

*Towards a More Collaborative  
and Evidence-based Decision Making  
- Incorporation of Joint Fact-Finding (JFF) in Science and Technology Governance*

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# 1. Introduction

## (1) Background

- On 3.11 2011, Japan experienced the Great East Japan Earthquake followed by the nuclear power plant accident in Fukushima
  - posed Japan unprecedented challenges, characterized by complexity, uncertainty in terms of safety, social impact etc.
  - Decision makers confronted with public distrust, expert advice upon which they relied on is also contested
  
- ⇒ Reconsideration of the relationship between science and technology and their relationships to politics and society

# 1.Introduction

(2) the need for evidence

- sound, thoroughly considered evidence is needed in making decision/policy
  - ...but what evidence is needed? through what process can evidence be acquired? what are the tools and approaches?
  - Often decision makers do not try to put effort on exploring the basis of decision making but are prone to take easy performance

# 1. Introduction

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(3) the objective

- introduces a new innovative approach, "Joint Fact-Finding, JFF"
  - what it can offer for decision making
  - the merit and advantage of JFF
- considers the relevance to TA
  - similarities and difference, how this approach can contribute to TA
- explores the critical components of "evidence" for decision/policy making through the JFF case of radionuclides in food (work in progress)

## 2. What is JFF and what can it offer?

(1) JFF - an old but new approach

- primarily developed in the field of environmental policy (in the US).
  - many definitions but what's common in the existing literature is... (Ozawa and Susskind (1985), Ehrmann and Stinson (1999), McCreary et al (2001), Andrews (2002), Adler et al (2011), Karl et al (2007), Campbell (2006), Rofougaran and Karl (2005) etc)
- a collaborative and participatory approach.
  - provides a forum for relevant actors including decision-maker and/or scientific/technical experts and/or those affected (stakeholders and public)
  - (a) co-frame what problem needs to be questioned and answered
  - (b) co-produce "jointly-found fact" which shows the areas of agreement and disagreement.

## 2. What is JFF and what can it offer?

### (2) What JFF means

#### Departing from conventional "old view of FACT" to "new view of FACT"

##### OLD FACT

- ❑ only science can tell the truth
- ❑ linear view of science and politics: Risk management measure automatically given by rational decision maker
- ❑ persuasive, deficit model of risk communication



##### NEW FACT

- ❑ many possible FACTs contingent on social context and values.
- ❑ decision is a choice amongst many possible alternative risk management options
- ❑ interactive, two way communication, negotiation,

#### potential for transforming decision making model

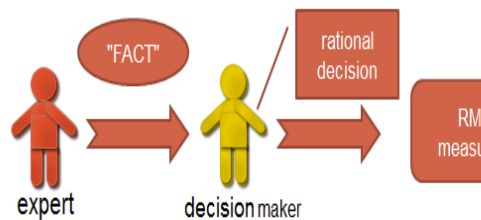


fig.1 linear rational decision making model based on "old fact" view

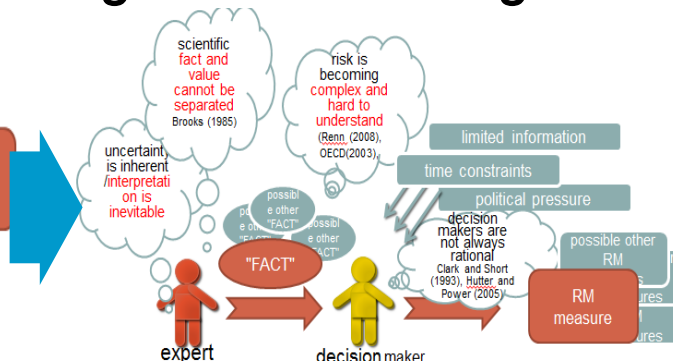


fig. 2 real world is more messy. facts cannot be separated from social context and values

JFF: figure modified from Rofougaran and Karl (2005)

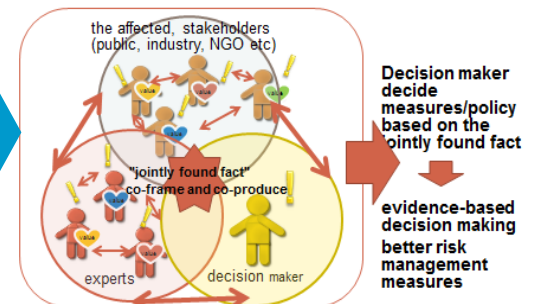


fig.3 more collaborative decision making

## 2. What is JFF and what can it offer?

### (3) the advantage of JFF

- JFF has **the potential to transform the decision making model**
  - from top-down linear model to a more collaborative model
- JFF **can expand the scope of collaboration: as "joint" can bring together *any* actors**
  - not only expert-lay, expert-politician, but expert-expert (in different or/within discipline) , expert-politician-lay etc...
- JFF can change the knowledge flow
  - **"expert as knowledge provider (see knowledge is "given")" to "expert and/or other actors as knowledge producers"**
- JFF **can promote the "opening up" of evidence** and policy alternative and thus can contribute to **a more transparent** and evidence-based decision making, **enhances the quality, the credibility and legitimacy** of the decision to be taken.



## 2. What is JFF and what can it offer?

(2) The relevance to TA, (**provisional**) how can this approach be placed in the TA context??

- Similarity:

- JFF also looks into various FACTs associated with complex science and technology issues, helps decision making, can be said as one variant of TA.

- Difference (**in a relative sense**)

- (1) issue scope: JFF is more focused and issue/problem-oriented (TA sees/assesses broader impact of a specific technology).
  - (2) time scope: JFF put more emphasis on the analysis of current situation (TA also looks at now to future impact)
  - (3) JFF have similarity with participatory TA, Constructive TA but start from the premise that the expert advice itself is not "given".

### 3. Consideration of the basis of evidence

#### – case of the risk management of radionuclides in food

#### iJFF (Integrating Joint Fact-Finding into Policy-Making Processes) Project

- funding source: Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST).
- 3 years projects (-2014 fall)
- Objective: incorporate JFF approach in decision making process to facilitates interaction between policy-making processes and scientific information

#### Planned activities:

- 1) JFF Methods and Techniques,
- 2) Institutional analysis
- 3) JFF Action research in 3 areas: energy policy, (wood biomass in Tsushima Island), food safety management (radionuclides in food), marine spatial planning (sustainable coastal resource management in Hinase Village)
- 4) Networking and outreach

<http://www.ijff.jp/english>

The screenshot shows the iJFF website homepage. At the top, the URL <http://www.ijff.jp/english> is displayed. Below the URL is the iJFF logo and the tagline "Integrating Joint Fact-Finding into Policy-Making Processes". There is a search bar and a "search" button. A navigation menu on the left includes links for "Top Page", "About iJFF", "News", and "Publications". Below the menu is a Facebook icon with the text "Visit us on Facebook". The main content area features a large image of a conference room with a curved wall and a list of news and publications. The news section includes a link for "News" and a date of "2012.03.06" for a "Conference Announcement: Introducing the Joint Fact-Finding Approach to Scientific Information in Policy-making". The publications section includes a link for "Publications" and a date of "2012.02.15" for a "Publication section update".

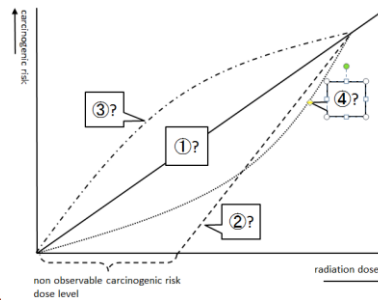
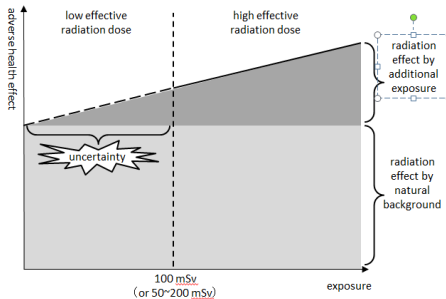
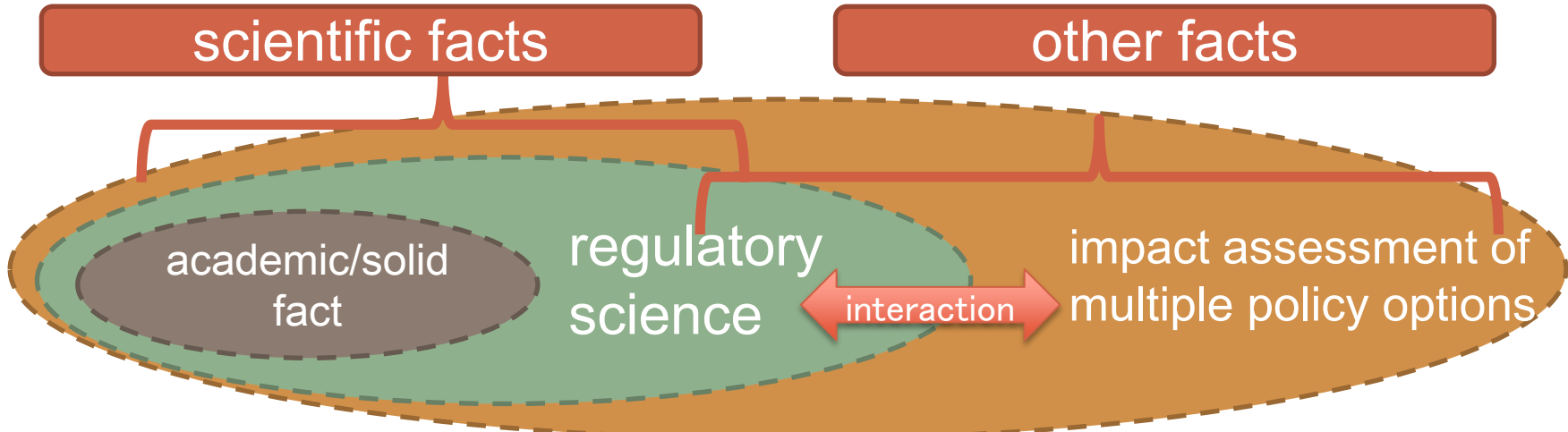
### 3. Consideration of the basis of evidence

#### – case of the risk management of radionuclides in food

(1) iJFF food group: **JFF in radionuclides in food**

- JFF on the evidence to be taken into account in taking measures against the risk of radionuclides in food
- **Designing JFF** (preparation; literature review, interviews etc)
  - **map the areas which needs** JFF: what scientific facts are disputed? what element is missing? whose concern is legitimate? were all the evidence or FACT gathered for the basis of decision making?
  - **joint between/among whom?**
  - **clarification of "evidence" to be "jointly found"**

# Evidence for risk management and decision making (provisional)



- ALOP?
- social economical regulatory impact assessment
- food availability
- cost for monitoring and detection
- impact on life/production of the affected area
- international trade
- international relations etc

the low-dose area above 100 mSv (accumulation)

the epidemiological data of Hiroshima and Nagasaki. 150 mSv in the extra effective dose could increase health risks

the low-dose area below 100 mSv (accumulation)

scientific judgment/interpretation to overcome /fill in the gap of **uncertainty** non-threshold risk

standard limit for radionuclides in food

■ It is important to classify facts that form the basis of "evidence" to avoid confusion...

# Conclusion

- this study showed the context for the need for evidence based decision/policy making
- by introducing the merit of JFF, it showed the relevance to TA and the potential of this approach
- it introduced the JFF work in progress and explored clarification of what constitutes evidence for decision making and showed our provisional classification of "fact" for further consideration
- we are still in the process of elaborating our concept of JFF so we would like to ask colleagues in TA community to give advice on how we can highlight the importance of JFF!



# thank you!

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  - Research Institute of Science and Technology for Society, Japan Science and Technology Agency

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