

Special Seminar on Food Security, Focussing on Water Management
and Sustainable Agriculture 5-7 September 2013 Niigata, Japan

Food Security and Sustainable Agriculture

Singapore

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Topic Outline

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- **Overview of Singapore**
- **Food and Agriculture in Singapore**
- **Sustainable Agriculture**
- **Issues**
- **Key Challenges in an Urban City**
- **Expectation for strengthening capacity building**

Overview of Singapore

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- **Singapore is an island state – land area 710 sq km**
- **Population – 5.3 million people**
- **Highly urbanised, World 4th largest financial centre, economy based on finance, export and refining, 3rd highest per capita income in the world**
- **Tropical climate, temp range from 22-35 °C, high relative humidity wetter monsoon season from Nov to Jan**
- **Very little land for agriculture**

Overview - Uniquely Singapore

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- Import over 90% of our food
- Free trade
- No price controls
- Small market and a price-taker
- **Vulnerable to global food situation**

Food and Agriculture - Supply Resilience

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In Singapore....

“**Food Supply Resilience** is ensuring sufficient supply of key food items at all times and having the ability to expeditiously restore their supply in the event of supply disruptions of these items so as to mitigate food supply shortages and sharp price escalations”



Pork



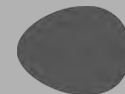
Chicken



Fish



**Leafy
Vegetable**

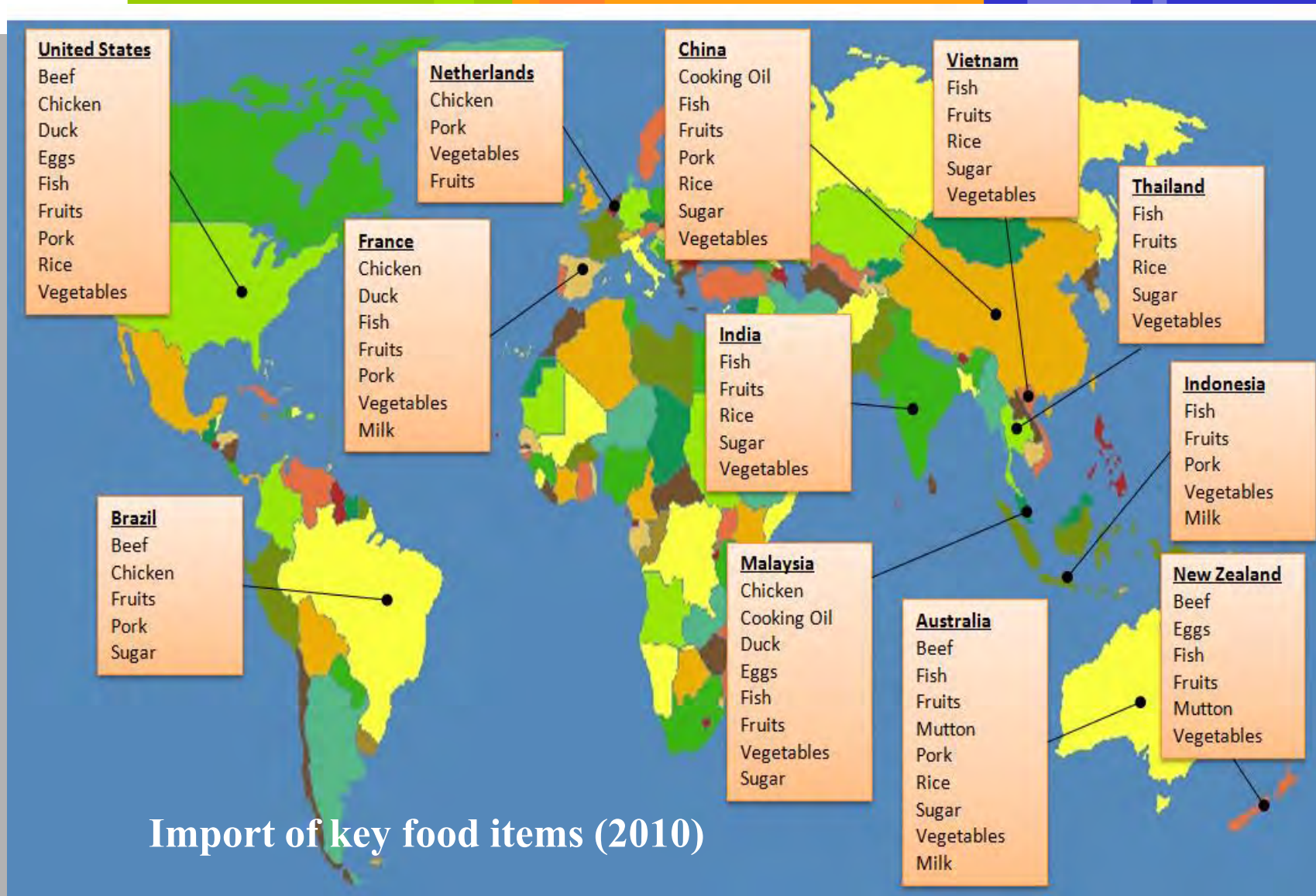


Eggs



Rice

Food and Agriculture – Our Strategies

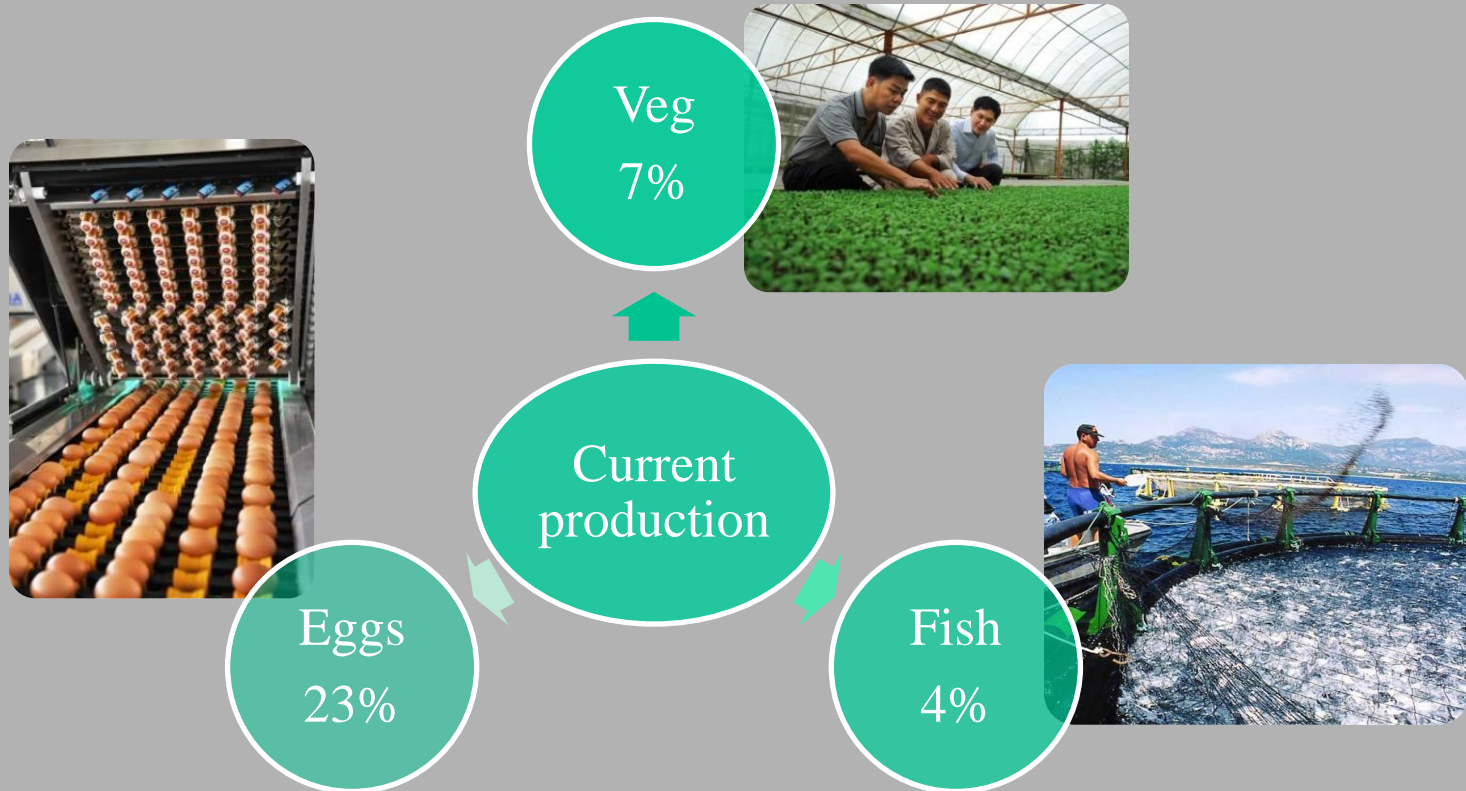


Food and Agriculture

Our Strategies

Local farming is one key strategy to ensure resilience

- Local farming is limited but it can still help
 - In times of sudden supply disruption
 - Test-beds for R&D to support diversification

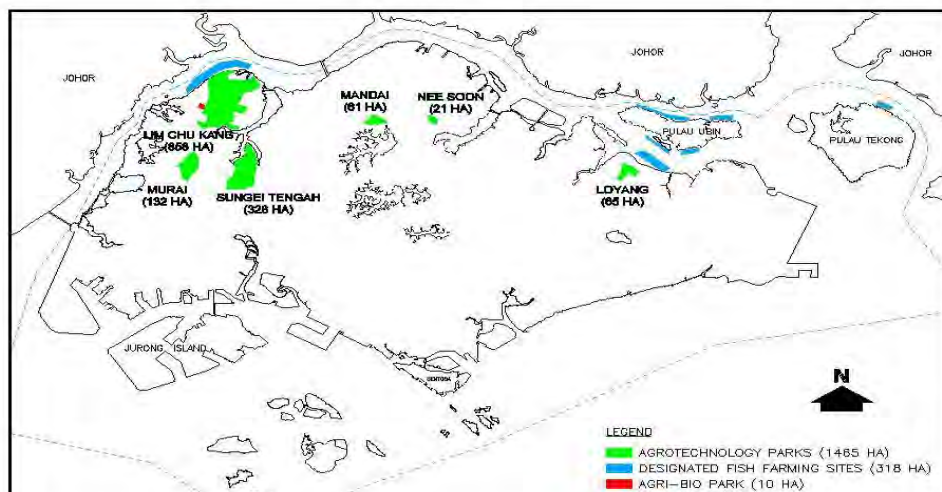


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Local Farming in Agrotechnology Parks

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- 1,500 ha (745 ha is used) for Agrotech Park development. Seven areas / 300 ha in the sea for fish farming.
- 5 Agrotech Parks since 1985
- Complementary mix of activities
- Modern intensive farming methods
- Good infrastructure with roads, water, electrical supply, drainage and telecommunication services.



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Agrotechnology Parks

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Farming in Singapore is carried out in 267 farms covering 745 ha located in the agrotechnology parklands



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Our Strategies

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Raising local farm productivity

- AVA Food Fund for R&D and upgrading farm capability to increase productivity



Eggs
23% to
30%

Veg
10%



Target

Fish
4% to
15%



Sustainable Agriculture

Soil Grown Vegetables

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- Protected cultivation under insect proof netted or PVC greenhouses
- Almost all farms in Singapore adopt greenhouse technology
- Prevent rain on cultivated areas
- Reduce leaching of fertilisers
- Less fertiliser need to be applied
- Allow all in and all out system with modular structures



- Automated and mechanization
- Management Of organic and inorganic fertilisers
- Overhead irrigation sprinklers
- Water source – rainwater, no potable water used
- Management of discharge into reservoirs

Sustainable Agriculture

Soil Grown Vegetables

