

# Present and Future of Food Safety Risk Assessment: The Japanese Perspectives

Dr Yasushi Yamazoe

Food Safety Commission of Japan (FSCJ)

# Outline

- FSCJ – who we are, how we work
- Our Principles - Present, Challenges  
and Future
- International Cooperation
- Conclusion

# FSCJ – who we are

- Set up in 2003 as an impartial body of scientific risk assessment and risk communication
- Following the establishment of Food Safety Basic Act and re-organization of food safety system
- Commissioners, Scientific Panels and Working Groups (approx. 15 panel groups over 200 experts), Secretariats

# How we work – Risk assessment procedures

## Path 1:

In response to requests from risk managers (ministries)

- Global and regional commonality  
(e.g. Fish (Tetrodotoxin), Ethoxyquin)

## Path 2:

Self-Tasking : FSCJ's own initiative

- Emerging hazards, increasing societal needs
  - Radioactive nuclides in foods (associated with the accident at Fukushima Nuclear Power Station)
  - Food allergy

# Our Fundamental Principles in FSCJ

## 1. Openness and Transparency

Meeting and Results

## 2. Scientific Validity

Updated and Reliable Sources

# Openness and Transparency 1

## Present

### Openness

- Panel **meetings are open** to public audiences
- Meeting records, risk assessment reports are **available online**
- **Summary** of risk assessment report is available **in English**

### Transparency

- Risk assessment reports articulate **scientific rationales behind** (e.g. choice of evidence, expert's judgment)
- **Guidance** (e.g. flavorings, food additives as nutrients etc.)

# Openness and Transparency 2

## Challenges

Offering more English information for international audiences

## Future possibilities

Improved accessibility to FSCJ's available information in English

Website, Notice of new FSCJ risk assessment reports  
Risk assessment reports archives  
Further development of Journal “Food Safety\*”

\* a peer-reviewed journal established at the 10<sup>th</sup> anniversary of FSCJ 7

# Scientific Validity 1

## 1. Data Collection

### Present

- Mining existing data worldwide  
(e.g. literatures, risk assessment reports)
- No laboratory function – no own-research data
- Additional data are collected from academic/research institutions (FSCJ research funds)
- Acrylamide--Determined acrylamide yielded during conditioning stir-cook processes with defined recipes
- Arsenic--Determined daily arsenic intake using samples from a study in duplicated diet methods

# Scientific Validity 2

## 1. Data Collection (cont'd)

### Challenges

- Data collection without data submitted by sponsors (e.g. contaminants, mycotoxins)
- No experimental data due to scarce test compound – flavouring, metabolites, impurities
- Epidemiology

### Future possibilities

- Access to available information by international partners (e.g. Open Food Tox, FSCJ risk assessment report archives)
- *In-silico* methods

# Scientific Validity 3

## 2. Reliable judgement

### Present

- Panels/WGs with over 200 scientists
- Commissioners participate in panels/WGs to provide horizontal perspectives across different panels

### Challenges

- Capacity building of panel experts in next generation
- Invariable judgement across different panels

### Future possibilities

- Training for young professionals
- Mutual participation between different panels

# Scientific Validity 4

## 3. Risk assessment methodologies

### Present

- Mainly based experimental on animal data

### Challenges

- Needs for prioritization according to toxicological impacts
- Gap filling for insufficient experiment data
- Extrapolation of animal experimental data to human

### Future possibilities

- Introduce *in-silico* methods as additional supports

# *in-silico* approach 1

## Present

- Testing the reliability of new methodology
- Starting database development
  - FSCJ assessment report archives database
  - Repeated-dose Toxicity study data – compatible data format with OECD toolbox

## Challenges

- Risk assessment framework integrating *in-silico* methods
- Database development to retrieve quickly

## Future possibilities

- Introduce *in-silico* approach as a supporting tool
- Data sharing with partner institutions/databases

## *in-silico* approach 2

- To prevent “overlookings” and “possible misjudgment”
- Verify the human relevance  
To overcome species differences in  
Metabolism & Disposition and also in  
Patho/physiology

# International cooperation 1

## Present

- Expanding bilateral cooperation with global partners
  - MoCs
  - Bilateral Meetings and working level meetings
- Engagement in multilateral frameworks
  - Support FSCJ Panel Experts to participate JECFA, JMPR meetings
  - Respond to Call for Data (e.g. Ethoxyquin)
- Discussion with international partners on new risk assessment methodology (e.g. harmonized format)

# International cooperation 2

## Challenges

- Develop technical expertise and contribute to global efforts for reliable assessment
  - Expand FSCJ experts' contribution to international experts group
  - Learning opportunities for young experts and FSCJ secretariat
- Develop new risk assessment methodologies in harmonized manner

## Future possibilities

- Strengthen our capacity and actively engage in discussion towards harmonized development of new assessment methodologies and database

# International cooperation 3

Oriental lifestyles and food intakes, which are common in ASEAN and also becoming available in European countries,

Share available knowledge

- fish and sea products (marine bio-toxin, arsenic in seaweed,
- methyl mercury in fish)
- rice (arsenic)

Explore a collaborative program (seminar, survey)



# Conclusion

Values : Openness, Transparency and Scientific Validity

## Challenges:

- Insufficient accessibility and availability of data
- New risk assessment methodologies for enhanced capacity & scientific validity
- Capacity building of experts for reliable assessment

## Future Possibilities:

- Improved accessibility to available data (assessment report archives, database)
- Active participation in international discussion on new risk assessment methodologies
- Network for enhanced communication (Forum meeting? contact points?)

Thank you for your kind attention