

Food safety and quality



Risk

Origin of the word “risk”

In Italian language, Rischio ” pass of a boat in a narrow space between cliffs”.

Definition of risk in relation with products,

Formed in 1980's in connection with risk assessment

Risk = Probability of occurrence X magnitude of hazard

発生する確率

X ハザードの大きさ

Characteristics of risk

- **Anticipation (Estimation)**,
Not actual hazard or damage
- **Quantitative** assessment as far as possible
- **Invisible** in case of food
Risk or danger is not perceived even by the intake of food
- **Volatile**

The fear of risk easily grows up by misleading information.

Risk Analysis

Risk assessment

Quantitative assessment of risk by scientific evidences

Purely scientific principle, Excluding other factors

Risk management

Decision or selection of **acceptable level of risk,**

Considering the result of risk assessment and other factors

, such as social, political aspects, consumers concerns and perceptions

Risk communication

Mutual understanding and recognition of risk assessment and management measures among the government, producers and consumers

History of development of the risk analysis and zero risk

- (1) Risk assessment based on science
- (2) Quantitative risk assessment
- (3) Problem of zero risk
- (4) Acceptable level of risk
- (5) Objective of risk analysis
- (6) Criticism against the notion of tolerable standard

Anzen (安全) and Ansin (安心)

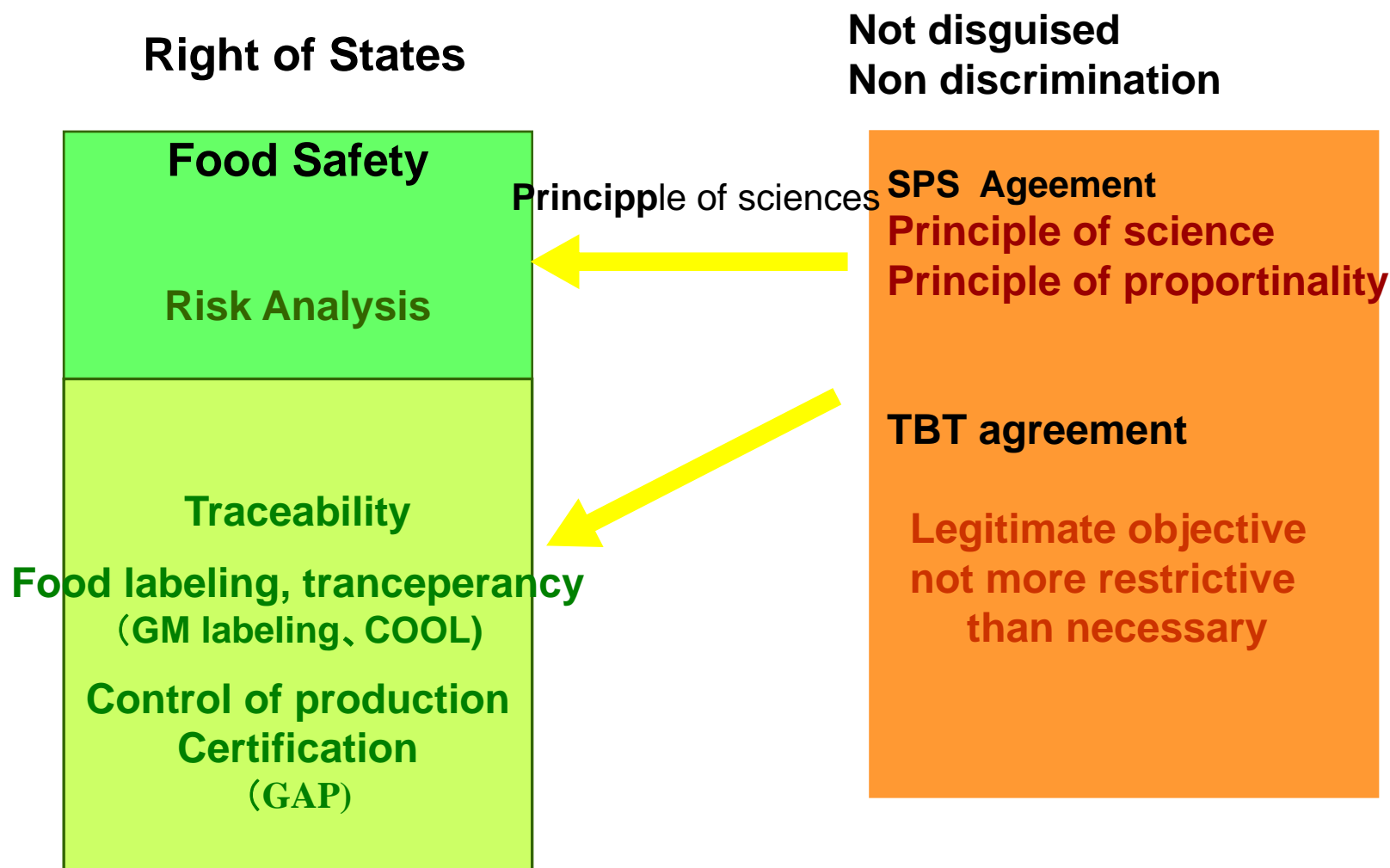
- (1) Anzen and Ansin stand in parallel in Japan
- (2) Consumers doubt on Anzen claimed by producers and government
- (3) Food safety policy without due consideration to characteristics of Japan's society
- (4) Consumer's risk assessment and risk management

Anzen: Food safety based on science

Ansin: Secured or peace of mind

Risk society

Agreement on application of sanitary and phytosanitary measures of 1994



Basic Rights of nations and Obligations by WTO

Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement.

SPS Agreement of 1994

-
- **General principles**
 - Be based on the scientific principles
 - No discrimination
 - No disguise
- **Risk assessment:** Be based on the risk assessment by the method which is internationally recognized (Article 5.1)
 -
 -
- **Necessity:** not to be more restrictive than necessary (Article 5.4 and 6). Alternative measures. proportionate
 -
 -
- **Consistency : To be consistent with other similar measures**
 - (Article 5. 5)
- **Preventive measures:** In case of insufficient scientific evidence, a provisional measure can be adopted on the basis of information from international organizations and other member countries

TBT Agreement

Agreement on technical barriers to trade of 1994

As to technical regulations,

- Most favorable nations treatment
- Not creating unnecessary obstacle to trade
 - Not be more trade restrictive than necessary to fulfil a legitimate objective
 - Legitimate objective:** National security requirement,
prevention of deceptive practices, protection of human,
animal and plant life and health, protection of environment
- Members shall use international standards, except such standards are ineffective for the legitimate objective.

▪

Characteristics of food safety system of each country

E U

Food safety at high level by wide range of measures

- Introduction of the precautionary principle
- Consideration of legitimate factors other than the result of risk assessment, when measures are taken. .To restore consumers' confidence。
- Measures not based on the risk assessment such as traceability are introduced as important tool for food safety

日本

Separation between food safety measures and Measures for Ansin

- Measures for food safety have to be based on the risk assessment.
- Precautionary principle is not clear.
- Social, cultural, historic factors could be considered in taking risk management。
- Measures not based on risk assessment are not legal obligation.

アメリカ

Measures not based on scientific evidences shall not be taken.

- Precautionary principle is not necessary.
 - Factors such as social, cultural, historic reasons shall not be considered in general.
 - Treceability is not necessary for food safety.
- (Check of final goods is enough to confirm the food safety.)

Precautionary Principle

In case where harmful effect is identified, but scientific uncertainty persists, a provisional measure may be adopted.

➤ Possible trade barriers cause by this principle

This principle has been elaborated in relation to the environmental concerns

1992: UN Conference on environment and Development (Rio de Janeiro)

1992: Maastricht treaty on European Union

2000: Cartagena Protocol on Biosafety

E U The regulation of 2002 clearly declared this principle in the text
Case of bovine hormone in the dispute settlement under the WTO
Case of suspension of GMO approval

Japan Adoption of the principle is not clear in the legal text

USA The principle is not necessary
Measures without scientific evidences is meaningless
Preventive factor is included in the risk assessment

Food born disease in 5 countries

	Patients	Hospitalized	Dead
	thousand	thousand	
USA	76,000	325	5,000
France	750	113	400
UK	1,720	22	687
Australia	5,400	18	120
Japan	24	NA	4

- 資料 アメリカ: Food related Illness in the United States, CDC
- フランス: Morbidite et mortalite dues aux maladies infectieuses d'origine alimentaire en France, Institut de Velle Sanitaire
- イギリス: Adakらによる05年調査(イングランド及びウエールズ)
- オーストラリア: Food born Illness in Australia, Oz FoodNet
- 日本: 食中毒統計、厚生労働省

Food safety of Import of food

Inspection ratio

The ratio of inspection was the highest in 1989, 18.1%, after that the ratio has been gradually decreased. In 2004, it was 10.5%

Inspection system in Japan

Swift and simple inspection by the request of exporting countries

- 1982 Recognition of inspection certificate by foreign organization
- 1982 Continuous import of same items (継続輸入制度)
- 1985 Planned import system (計画輸入制度)

More efficient inspection

- 1995 Introduction of **Inspection order** and **monitoring inspection**

Strengthened ban of import

- 2003 Comprehensive ban of import (包括的輸入禁止制度)
- 2003 Provisional ban of import of foods to be consumed by peculiar manner
- 2006 **Positive list of residue of pesticides**

Japan

- **Too much depend on the border control(水際措置)**
- Effective check is not possible for such huge amount of import by border control。

EU

- ◆ Food safety system in exporting country should be equivalent or more to that of EU
- ◆ Products which HACCP is not applied to are not possible to be imported

Products of animal origin

- ◆ Registration of countries which are possible to export to the EU
- ◆ Registration of facilities which export products of animal origin
Veterinary inspection shall be applied at the border
- ◆ Inspection of foreign exporting facilities, where necessary
- ◆ Consultations with and support to countries with problems

USA

- ◆ Registration of exporting facilities in foreign countries。
- ◆ Products which HACCP is not applied to shall not be imported for products to which HACCP is applied in the USA
- ◆ The department of agriculture inspect meat export facilities in exporting countries。
- ◆ Consultations with countries which have problems
- Intiensification of food safety measures for imported foods by the Food Safety Modernization Act

Food safety modernization act of 2010

アメリカの食品安全近代化法

- **Foreign supplier verification programme (海外供給業者確認計画)**
Each importer shall verify whether imported food is produced in compliance with section 418 and 419. Otherwise, import of food is not allowed.
- **Import certification (輸入食品の安全証明)**
The Secretary may require a certification on food which is regarded having risk.
- **Intensification of inspection of foreign facilities(海外施設の検査強化)**
Within 6 years, 10,000 facilities will be inspected by the FDA
- **Voluntary qualified importer programme(任意事業者輸入計画)**
Importer may request the Secretary to provide for the expedited review and import, in condition that foreign facility has a certification issued by the Secretary.
- **Establishment of FDA foreign office(FDAの(海外事務所の設置)**
In foreign countries, office of FDA will be established .

Labelling of GMO food in Japan

■ Products subject to labelling

soy beans, maize, potato, colza, cotton seeds, alfalfa, beets (papaya)

■ Processed food subject to labeling

Processed food made of the above products are subject to labeling, if the detection of GMO is possible.

Soy beans soy bean curd, frozen soy bean curd, Okara, yuba, fermented soybeans, soya milk, soy bean paste, roasted soy beans, cooked soy beans, soy bean flour,

Maize Corn snack, corn starch, popcorn, frozen maize, canned maize

Potato potato snack food

Alfalfa processed alfalfa

Beet processed beet

Labeling obligation is applied to the processed foods whose GM ingredients is within top 3 in weight and above 5% of the total weight of foods.

Exemption from labelling

Foods of which GMO is decomposed or removed:: soy bean oil, corn oil, cornflakes, etc

★ **Substantial amount of foods containing GMO are consumed under the various exception, Japan much depends on imported agricultural products**

Labelling in the EU

All food and feed as well as agricultural food are compulsory to label, if they contain GMO

Traceability is compulsory for all these products in the whole chain of distribution

★ **Effect of prohibition of supply of GMO, because of too much austerity.**

Labelling in the USA

On the principle that the process of production is not needed to be declared, and because the fact that the GMO food is substantially equivalent to conventional food, GMO is not necessary to be labelled.

★ **Opinion that the right of consumers of selection is deprived**
Fear that consumers may avoid to purchase the food, if GMO is labelled,

Crop area of GMO plants

1,000ha

	1996	2000	2005	2010	Total in 2010
Soy beans	500	25,800	54,400	73,300	90,000(81%)
Maize	300	1,0300	21,200	46,000	158,000(46%)
Cotton	800	5300	9,800	21,000	33,000(47%)
Colza	100	2800	4,600	7,000	31,000(66%)
Beet	0	0	0	500	
Others	100	100	100	100	

Policy of food quality

There is no definition of quality of food

It varies according to societies and countries

In a society common understanding exists, However, it is subjective.

Old principle was that the quality was to be determined in the market. Not be intervened by authorities

Authorities can intervene only in food safety and improvement of nutrition

In recent years, consumers' wide choice of quality of foods. Accordingly, policy of quality of food has been changing.

Shift from negative quality to positive quality

Consumers right to access to information on the process of production

By whom it is produced. How it is produced, where it is produced, etc.

Shift of consumers' interest in quality of food

From negative quality to positive quality

Negative quality

When food supply was not sufficient, food safety and nutrition were the most important concerns for consumers.

Positive quality

When food availability is sufficient,, consumers tend to seek positive quality, as the consumers' choice of quality of food is widen.

Organic products, Food contributing to protection of environment, animal welfare, biodiversity, durable agriculture, and Food representing culture, tradition, region

Including Carbon foot print, food mileage

Positive quality is confirmed only by the control of production process, instead of check of final products

Geographical Indication, Appellation of origin

Notion :

Intellectual property right based on the notion that the character of food is attributed to the region of production

Gruyere, Comte, Roquefort, Mozzarella

Margaux, Chambertin, champagne, Chablis

Definition :

where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

(TRIPS: Agreement on trade related aspects of intellectual property rights)

- objective :**
- ① Maintain food culture and variety of food
 - 、② Improve the competition in the international market
 - ③ Improve the value added and revenue of farmers
 - ④ Develop and maintain the economy of regions

GI: Conflict of food culture over the intellectual property right

USA's opinion : Prevention of competitive trade by means of unfaire segregation of products

It is based on the difference of food culture between two territories

EU: Be rich variety of foods, quality of food depends on the environment of the region, not be uniform taste and quality of food

USA: Mass production and consumption, Uniform taste and quality all over the world, Reasonable prices and quality, Elimination of regional characters 、
M'c 'Donald, Kentucky fried chicken, Coca Cola

At the moment

EU: Efforts for intensification of GI through bilateral negotiations such as FTA
EU·Korea, Japan·EU free trade agreements

USA: Efforts to block the EU's movement in TPP and other negotiations

Japan: No GI legal system. Preparation of GI law for agricultural products

Quality related to social value

Social value

Protection of environment, Conservation of natural resources, Sustainable agriculture, Biodiversity, Animal welfare, Welfare of laborers (Prevention of child workers), etc

Systems

- Organic farming
- Integrated agriculture, agriculture raisonnee
- Global GAP
- GAP good agricultural practices
- Fair trade
- Carbon footprint
- **British Retailer Consortium Global Standard**
- **International Food Standard, IFS**
- **Safe Quality Food: SQF**
- ISO (22000, 19000)

Social quality of food

Definition :

products representing values that the society and consumers put the importance to

Two concepts

- Regarded as social responsibility, and the added value is not pursued (Necessary cost is included in the price: internal cost)
- Propose a quality to be appreciated by consumers.
The added value is pursued by the segregation.

Features

So far, the private sector has taken the initiative in this field.

Under examination, to what extent the government and law shall intervene. Some areas are subsidized by the government as an external cost at the moment.

Health labelling, health claim

Principle

Health labelling and claim shall not be made for food

Exception

Relations with health is allowed to label for the products based on certain criteria and approved.

Japan: Food for specified food use (Pre-market approval)
Nutrition functional food (Based on specified standards)

No legal definition for “Health food”, “Suppliments”

Regulations to control misleading labelling to consumers are difficult.
Conflict between freedom of private sector and regulation

Health labelling in Japan since 2001

Medicinal drugs 医薬品	Food with health claims	Ordinary food 食品
	<p>Food for specified health use Pre-market approval 特定保健用食品</p> <p>Nutrition functional food Obligation of respecting the established standard 栄養機能食品</p>	Including various health foods

Report

What do you think about the claim that Japan is one of the safest countries in relation to food? And it's reason/s

Around half page of A4 form.

You will find the information on food safety and quality on the site as below.

<http://www.ab.auone-net.jp/~ttt/>