

Communicating Uncertainty in Health Risk:

An analysis of Media Discourses on Low-level radiation
after Fukushima Accident in South Korea

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Background and Purpose

Repetition of social confusion since Fukushima Accident in South Korea

- 2011. 3 Hoards of salt and seaweed..
- 2011. 4 Radioactive rain concerns and related rumours
- 2011. 11 Asphalt containing radioactive materials
- 2013. 7 Sharp decrease in seafood sales for radioactive water leak worries

Background and Purpose

Purpose of research

To examine the characteristics of media discourse regarding the risk of low-level radiation, which have been established after the Fukushima Daiichi nuclear disaster

To identify key ways on how to design communication

Risk and Media Discourse

WHY media discourse?

- The news media is the dominant channel from which the public is informed about risk issues
- Especially in uncertain situation, the existing strategies that experts use to teach the public cannot solve the problem

WHY it might work?

- Analyzing media's discursive nature of reporting regarding risk(e.g. characteristics, attitude) could provide solutions for effective communication.
- Specific discourse forces corresponding view, practices and external historic factors have decisive influences on the discursive information especially when it is needed to cope with environmental uncertainty

Discourse Analysis Framework

Framing coding scheme

<i>Illocutionary acts¹⁾</i>	<i>Justification of insistence²⁾</i>	<i>Modality³⁾</i>
<ul style="list-style-type: none">• blame/ warning• insisting/ ask• comment• description• affirmation• defend/ support	<ul style="list-style-type: none">• value scientism or almighty expert• appeal emotional appeal security risk menacing situation• fact common senses measurement result Historical experiences• reference group	<ul style="list-style-type: none">• conviction• prediction• responsibility/ duty• approval/appraisal

* The analysis frame is based on the already established ideas of Austin's Speech act theory and critical discourse analysis.

1) 2) 'Illocutionary acts' and 'Justification of insistence' show the correspondence between an utterance and the article's intention.

3) 'Modality' is based on a conception of critical linguistics emphasizing 'reality-creating social practice' (Fowler, 1985).

Research Methods

Object

- 72 leading articles of 11 daily newspapers from South Korea were selected
 - suggested "radioactivity hazard" as a main argument or core thesis and related it to the "health risk of low dose of radiation"
 - each sentence was set as a unit of analysis

Period

- 11 March 2011 ~ 30 September 2013
 - articles are divided into 4 phases because specific changes are observed
 - the period segmentation is based on the subject matter

Rules

- Classifications were set by categorizing similar types after analyzing every sentence
- For utterance attitude, the existing analysis frame was utilized

Results

1. Issues by period segmentation

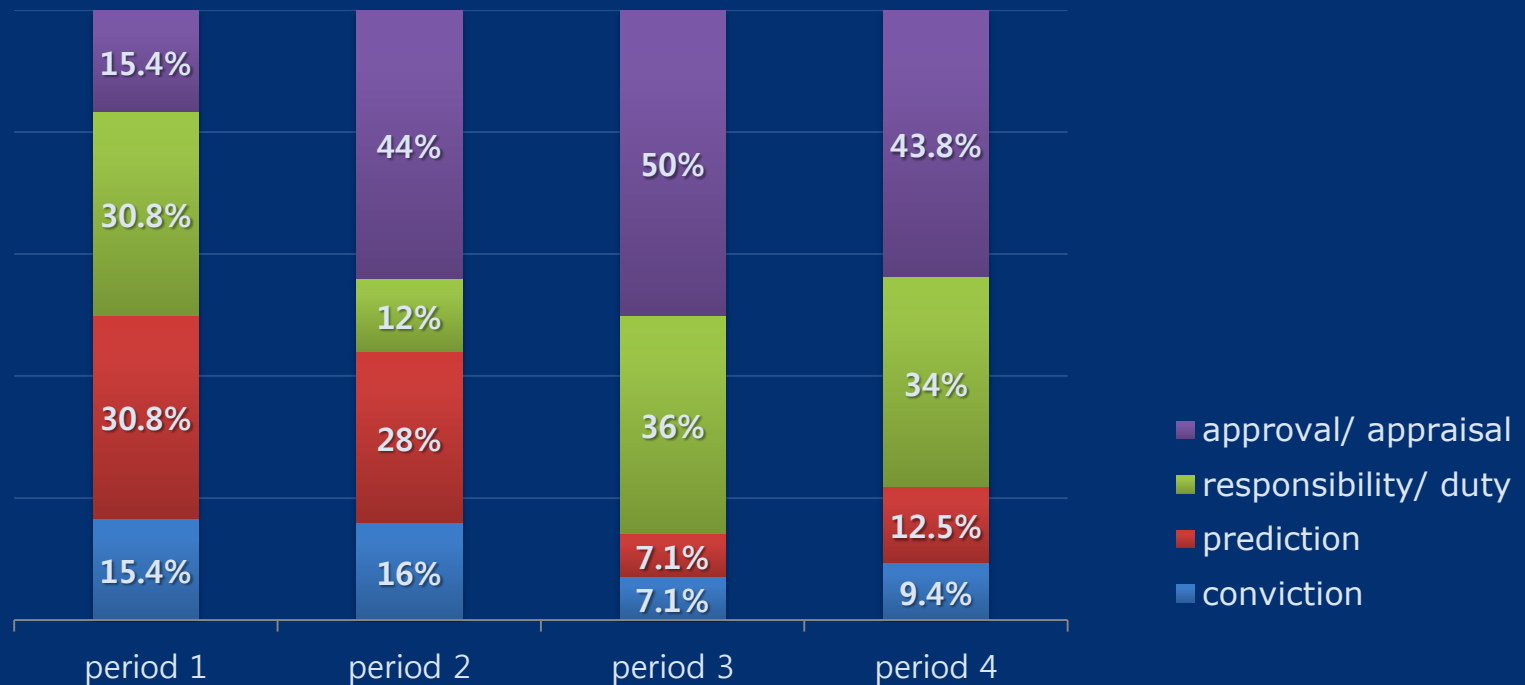
<i>Segmentation/ Date</i>	<i>Main Issue</i>	<i>Cases</i>	<i>Example of Editorial Title (report date, name of newspaper)</i>
period 1 2011. 3.15 ~ 2011.3.22	tentative risk (initial accident)	11	Dealing with the risk of Japan's nuclear accident levelly (2011.3.15, the Han-kook Daily News) Missing science and facts, 'Distrust society' (2011.3.22, the Dong-A Daily News)
period 2 2011.3.28 ~ 2011.4.11	transparent communication (radioactive rain)	23	Why conceal radiation detection if there is no problem (2011.3.29, the Seoul Daily News) Transparent release of information reduces social fear (2011.3.30, the Mun-wha Daily News)
period 3 2011.4.12 ~ 2012.3.10	risk in daily life (radioactive asphalt)	14	Handle the radioactivity thoroughly in residential area even if they were under reference value (2011.11.3, the Han-Kyore Daily News) Carry out a thorough inspection of the radioactive asphalt and open to the public (2011.11.6, the Kook-min Daily News)
period 4 2013.8.2 ~ 2013.9.30	needs for enhancing regulation (water leaks of Fukushima)	24	Dispel vicious rumors about radiation from agricultural and marine products by transparent inspection (2013.8.3, the Dong-A Daily News) Radioactive contamination of Japanese agro-fishery products and food safety challenges of the Korean government (2013.9.3, the Mun-wha Daily News)

2. Analysis of illocutionary acts

categories by period	blame/ warning				insisting/ ask				comment				description				affirmation				defend/ support				sum				
	<i>period</i>																												
references	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
government	2	12	7	15	3	6	7	8	2	1	-	-	-	7	6	2	-	9	1	8	2	2	-	-					100
Related institute	-	1	2	3	-	-	2	4	-	-	-	-	5	8	6	9	2	2	2	3	2	3	4	3					61
public	4	11	2	3	-	4	-	-	-	-	1	-	-	4	4	2	-	-	2	1	-	-	2	6					46
Japan	-	7	-	3	-	1	-	-	-	-	-	1	3	1	-	1	-	1	-	-	1	-	-	-					19
others	-	1	-	1	-	1	0	0	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-					10
sum	6	32	11	25	3	12	9	12	2	1	1	1	8	27	16	14	2	12	5	12	5	5	6	9					236

- About 42% of the articles focus on the government, which was much higher than articles focused on related institutions which was 2nd with approximately 25.8%.
- On the other hand, the public is referenced using blame/warning more than other classes.
- Related institutes were largely associated with description, affirmation, and defend/support.

3.Changes in modality



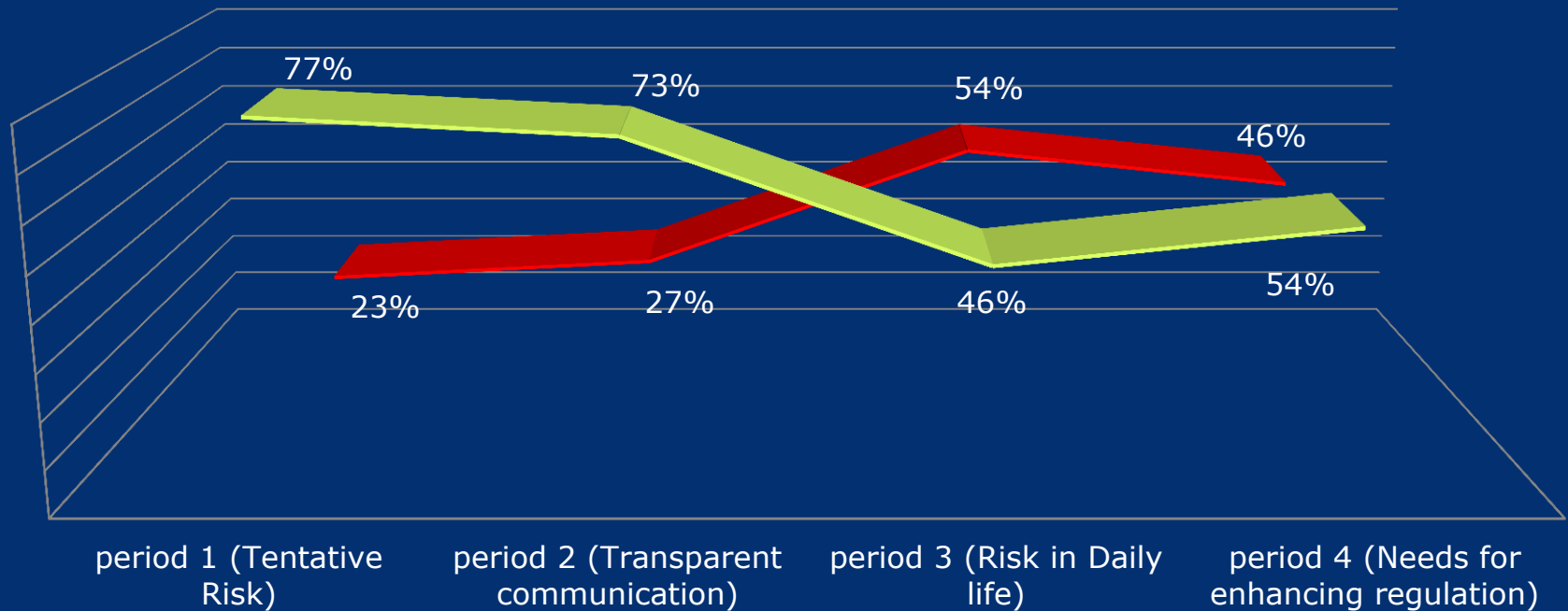
- In the 1st and 2nd period, prediction and conviction mainly appear but they decrease over time.
- There is a tendency to emphasize duty and responsibility when social controversies arise.

4.Strategy to justify main insistence

<i>Period</i>	<i>Value</i>	<i>appeal</i>	<i>fact</i>	<i>reference group</i>	<i>sum</i>
period 1	scientism(4)	security risk(1) menacing situation(1)	common senses(1) measurement result(6) historical experiences(1)	foreign government(1) public(1)	16
period 2	scientism(3)	security risk(1) menacing situation(4)	common senses(1) measurement result(8) historical experiences(2)	foreign government(2) foreign press(1) public(2)	24
period 3	scientism(2)	emotional appeal(1)	common senses(2) measurement result(4) historical experiences(1)	foreign press(1) public(4)	15
period 4	scientism(13)	emotional appeal(4) security risk(2)	common senses(7) measurement result(6)	Public(9)	41
sum	22	14	39	21	96

- Leading articles mostly showed the tendency of advocating professionalism and scientism.
- It seems as though public opinion, which has been the target of rebuke by the media, has transformed into a significant reference group for supporting claims when the risk becomes relevant to daily life.

5. Discursive Characteristic of risk on Low-level radiation



■ Scientific Aspect (included of expert value, estimate results)

■ Social-Cultural Aspect (included of public opinion, Common-sense judgment, historical experiences)

- Scientific aspect had a large share during the 1st and the 2nd term, however it declined gradually over time.
- Meanwhile, the share of social-cultural aspect increased steadily over time.
- The emergence of the radioactive seafood issue in period 4 was responsible for the two issues reversing share positions.

Conclusion

Social-cultural aspects grew over time

SENSITIVITY

issue on
human health

UNCERTAINTY

health risk remains
ambiguous

COMPLEXIBILITY

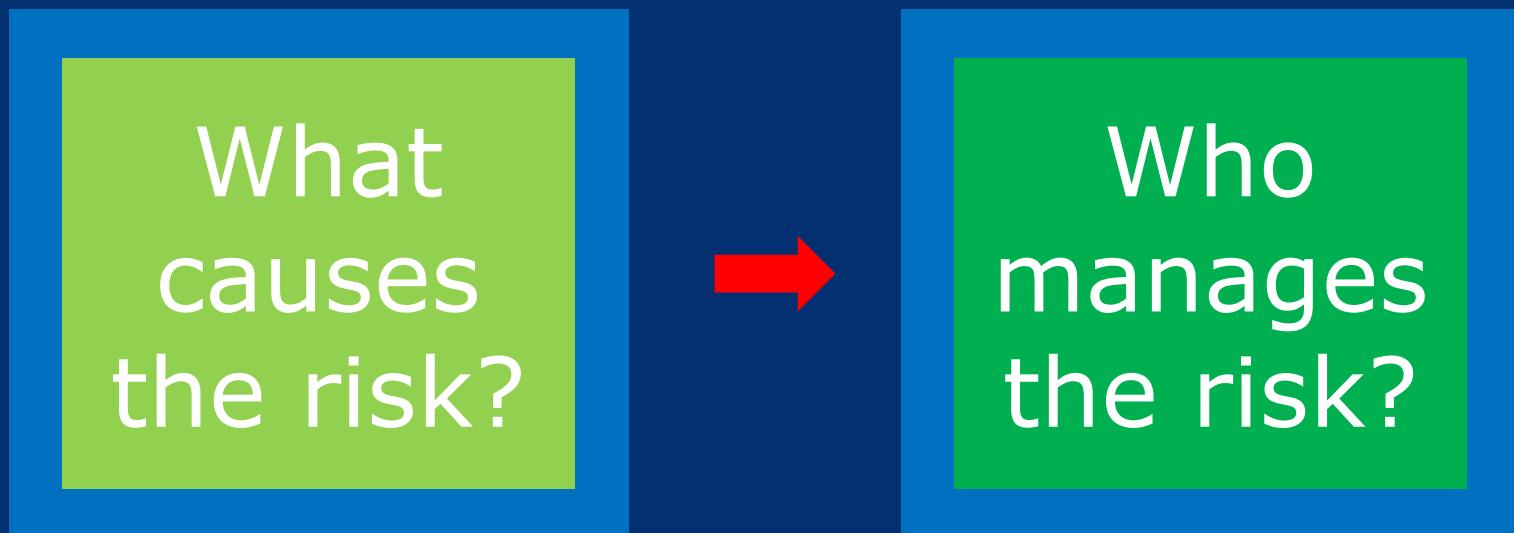
multiple
stakeholders

The issue of low-level radiation turns from a **scientific matter** into a **social and economic phenomenon** in South Korea

Furthermore, it is very sensitive issue because the **health risks** it poses are still **ambiguous**

Conclusion

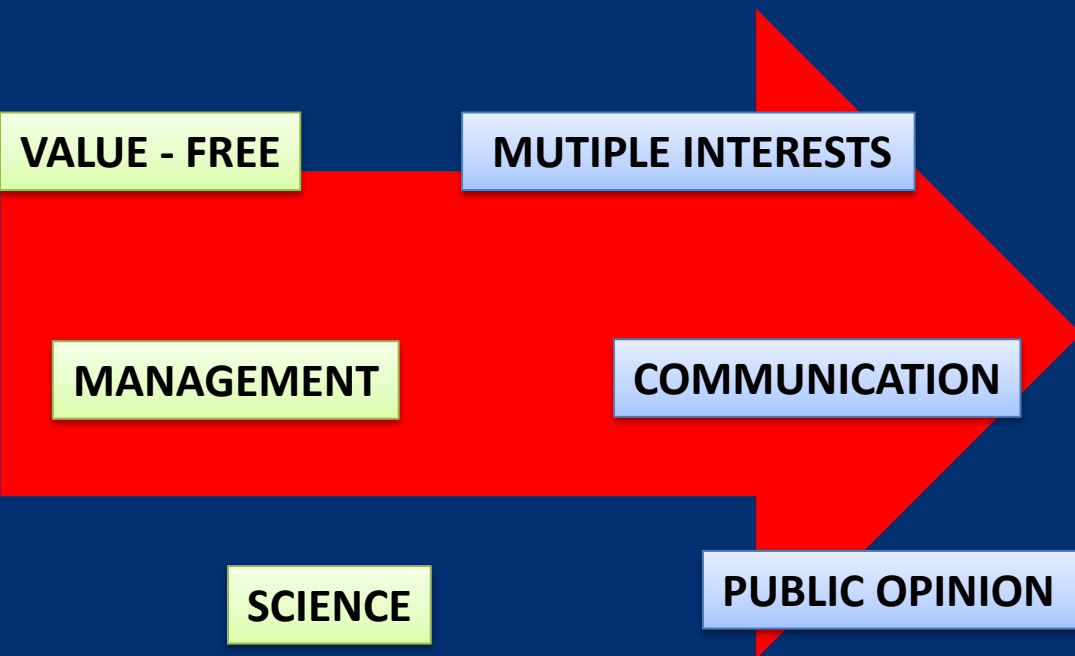
Public opinion on responsibility changes



In the long-term, this could be the main challenge of building and maintaining the **credibility** between government and public.

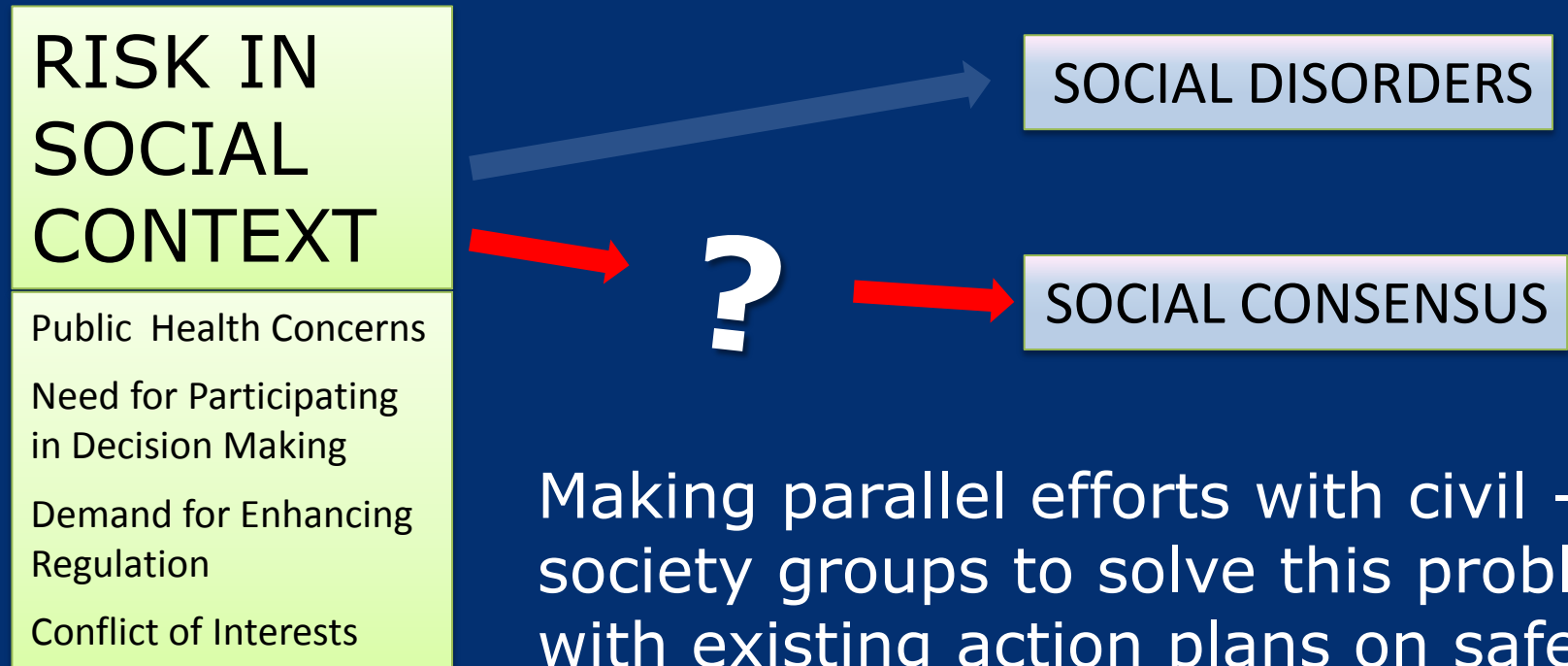
Implications

The crux of the matter now is..



**How to cope with
the risk
in social context?**

Implications



Making parallel efforts with civil - society groups to solve this problem with existing action plans on safety could

- prevent social crisis
- maintain credibility between government and public
- reduce unnecessary social costs



Thank you
for your
attention