

Fukushima Compound Disaster: Knowledge and Road to Recovery

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Identifying Knowledge gap

Consulting:
First Medical Responders

Through:
Consultancy Meeting & Oral History

2013-2014
IAEA/FMU

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Co-construction of new Knowledge

Involving:
1st Responders
Education Experts
STS experts

Through:
Technical Meetings / Conferences
STS Handbook

Transferring of new Knowledge

Coolaboration:
1st Responders
Education Experts
STS experts

Through:
Consultancy Meeting:
Teacher Training Manual

Looking back at the challenges faced by physicians and scientists during the Fukushima accident:

Significant K gap between:

- The excellent *technical* training of physicians and scientists in radiation medicine, and
- The ineffective communication between radiation medicine experts and various publics and stakeholders

K Gap between:

- Skills in patient care in context of major radiation accident: *Medical competencies*
- Lack of skills in reassuring the public in context of a compound disaster with a nuclear accident: *Communication competencies*

Three main academic challenges

- **Public communication of S&T:** How to present science-related topics to non-experts, in context of science uncertainty, and lack of trust with authority
- **Mental health issues** (and its “synonyms”): Nature of “nuclear fear”
- **Social Issues:** Public education and engagement, disaster management, stigma and discrimination

Main approach

Interdisciplinary approach is needed to analyse and respond.

Science & Technology Studies

(Science, Technology Studies)

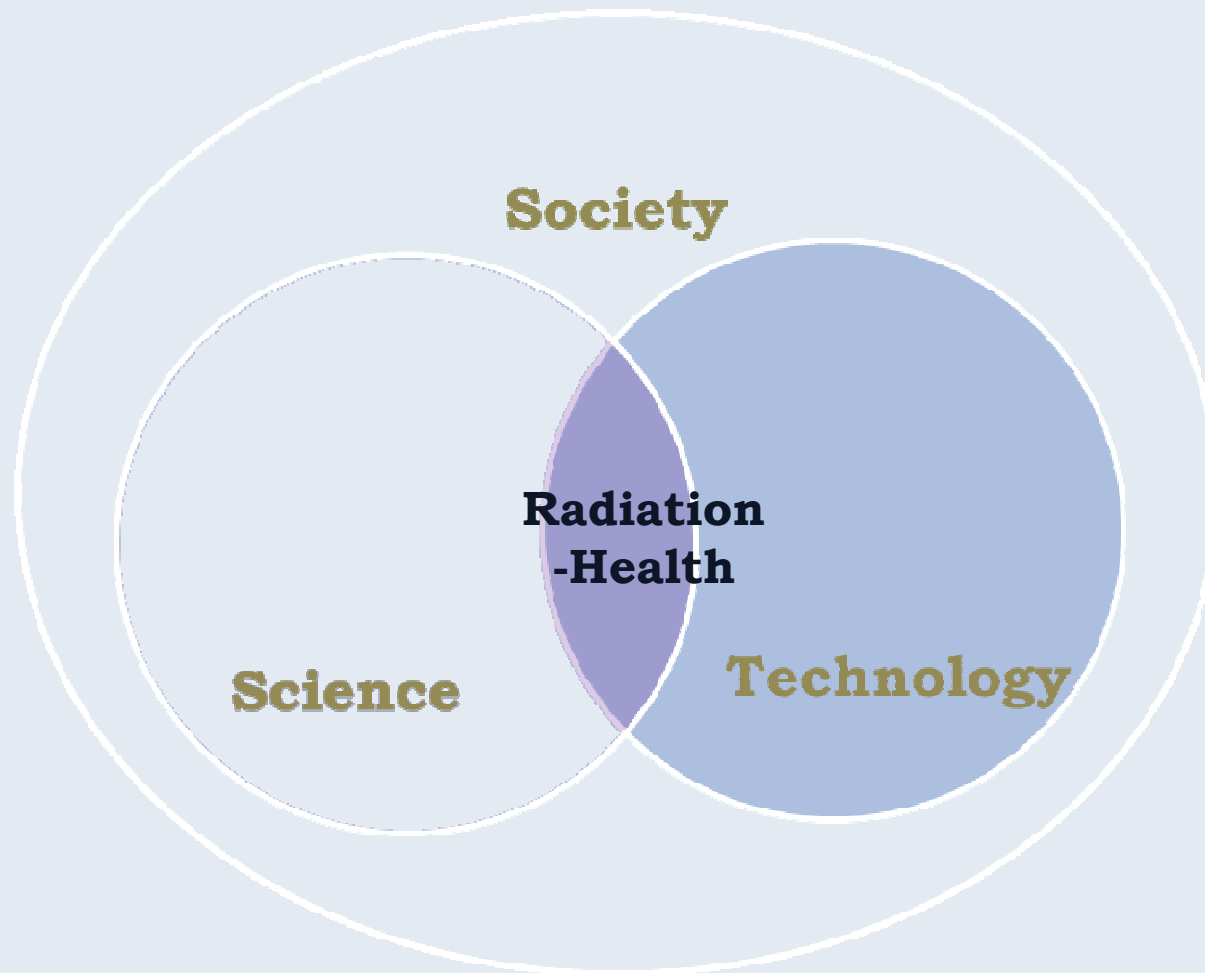
IAEA/FMU PROJECTS

Nov 2012 Expert meeting in Vienna

- Discussion with Japanese physicians and scientists involved in the early medical responses
- Consultation with experts in social sciences (STS and others) and humanities
- *Consensus: STS as a framework for analysis of “radiation-society interactions”*

“Radiation-society interaction”

Radiation, health and society using an STS framework



IAEA/FMU Academic Projects

3 major projects: 2013-2014

“Enhancing *radiation medicine education* by building capacity of physicians, health professionals and medical students”
(NA9/16)

“Strengthening research cooperation in *radiation disaster medicine*” (NA9/17)

“Training of medical radiation physicists for *nuclear accidents*” (NA9/18)

Introducing STS in Radiation Disaster Curriculum

NA9/16 & NA9/17

Consultancy Meeting

Nov 2012

Global Radiation Medicine: Educational Challenges for Academia

Technical Meeting 1

May 2013

Research Cooperation in Radiation Disaster Medicine

APSTSN

July 2013

Medical and Academic Responses to the Fukushima Accident

Technical Meeting 2

October 2013

Research Cooperation in Radiation Disaster Medicine

Fukushima International Conference

November 2013

Radiation, Health and Society: Post-Fukushima Implications for Health Professional Training

Introducing STS in Radiation Disaster Curriculum

NA9/16 & NA9/17

Technical Meeting 3

Jan 2014

Research
Cooperation in
Radiation Disaster
Medicine including
Post-traumatic
Stress Disorder

Technical Meeting 4

May 2014

Research in
Radiation Disaster
Medicine: Mental
Health, Social
Impact and Science
Communication

Fukushima International Conference

July 2014

Radiation, Health,
and Population:
The Multiple
Dimensions of Post-
Fukushima
Disaster Recovery
Process

Consultancy Meeting

December 2014

Radiation,
Health and
Society: The
Way Forward

Introducing STS and Radiation Disaster in Medical Curriculum

- Increase knowledge in radiation medicine and
- Raise awareness on “radiation-society interaction” through the STS approach:
 - Public communication of S&T in disaster situations. (Learn how to handle “science uncertainty” when communicating with hostile publics in context of mistrust.)

Introducing STS and Radiation Disaster in Medical Curriculum

Enriching medical (and health-related programs) curriculum with research skills in:

- Radiation disaster analysis and management
- Human psycho-social dimension of disasters (How to address “nuclear fear”)

STS Handbook for Health Professionals

- Techno-natural Disaster and the Role of Expertise
- Disease, Illness, Sickness: A contested boundary
- Perception of Radiation Risk: The Ethical Dimensions of Coping with Disaster
- Risk Communication
- Social Determinants of Health
- Professionalism, Law and Ethics
- Learning across Disaster: Rebuilding Health

In-Process

Summary: Goals of IAEA/FMU Human Health Projects

- Innovate and enrich academic curriculum in radiation disaster medicine within the framework of STS
- Equip physicians, allied health professionals and medical students with:
 - skills to understand the complexity of a nuclear disaster beyond emergency disaster medicine and effectively contributing to Fukushima recovery.

Wrap-Up Meeting: The way forward

December 2014

NA9/16 & NA9/17

Technical Meeting 3

Jan 2014

Research Cooperation in Radiation Disaster Medicine including Post-traumatic Stress Disorder

Technical Meeting 4

May 2014

Research in Radiation Disaster Medicine: Mental Health, Social Impact and Science Communication

Fukushima International Conference

July 2014

Radiation, Health, and Population: The Multiple Dimensions of Post-Fukushima Disaster Recovery Process

Consultancy Meeting

Dec 2014

Radiation, Health and Society: The Way Forward

Looking Ahead

Transferring Knowledge

- Collaboration between:
 - First Responders
 - Experts in STS
 - Experts in Education

Through:

- Consultancy Meeting:
- *Teacher Training Manual*



“Training the trainers”

- While STS may *not provide ready-made answers* to the various health challenges following a nuclear disaster,
- it does help us to understand them more clearly,
- and also provides a useful conceptual framework in which practical solutions may be developed and successfully applied in the future



Tri-University Project 2014-2016

Science, Technology and Society (STS) Perspectives
on Nuclear Science, Radiation and Human Health:
The View from Asia

- Hiroshima University
- Nagasaki University
- National University of Singapore

Thank you