

# Food Security/ Safety and Policy

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# What does food security consist of?

- Food security consists of food **affordability** and **accessibility**. **Economic or physical access** to food is necessary.
- Some people in developing countries
  - (1) **cannot afford** to buy food. A food crisis occurs when food prices soar as in 2008.
  - (2) **have no access** to food due to the lack of transportation or distribution infrastructure, even when food is delivered at ports.
- **Economic growth and/or building infrastructure** is essential for overcoming a food crisis.

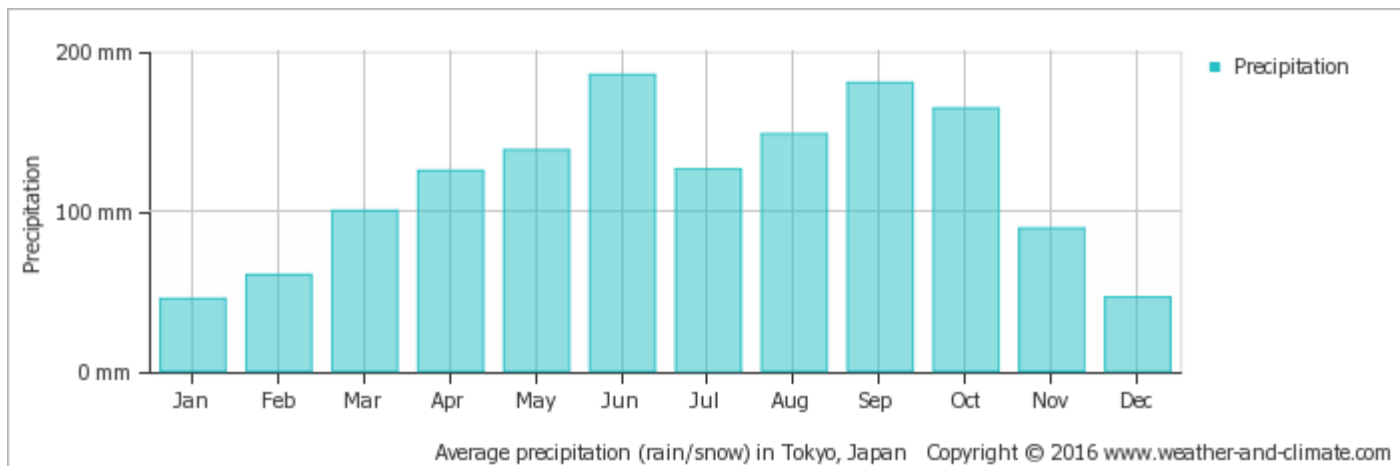
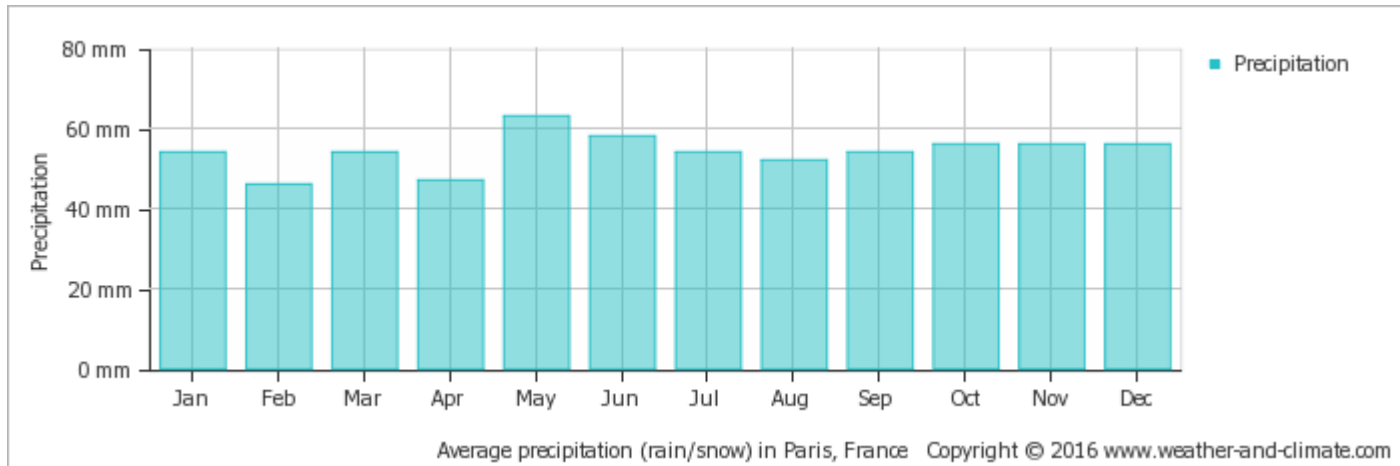
# Two scenarios of high food prices

- **In the long run**, food supply **may be insufficient** for the growing world population. On average, prices might be too high for the poor.
  - **Investment and innovative technologies**
- **In the short run**, the issue is **volatility or price pike**. Suddenly food prices soar as in 2008, while ample food supply usually keep them low.
  - **Stockpile**

# Accessibility matters for any importing country

- Japan cannot gain access to food even with plentiful monetary resources when physical disruption of imports such as strikes at the ports of exporting countries or by closure of sea-lanes by military offensives happens.
- In food crisis a stockpile of food works for the time being. Then domestic supply must be increased by use of agricultural resources.

# Rain Precipitation: Paris & Tokyo



# Rice vs Wheat, Paddies vs Dry Farming

- **Rice in Asia is more productive than wheat in Europe.** Monsoon Asia covering nothing but 14% of the world land feeds approximately 60 % of the world population.
- **Paddies are immune to water depletion, soil erosion, salinization and replant failure** mostly by the function of water, humidity, forests and shape of paddies.
- Thus rice has been produced every year **more than 4 thousand years without the decrease of yield.** F.H. King, a professor at U of Wisconsin, published “ **Farmers of Forty Centuries**” in 1911.

# Trade policies make food prices more volatile

- In the period of **food surplus**, a country tries to stop inexpensive imports and isolate its domestic market from the international market by **tariffs** in order to protect agriculture. This diminishes the demand in the international market with the result that **world prices may further fall**.
- In the period of a **food shortage**, on the other hand, a country tries not to export either by **export tax** or **export restriction**. This decreases supply in the international market with the result that **world prices may further rise**.

# Is WTO fair? importation

- **Article 4  
Market Access**

1. Market access concessions contained in Schedules relate to **bindings and reductions of tariffs**, and to other market access commitments as specified therein.
2. Members **shall not maintain, resort to, or revert to any measures of the kind which have been required to be converted into ordinary customs duties <sup>(1)</sup>**, except as otherwise provided for in Article 5 and Annex 5.

**Notes:**

1. These measures **include quantitative import restrictions, variable import levies, minimum import prices, discretionary import licensing, non-tariff measures maintained through state-trading enterprises, voluntary export restraints, and similar border measures other than ordinary customs duties**, whether or not the measures are maintained under country-specific derogations from the provisions of GATT 1947



# Is WTO fair? exportation

- **Article 12**

## **Disciplines on Export Prohibitions and Restrictions**

1. Where any Member institutes any new export prohibition or restriction on foodstuffs in accordance with paragraph 2(a) of Article XI of GATT 1994, the Member shall observe the following provisions:

(a) the Member instituting the export prohibition or restriction shall give due consideration to the effects of such prohibition or restriction on importing Members' food security;

(b) before any Member institutes an export prohibition or restriction, it shall give notice in writing, as far in advance as practicable, to the Committee on Agriculture comprising such information as the nature and the duration of such measure, and shall consult, upon request, with any other Member having a substantial interest as an importer with respect to any matter related to the measure in question. The Member instituting such export prohibition or restriction shall provide, upon request, such a Member with necessary information.

2. The provisions of this Article shall not apply to any developing country Member, unless the measure is taken by a developing country Member which is a net-food exporter of the specific foodstuff concerned.

# The Limit of WTO

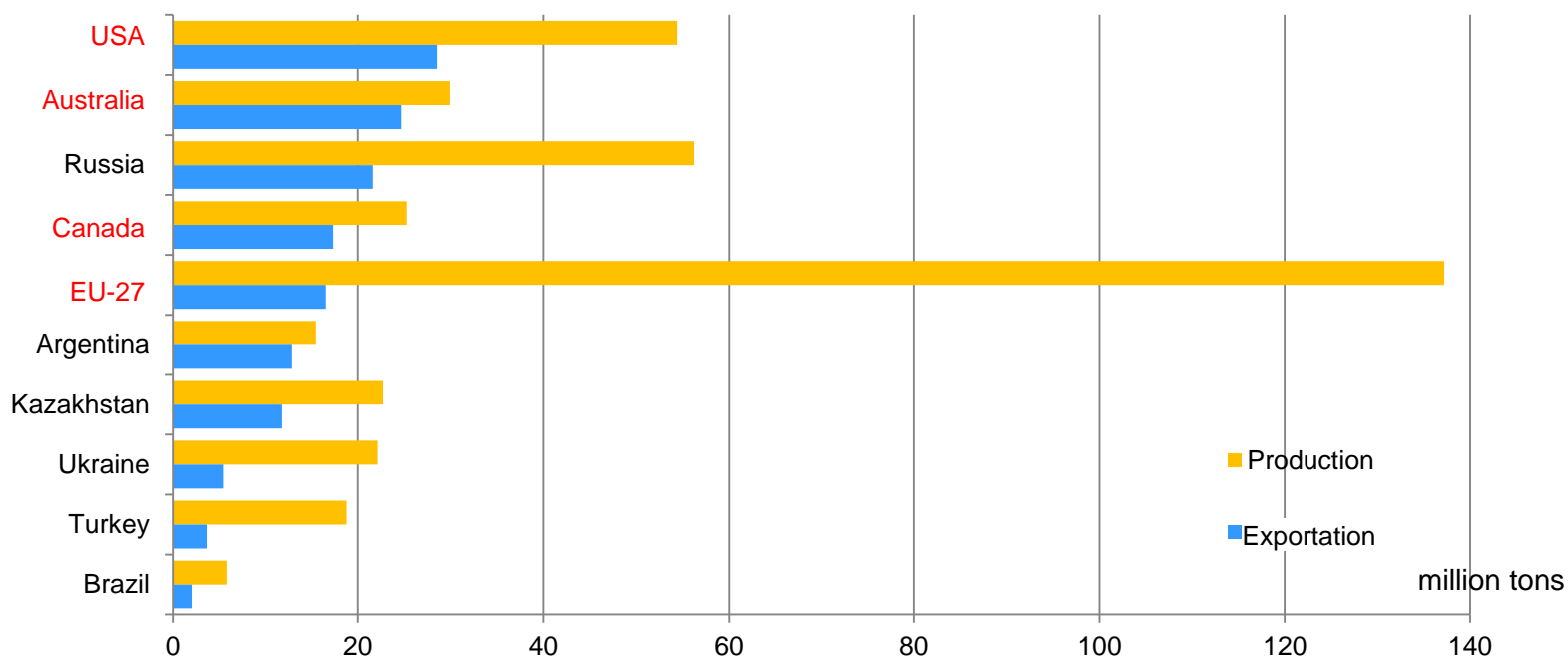
- Import quantity restriction was tariffied in the Uruguay round negotiations and is prohibited by the article 4 in the AoA. **Export quantity restriction continues to be permitted** with little or no discipline under the article 12 in the AoA.
- Though export tax has the same effect as import tariff according to the international trade theory, **there are no disciplines on export tax**. Export tax has been frequently **utilized as disguised export subsidies of processed food** such as the case of Argentina and the EU in the late 90s.
- The other exporters also take advantage of the increase of the price resulting from export quantity restriction or tax.

# Will the regulation work?

- **Should we eliminate export tax and export quantity restrictions?** Yes, **but can it be enforced to a developing country** when the very poor in the country cannot afford to buy food at the same escalated high prices as in the world market and will face starvation, while the people in the developed countries can manage to buy food.
- **Food storage** saved for a rainy day **or expansion of world food production is a better way** to manage the situation. **The maintenance of the agricultural resources** for production such as water and land will serve the purpose of food security in the world.

# Major exporters of wheat

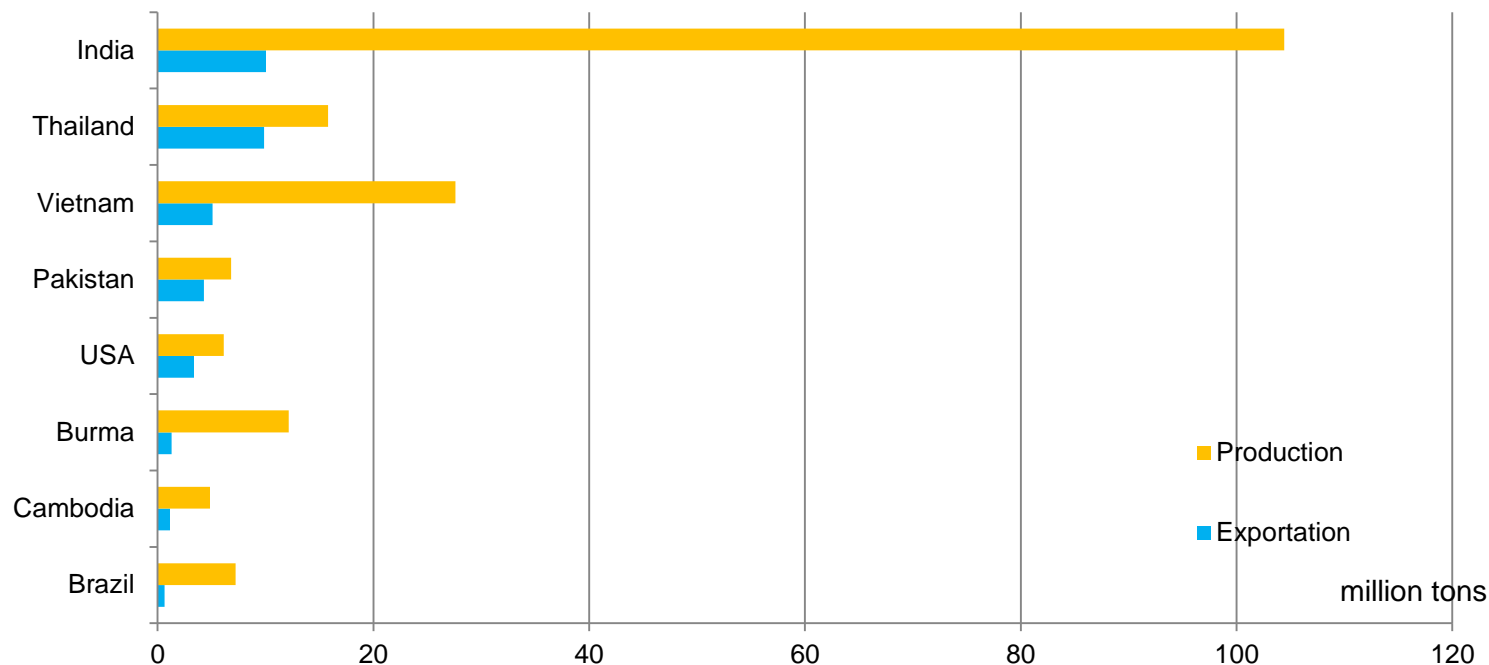
## Production and Export of Wheat by Major Countries



Source: USDA, Production, Supply and Distribution database

# Major exporters of Rice

## Production and Export of Rice by Major Country



Source: USDA, Production, Supply and Distribution database

# APTERR: ASEAN Plus Three Emergency Rice Reserve

- Aid for food shortage due to temporary natural disaster or man-made calamity
- Earmarked stocks: 250,000 tons from Japan, 300,000 tons from China, 150,000 tons from Korea, 87,000 tons from ASEAN
- Actual stockpile in the form of cash and/or physical stocks

# A proposal for Improvement of APTERR by Murdoch U. committee on food security

- Increase the amount of stocks by ASEAN in particular
- Expansion of membership: India and USA
- Expansion of the scope beyond natural disasters and man-made calamity in order to cope with price pike
- Inclusion of wheat

# Free Trade is a basis for Food Security

- In normal times, Japan we import wheat and beef and export rice under free trade. In case of a food crisis, it **will stop exporting rice and rather start consuming**. It works as a stockpile without public expenditures.
- Exporting rice in normal times under free trade maintains **agricultural resources, paddies, in case of need**.
- Free trade is indeed a basis of food security.



# Downward Harmonization?

- Japan's strict food-safety measures could be degraded to the level of America's ?
- Comparing both countries' existing measures of residual pesticide in rice, for example, the limit of the insecticide Chlorpyrifos is **0.1 ppm in Japan**, while it is **8 ppm in the US**, which is 80 times higher than Japan's standard.

# How the measures are determined

## Animal Test

the upper limit or threshold of a certain pesticide (NOAEL) if its dose increases above the level it harms animals is determined.

## Multiply by safety factor

that limit is multiplied by a safety factor (usually one-hundredth) to set an acceptable daily intake (ADI) for human beings.

## Allocate ADI

ADI is **allocated** to each of the foodstuffs on the basis of the amount of such foodstuffs ingested by people in the country, and thus the standard value of a certain pesticide in each of the foodstuffs is calculated.

# Japanese standard is stricter?

- Even though the ADI is the same both in Japan and in the US, a higher level of residual pesticides in rice is allowed in the United States than in Japan because Americans consume less. ⇒ It is no use to discuss which country's standards are stricter by comparing the standard values of residual pesticides in each foodstuff.
- **Compare the ADI in each country.** America's ADI of Chlorpyrifos (0.0003mg/kg/day) is smaller than Japan's (0.001mg), while Japan's is smaller than the international standard (0.01mg). American standard is the strictest among the three.

# Food Safety and Trade

## WTO comes to dinner?

- The WTO's SPS (sanitary and phytosanitary) agreement confirms that every country has **the sovereign right** to protect the lives, safety and health of its people.
- It also sets out that measures without **scientific evidence** are not allowed.

# The structure of WTO-SPS agreement: Harmonization or Downward Harmonization?

individual countries can restrict food import if they have scientific evidence

## standards of individual countries

higher level of protection

risk assessment  
by individual countries

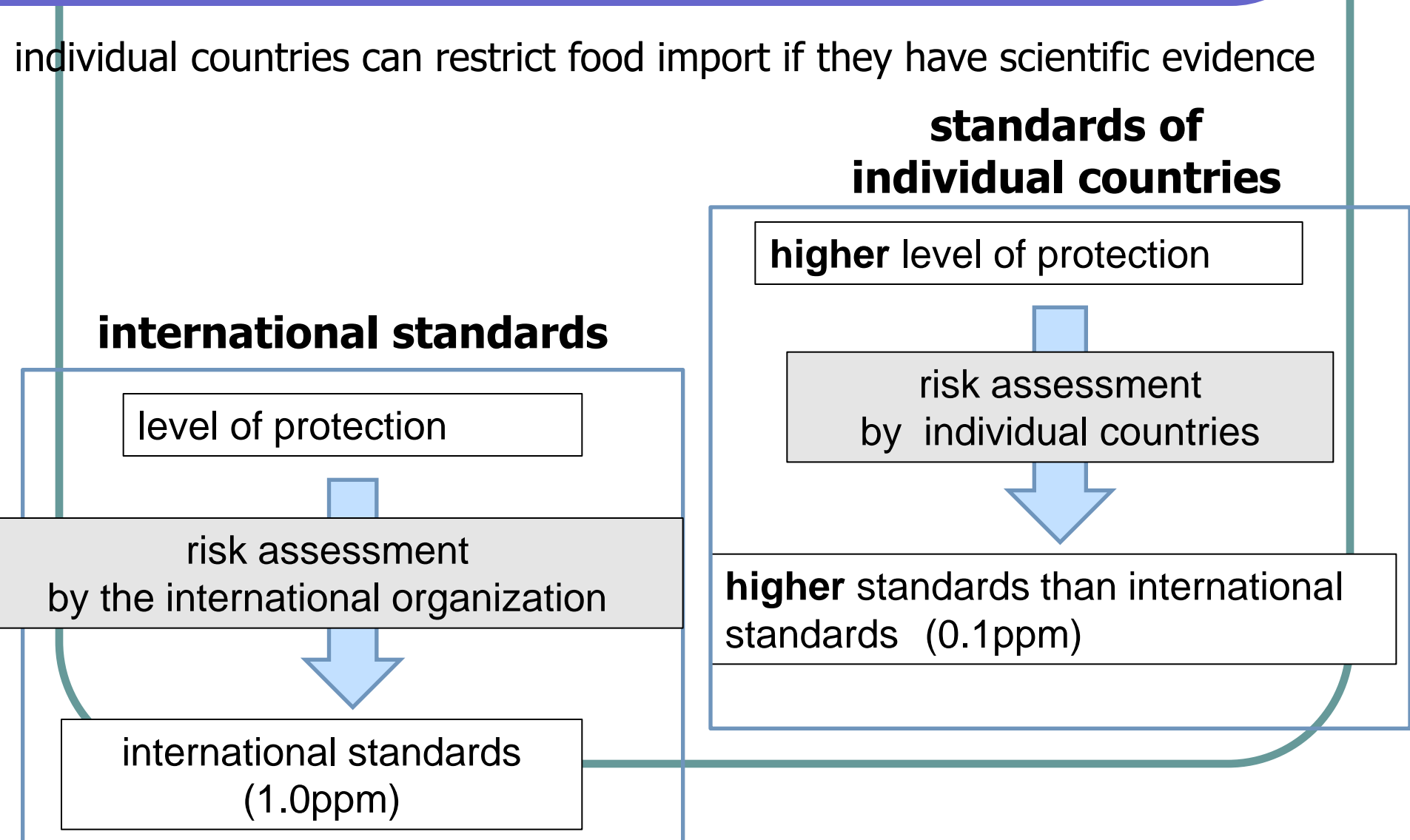
higher standards than international  
standards (0.1ppm)

## international standards

level of protection

risk assessment  
by the international organization

international standards  
(1.0ppm)



# Countries may Deviate from International Standards If

- 1) there is **scientific justification** (eg. international standards lack scientific evidence)
- 2) a country implements measures that may result in **a higher level of protection** than would have been achieved by measures based on the relevant international standards
- 3) **scientific uncertainty** surrounding risk-assessments justifies implementing extended measures, or **the level of intake of foods in question differs** among countries.
- 4) the precaution principle (para.7, Art.5)