Goal

• Identification and implementation of corrective actions

Objectives

• Test and investigate the adequacy of national arrangements, where applicable international arrangements
• Review and share information on approaches to NC&Is to identify good practice
• Identify key areas and approaches to international coordination and communication in order to provide a basis for improvements in international EMS
• Country objectives to be added
CRPPH and Stakeholder Involvement

• In 1992 the CRPPH held a workshop on Radiation Protection on the Threshold of the 21st Century

• A key outcome of this meeting was the recognition of the importance of stakeholder involvement in RP decision making

• At that point, “stakeholder involvement” was generally viewed by the RP community as “explaining decisions to the public”
Values?
Stakeholder Involvement Evolves

- From 1992 to 1998 the CRPPH discussed the nature of optimisation, “social and economic aspects being taken into account”
- In 1998 a landmark workshop was held in Villigen, Switzerland: *The Societal Aspects of Decision Making in Complex Radiological Situations*
Radiophobia?
Chernobyl Lessons

• During the 1990s and early 2000s the CRPPH continued to study the radiological impacts of the Chernobyl accident

• In 2006 the CRPPH published “Stakeholders and Radiological Protection: Lessons from Chernobyl 20 Years After”
Science and Values

• Based on studies and experience, the CRPPH undertook to better understand the elements that are considered when making radiological protection decisions
• The distinction was made between “RP science” and “social values”
• To study these aspects the CRPPH organised workshops on “Science and Values in Radiological Protection”
CRPPH Stakeholder Work

  – Integrate RP aspects into societal decisions, rather than integrating societal values into RP decisions

• Chernobyl Work (1987 – 2006)
  – The RP expert should be at the service of stakeholders

  – Decisions are informed by science, but are driven by social values
Some still thought they knew everything
## ICRP Stakeholder Dialogue Seminars

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<th>Dialogue Focus</th>
<th>Date</th>
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<td>1 Initiation of a new process of discussion among affected stakeholders</td>
<td>November 2011</td>
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<td>2 Understand what has been accomplished in Date</td>
<td>February 2012</td>
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<td>3 Food production, distribution and marketing</td>
<td>July 2012</td>
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<td>4 Education and memory</td>
<td>November 2012</td>
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<td>5 The difficult decision to stay/return or go/not return</td>
<td>March 2013</td>
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<td>6 The situation and challenges faced by the citizens of Iitate</td>
<td>July 2013</td>
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<td>7 Self-help actions taken by local people in cooperation with experts</td>
<td>Dec 2013</td>
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<td>8 The situation and challenges faced by the citizens of Minamisoma</td>
<td>May 2014</td>
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<td>9 The challenges of raising children in a contaminated area</td>
<td>August 2014</td>
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<td>10 The importance of tradition and culture for recovery</td>
<td>December 2014</td>
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<td>11 The importance of measurements for recovery</td>
<td>May 2015</td>
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<td>12 The future, in particular the future of the Suetsugi region</td>
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ICRP Dialogue Experience

The experience gained from the ICRP Dialogues has all been in the context of post-accident recovery

The following aspects are the key examples of what has been learned to assist the rest of the NEA member countries to be better prepared to more efficiently recover from a nuclear or radiological event
Experience from the People of Fukushima: Obvious Lessons

• Before any accident, government should establish:
  – active stakeholder-interaction presence around hazardous sites
  – generic criteria for starting and ending countermeasures

• After an accident, government should:
  – Use local knowledge as key input for decisions
  – Engage with stakeholders to rapidly allow people to choose whether or not to return home
  – Support experts to address stakeholder questions
  – Encourage stakeholders to share experience
  – Help stakeholders to access and understand data
  – Establish health follow-up processes
Responsibility for protective actions will shift away from central government, but central government will need to support protective actions such as:

- **Individual dosimetry**: equipment, training, meaning, database creation and accessibility, etc.
- **Whole body counting**: equipment, operators, training, meaning, database creation and accessibility, etc.
- **Environmental monitoring**: equipment, training, meaning, mapping, availability, etc.
- **Addressing concerns**: process/venue for all parties to ask questions and receive honest, factual answers, generally best accomplished through trained staff who are physically present or easily accessible.

The resources needed to address these lessons are extremely significant and need to be planned.

A multi-risk, integrated national approach can be effective.
Recovery Planning Implies Resources
Experience from the People of Fukushima: Less-Obvious Lessons

• RP experts are rarely decision makers, but advise taking into account “practical” considerations of social and economic aspects
• There are no wrong protection decisions, only personal decisions
• Any individual’s decision must be respected and appropriately supported
• Protection decisions should be well informed
• Decisions regarding returning home should be taken as-soon-as-possible
• For such decisions, expert advice can:
  – Put data and understanding into people’s hands to help them regain “control”
  – Help individuals develop their vision of the future, for which understanding of RP science and circumstances is important
• Cultural aspects will need to be taken into account
What Less-Obvious Lessons Imply

• There is no “average person” or “average concern”
• Cultural aspects can play a role in decisions, and in planning and implementation of protective actions
• Concerns should be addressed in the context of culture, and as individually as possible

A huge effort may be needed from experts to appropriately interact with affected individuals to address their concerns

Resources for such an effort should be pre-planned

Training of experts in public interactions, to facilitate effective, non-confrontational exchanges, would be of great use
Some traditions are hard to imagine in other cultures
Plain Language for Engineers
Experience from the People of Fukushima: Behavior Lessons

- Affected stakeholders will address their situations themselves, with or without government assistance (e.g. dose and dose-rate measurements, cleanup, etc.)
- Stakeholder trust in government can strongly influence confidence in government actions (e.g. farmers worked with university volunteers to clean fruit trees, to prevent Cs uptake in rice, etc.)
- Stakeholders will inform their protection choices with whatever science is readily available, big picture or not
What Behavior Lessons Imply

- Measurements are easy to achieve
- Understanding measurements needs scientific input
- Radiological context and judgement takes time to develop (e.g. cleanup should prioritise contribution to annual dose over hot spots)

Good judgement comes from experience
Experience comes from bad judgement
Looking Broadly at Risks and Benefits
Experience from the People of Fukushima: Lessons in Trust

• Trust and acceptance must be earned, and for this experts should become and remain locally connected
• Independent verification of information, measurements and data can be an important element of trust
• Unaffected populations will be concerned about food from and travel to affected area, and will need to establish trust in producers and in governmental decisions
What Trust Lessons Imply

• Trust is easy to lose and difficult to build
• Building or maintaining trust is a long-term process

Following an accident experts may emerge from universities, laboratories, hospitals and government organisations

Not all “experts” will be experts

For stakeholders to build trust in government, government must have trust in stakeholders
Experience from the People of Fukushima: Lessons in Setting Objectives

- Achieving recovery is a step-by-step process
- Radiological recovery is only one part of the accident recovery
- RP criteria, short- and long-term, are important government choices for which stakeholder input should be transparently considered and reflected
What Objective-Setting Lessons Imply

- Recovery is “achieved” when the “New Normal” becomes “Normal”. Affected individuals recognise that the situation is new, but new behaviours become “natural” and no longer cause significant stress.

- Achieving this needs understanding of all aspects of an individual’s circumstances (e.g. RP, economic, social, political, physical, etc.).

  Recovery is a state of mind

  Achieving such a state will take time, and will need social and technical support.
Setting Priorities with Stakeholders can be a Challenge
Conclusions

• The RP focus for stakeholder involvement in recovery should be on long-term technical support
• This support can be very resource intensive
• Trust is a necessary and central component of successful stakeholder involvement
• A positive vision of their future will help an individual to choose to stay or to go
• Individual decisions, whether to stay or to go, are all valid
LIFE IS A GIFT TO ENJOY
NOT A PROBLEM TO BE SOLVED!