

Justice and *Good Governance* in nuclear disasters

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Aim of the presentation

- New technology creates risks, which give rise to ethical issues
- An ambition of risk governance is to discuss ethical issues and provide normative basis for responsibly dealing with complex risk
 - Nuclear risk is particularly problematic to deal with (ethically)
- *Good* governance of nuclear disasters would require us to understand and include its ethical issues
- This paper spells out some ethical challenges of nuclear disasters
 - By focusing on distributive and procedural justice issues in stages of disaster mitigation, preparedness, response and recovery

Motivation of the presentation

- Already in 1977, ICRP mentioned justice and radiation
 - In the Radiation protection principles
- Recent (and ongoing) discussions within the ICRP on the Ethical Foundations of the System of Radiological Protection
 - A series of workshops in Madrid, Daejeon (Korea) and Milan (Italy) in 2013; Baltimore (USA) in 2014; and Madrid (Spain), Cambridge (USA) and Fukushima City (Japan) in 2015
 - A forthcoming publication



Organization of the presentation

- Is the focus on nuclear risk justified?
- Why should we engage with good governance?
- Justice and radiation protection
 - Distributive justice issues - making implicit moral choices explicit
 - Procedural justice issues – ensuring quality of information
- Good disaster governance

Is the focus on nuclear risk justified?

- The focus on radiation justified for four reasons:
 - 1) Large *uncertainties* in health impacts (no safe level of radiation)
 - 2) Radiation risk is an *accumulation* of exposures
 - 3) It might manifest after a very long time (*intergenerational* issues)
 - 4) Major disasters with radiation have *transnational* consequences
- Not only risks produced in one country could affect neighbours
 - But nuclear disasters could also be *created* together with several countries
- Multinational disposal for nuclear waste
 - Government of South Australia to host international nuclear waste
 - Also interest in South-East Asia to jointly dispose of nuclear waste

Why engage with good governance?

- Good governance discussed in relation to accountability, transparency and rule of law in developing countries
 - But many cases of bad or poor governance such as nuclear disaster in Fukushima-Daiichi (policy-making and industry)
- Also the Sendai Framework emphasizes the need for “strengthening good governance in disaster risk reduction strategies at the national, regional and global levels”
- What is often neglected in the discussions on good governance is its normative dimension, or the question as to what constitutes ‘good’

Justice and radiation risk 1 / 2

- The principle of *equity* in good governance: the interests of all members of the society need to be respected and accounted for
- Justice and radiation date back to 1977: Principles of Radiological Protection were grounded in consequentialism and deontology
 - The Principle of **Justification**: Any decision that alters the radiation exposure situation should do more good than harm.
 - The Principle of **Optimization**: exposure should be kept as low as reasonably achievable, taking into account economic and societal factors.
 - The Principle of **Dose Limits**: The total dose to any individual should not exceed the appropriate limits specified by the Commission.
- It has been argued that Optimization (and to a lesser extent Justification) could lead to inequity that Dose Limit must avoid

Justice and radiation risk 2/2

- 1) Distributive justice issues as a result of an activity or siting a risky facility with local burdens and broader benefits; e.g. not only a nuclear power plant but also research reactor
 - Very many normative choices with regard to justice are already made; we should make those more explicit and part of debate and decision-making (procedural justice)

- 2) Procedural justice, or having a fair procedure for decision-making on the risky activity; increasing accountability
 - The *quality* of information plays a key role

Distributive justice challenges

- What is the *currency* of justice?
 - Resources, capabilities, (social or physical) vulnerabilities, etc.
- What is the *shape* of justice?
 - Utilitarianism, sufficientarianism, helping the least well off, etc.
 - E.g. helping 100 people in close proximity or 10 in remote areas but in dire need of help?
- What is the *scope* of justice? To whom does it relate?
 - Anthropocentrism vs non-anthropocentrism
 - Justice to future generations pose a particularly important challenge (What levels of risk can we transfer? Why?)

Intergenerational justice

- Intergenerational justice has seldom been seriously included in decision-making
 - It is not tangible
 - We don't know much about what they do/don't want (ignorance)
 - E.g. EPA legislative documents for the Yucca Mountain Repository
- This is highly problematic because
 - **Morally** speaking, we are in a position to negatively influence the interest of (many) future generations
 - **Practically** speaking, spelling out intergenerational consequences could help us realize that we could influence interest of different future generations differently (e.g. waste management options)

Procedural justice

- Coincides evidently with principles of *good governance*
 - i.e. encourage a participatory consensus-based decision-making
- The role of information is crucial for the sake of
 - **Transparency**: full access to reliable information
 - **Accountability**: full disclosure of credible information
- Disaster governance has often been done in a technocratic fashion
 - (Institutional) top-down provision of information
 - Experts providing the fact and policy/people act upon those
- Technocratic approaches to disaster governance err
 - 1) Complexities of scientific knowledge, including uncertainties
 - 2) Controversies in scientific knowledge/ disagreements among experts

Complex & uncertain knowledge

- Any future forecast inherently involves uncertainties
- Uncertainties (and ignorance) are not issues that *purely scientific* approaches could respond to: normative dimension
 - Who will be exposed to what and when could that happen?
- Acknowledging uncertainties, ICRP recommends to uphold the value of *prudence* in radiological protection practices where decision-making is needed without full knowledge of the consequences
 - This is similar to the Precautionary Principle

Controversies in scientific knowledge

- After the Fukushima disaster, information from Tepco, Japanese government, the IAEA, GreenPeace (immensely) contradicted
- What are the responsibilities of state(s), non-state actors (such as companies and NGOs) as well as supra-national actors in guaranteeing the *quality of information*
- We could consider different sources for providing information and for overseeing the process
 - **Unconventional** sources of information is through citizen science
 - **Supranational** (international/multinational/regional) overseeing mechanisms are presumably more reliable and credible and could help better ensure the quality of information

Citizen science and accountability

- What is the role of Citizen Science?
 - The aim is to involve broad groups of citizens in decision-making (which is one of the primary goals of the good governance) but also aims to enable citizens to contribute to “collecting, categorizing, transcribing, or analyzing scientific data”
(Bonney et al. 2014, 1436)
- Can citizen science contribute to *accountability*?
 - of the (local/national) governments and corporations by delivering more open-source data on controversial issues?
 - There have already been some good experience with volunteers who used an Open source Network (called Safecast) to collect radiation data around the Fukushima-Daiichi crippled reactors.



Supranational overseeing mechanism

- Nuclear safety is already (partly) governed supranationally
 - IAEA guidelines and conventions
- There is a need to further move toward global (regional) governance of nuclear safety
 - It could help reduce the problem of *revolving doors*
 - Neighbouring countries have a profound interest
- National sovereignty is often mentioned as an obstacle
 - The Sendai Framework emphasizes such collaborations
- 'By accident or by design? Pushing the global governance of nuclear safety' (together with Maximilian Mayer)

Conclusion

- The ambition of good disaster governance should be to provide a conceptual and normative framework to
 - (explicitly) address distributive and procedural justice issues and to deal with the complexity of knowledge and information
- More specifically, we should specify principles of and guidelines for *Good Disaster Governance*
 - What does accountability, responsiveness and participation entail in different stages of radiation disaster governance?
 - What does distributive justice entail in radiation related issues and in different stages of disaster cycle?
 - How to ensure the quality of information (transfer)?

Thank you for your attention

Comments are greatly appreciated
now or later through email:

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Disaster cycle and justice

Stage	How justice is relevant
Mitigation	How are the vulnerabilities and resources to be <u>distributed</u> ? How to decide which risks to reduce? ICRP Optimization Principles? <u>Procedural</u> issue: inclusiveness, genuine participation, due process, neutral arbitration, etc.
Preparedness	Similar to the mitigation stage.
Response	<u>Recognition</u> and <u>distributive</u> justice are the relevant concepts. What justice principles must be guiding the response strategies? E.g. <u>utilitarian</u> and <u>sufficientarian</u> principles could contradict
Recovery	Again, it starts with the <u>recognition</u> of those affected. How are the resources to be <u>distributed</u> ? How to decide on <u>procedural</u> issues?

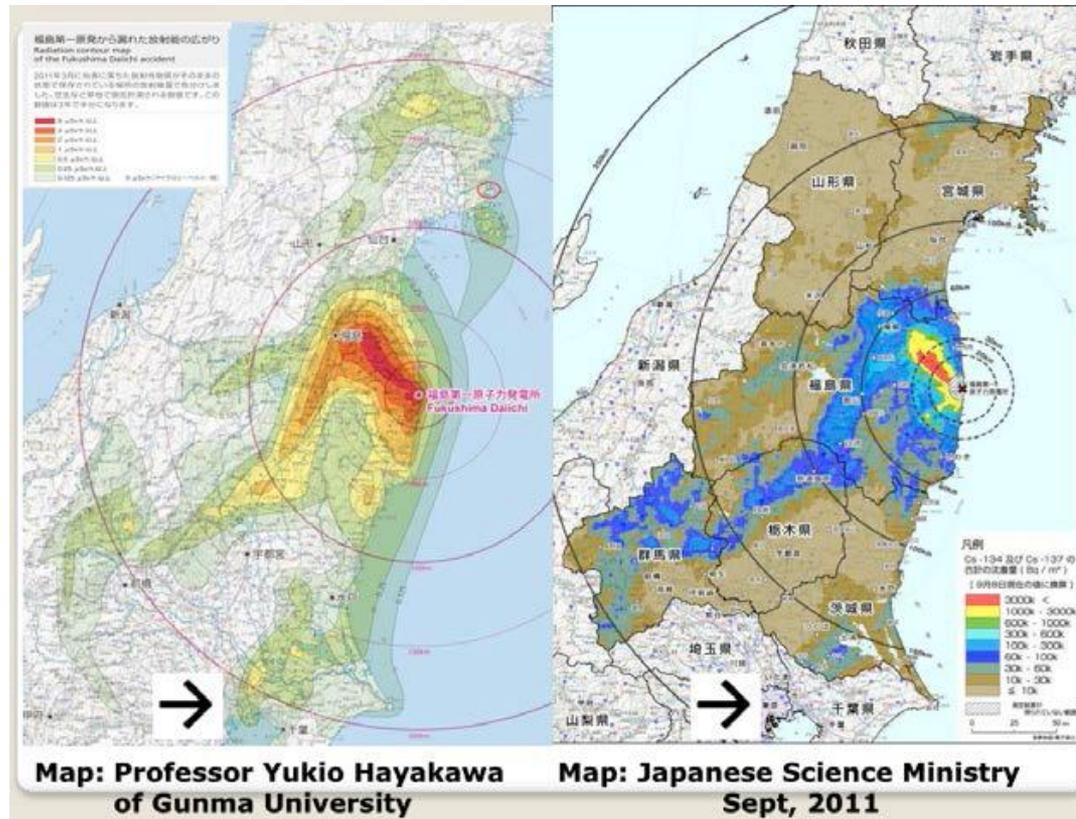
Radiation exposure situations

- **Planned** exposure situations, which are situations involving the planned introduction and operation of sources.
- **Emergency** exposure situations, which are unexpected situations such as those that may occur during the operation of a planned situation, or from a malicious act, requiring urgent attention.
- **Existing** exposure situations, which are exposure situations that already exist when a decision on control has to be taken, such as those caused by natural background radiation.
- *Planned and emergency exposure partly coincide the two stages of disaster mitigation and preparedness*

Disaster Management Cycle

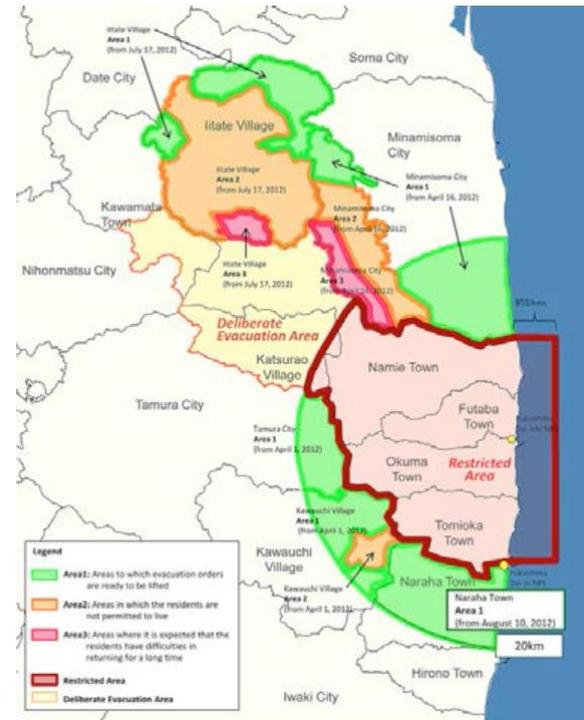
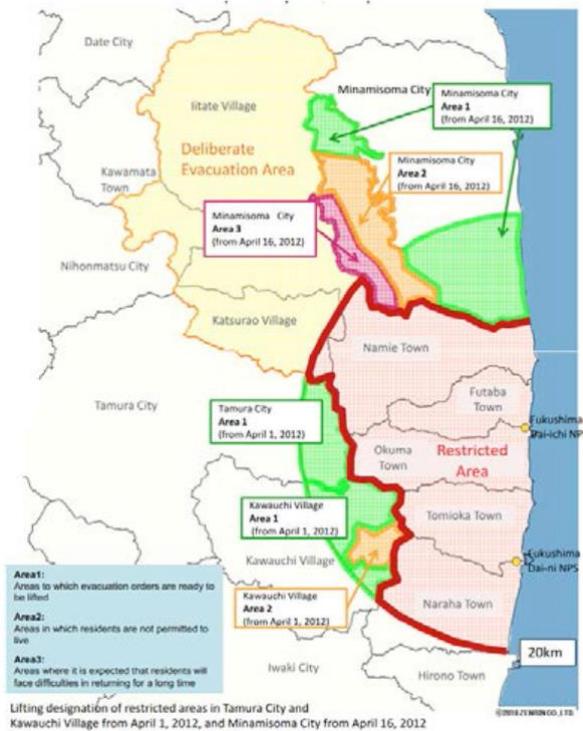
- I am following the four stages of disaster cycle, as defined by the Global Development Research Center; adopted from http://www.gdrc.org/uem/disasters/1-dm_cycle.html
 - Mitigation - Minimizing the effects of disaster.
Examples: building codes and zoning; vulnerability analyses; public education.
 - Preparedness - Planning how to respond.
Examples: preparedness plans; emergency exercises/training; warning systems.
 - Response - Efforts to minimize the hazards created by a disaster.
Examples: search and rescue; emergency relief .
 - Recovery - Returning the community to normal.
Examples: temporary housing; grants; medical care.

“Whose maps count?”



Adopted from “Living within an experimental space: Post-Fukushima imaginaries and practices of containing the nuclear”, a presentation by Ulrike Felt at Delft University, August 2015

Redefining uninhabitable areas



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