



A Global Outlook on Sustainability in the Dairy Production

VII CONGRESO COOPERATIVAS AGRO-ALIMENTARIAS

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Content

Part I:

- The challenge to feed the world
- Urbanization and changes in consumption pattern
- The battle for resources and the make up of waste
- The role of livestock in feeding future generations

Part II:

- Sustainable Agricultural Initiative at Nestlé
- Driving for sustainable dairy at Nestlé (various examples)
- Developing the next generation of dairy farmers
- Summary

Feeding 9+ bio people by 2050 – threats or opportunities?

Soil fertility



Breeding



Energy pricing



Water Management



Technical Assistance



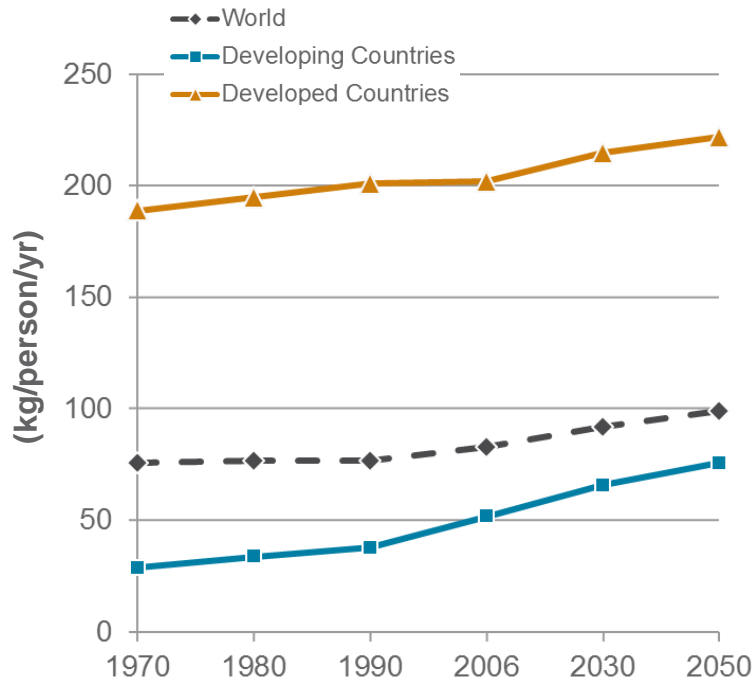
Policy interventions



Changes in consumption pattern

Milk and Dairy Consumption Trends

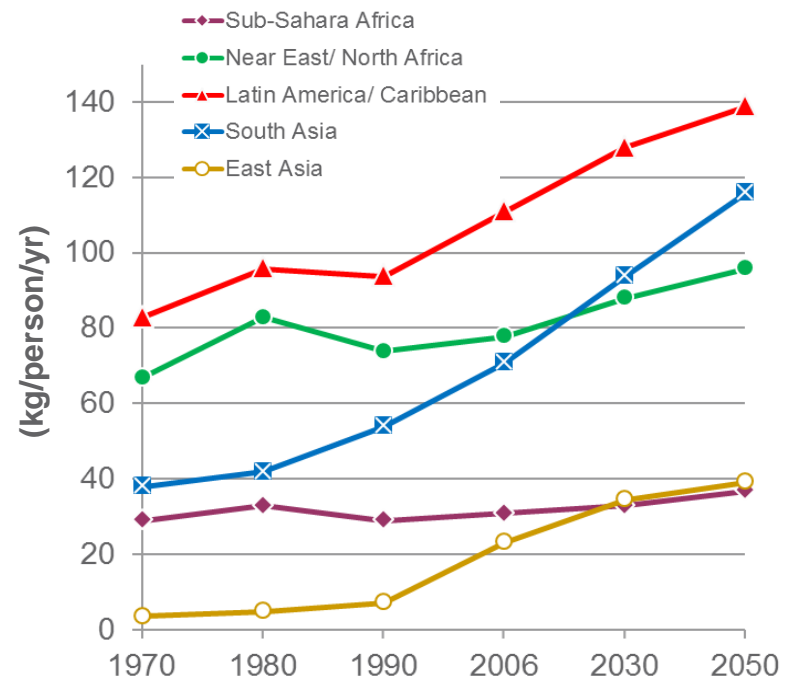
Developing vs Developed World



Projected increase 2006 - 2030 / 2050

- Developing countries 27 / 46 (%)
- Developed countries 6 / 10 (%)
- World 11 / 19 (%)

Regions



Projected increase 2006 - 2030 / 2050

- East Asia 48 / 68 (%)
- South Asia 32 / 63 (%)
- Latin America/ Caribbean 15 / 25 (%)

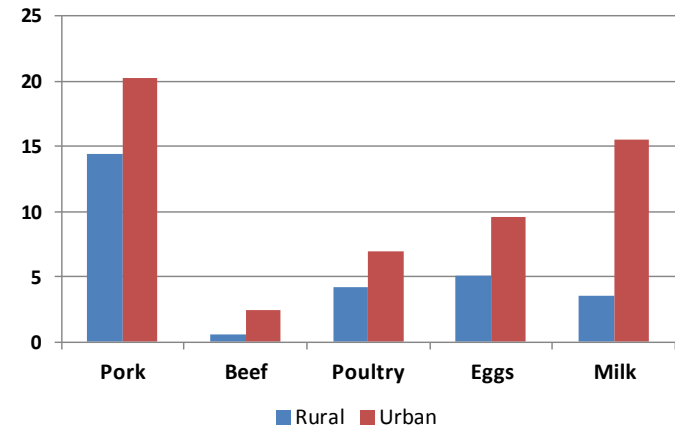
Source: FAO, 2012. World Agriculture Towards 2030/2050, Rome

Changes in consumption pattern due to urbanization – the case of China

- Large urbanization process (urban>rural pop.)
- Additional 300 - 400 mio people will move to urban areas in the next years
- Change in consumption pattern due to fast economic development and urbanization

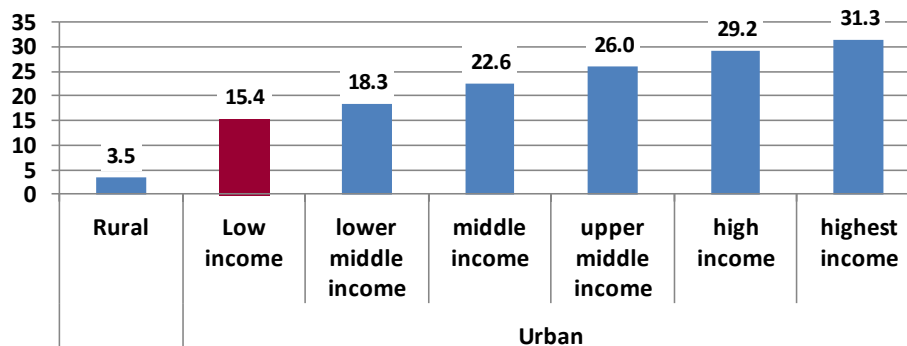
Urban vs. Rural per capita consumption (kg)

Source: China Statistic Yearbook



Per capita milk consumption China (kg)

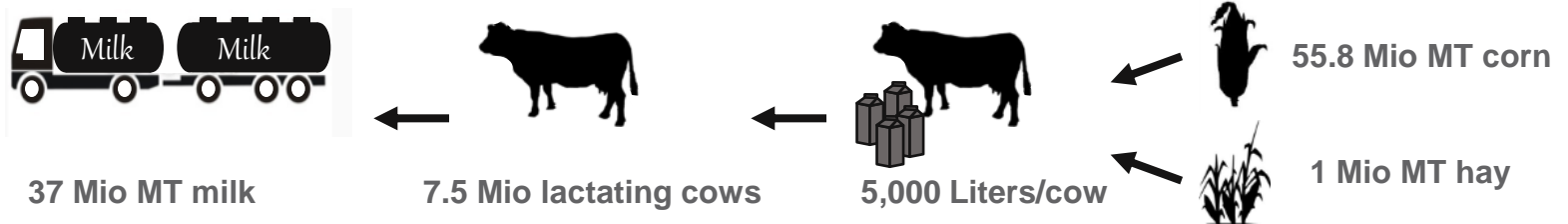
Source: China Statistic Yearbook



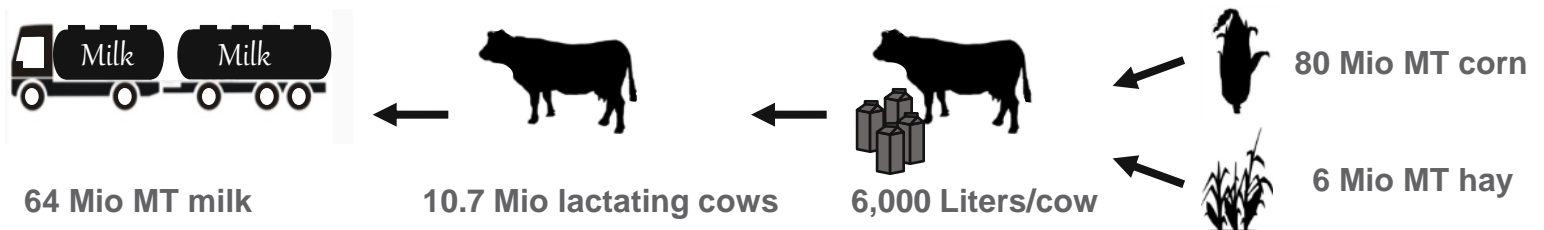
- Milk consumption in urban areas increases with the level of income
- Avg. milk consumption:
 - Urban 15.5 (kg/yr)
 - Rural 3.5 (kg/yr)

A strong demand for milk in China

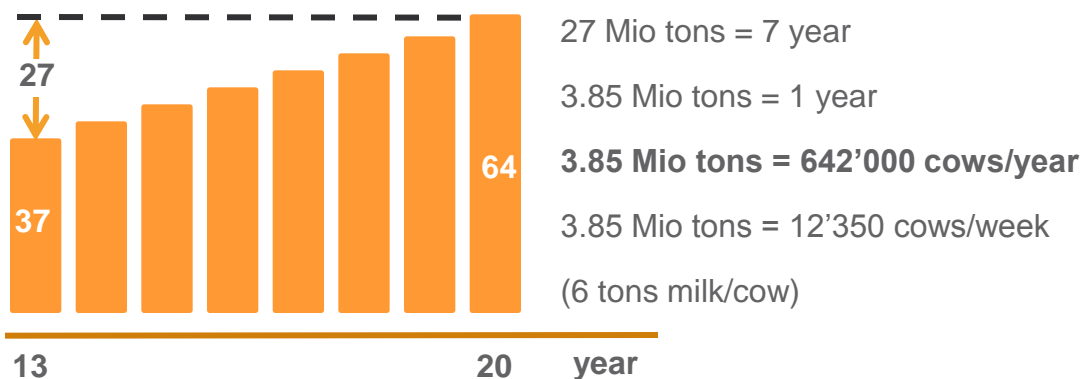
2012



2020



27 Mio tons of milk over 7 years

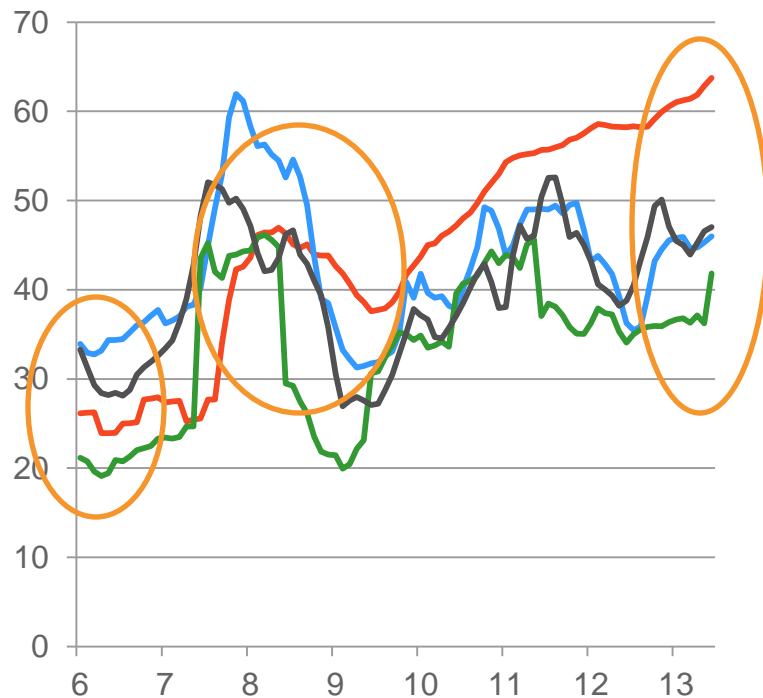


Can **China** produce
642'000 new dairy cows
per year?

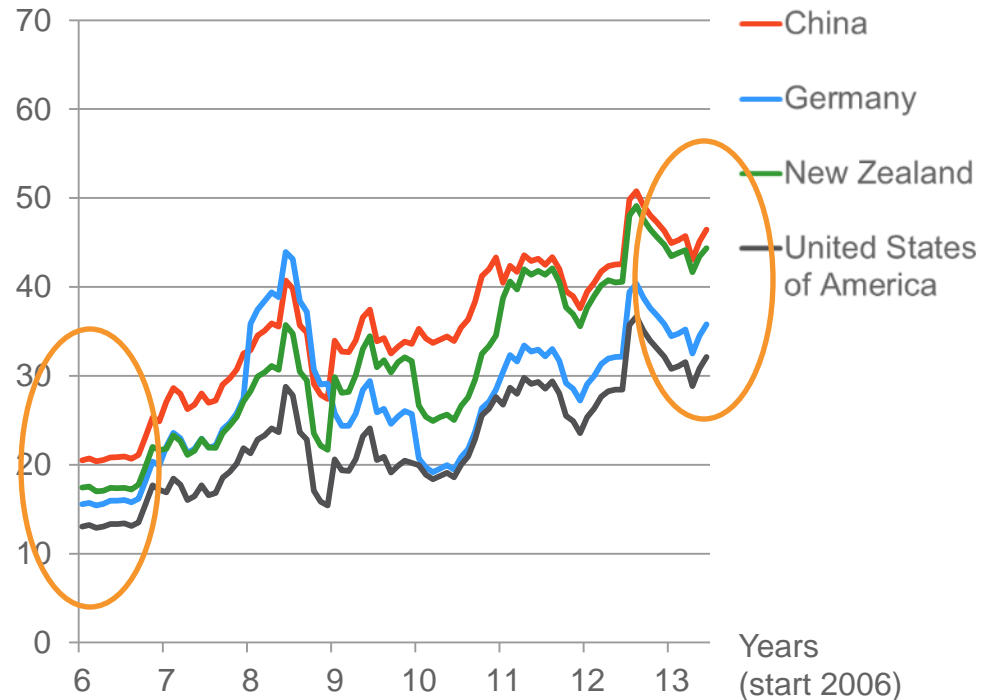
Can the **world market**
deliver up to 642'000 new
dairy cows per year to
only serve China?

Milk price and feed price dev. 2006 – 2013

USD/100 kg Milk (ECM)

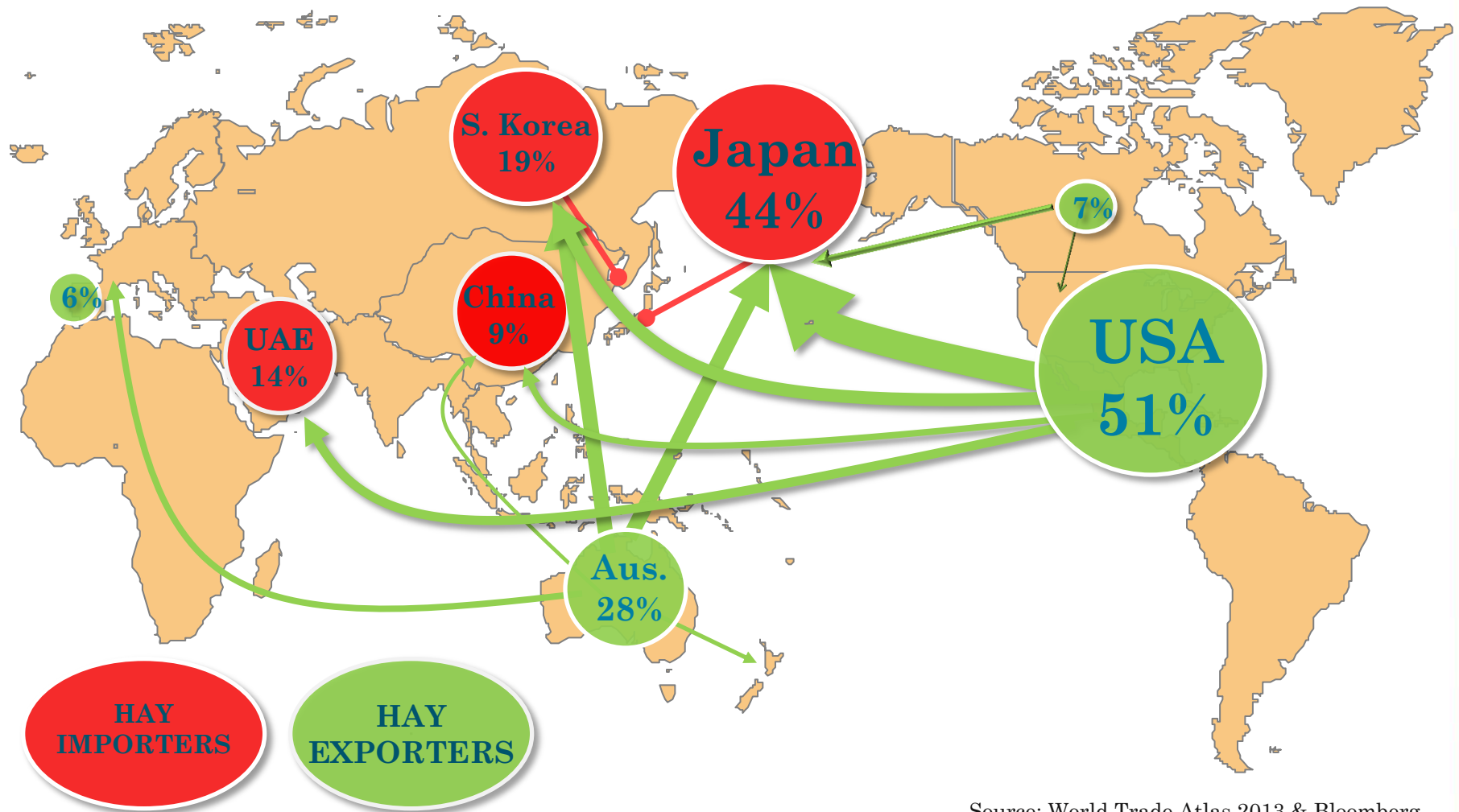


USD/100 kg Concentrate Feed Mix



Source: International Farm Comparison Network (IFCN); ECM: Energy Corrected Milk

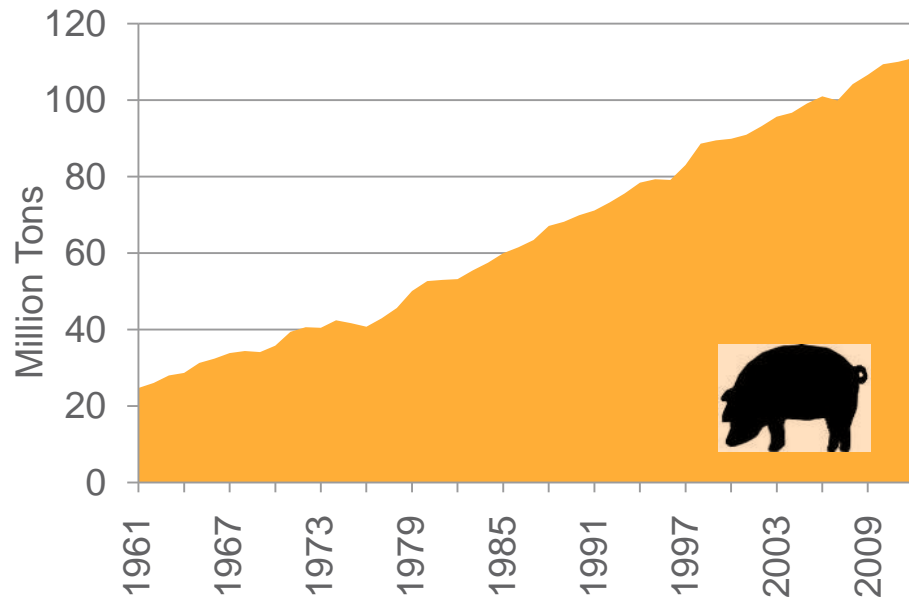
Global hay trade 2012



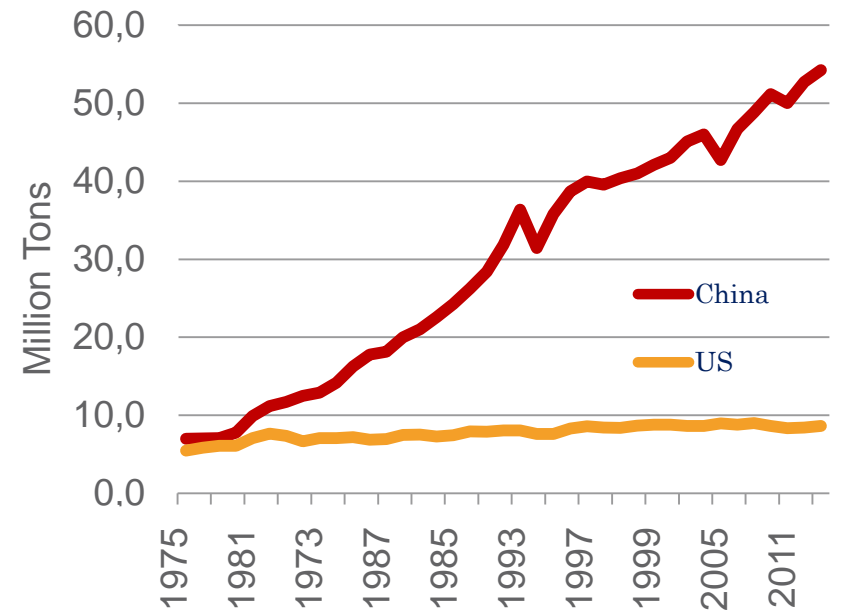
Source: World Trade Atlas 2013 & Bloomberg

Pork consumption in China

Global Pork Consumption (1961 to 2012)



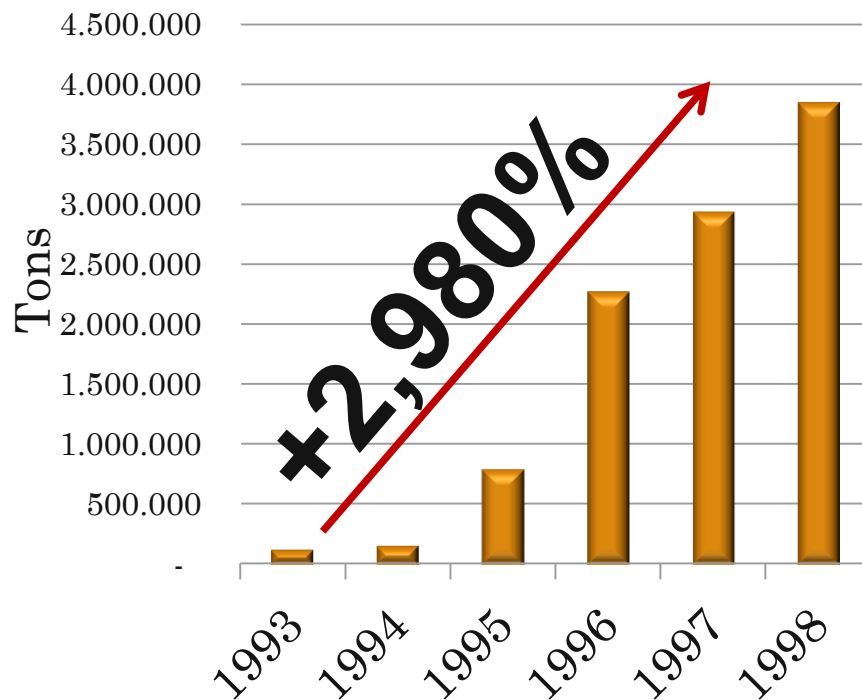
Pork Consumption in China & US (1975 -2013)



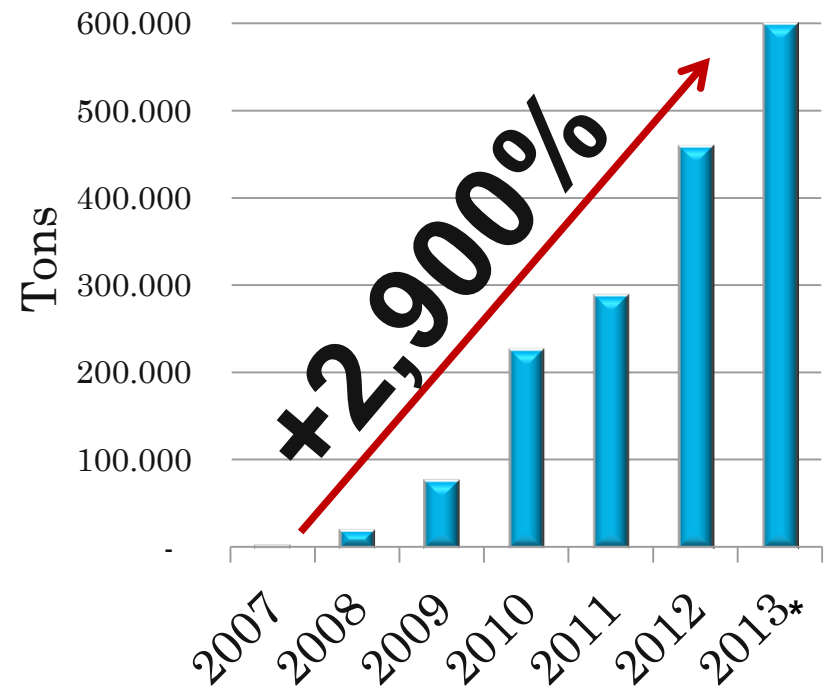
Source: HighQuest Partners, USDA and Earth Policy Institute

Shall China import soybean and hay / meat and milk?

China's Soy Imports
6 yrs (1993-1998)



China's Hay Imports
6yrs (2008- 2013)

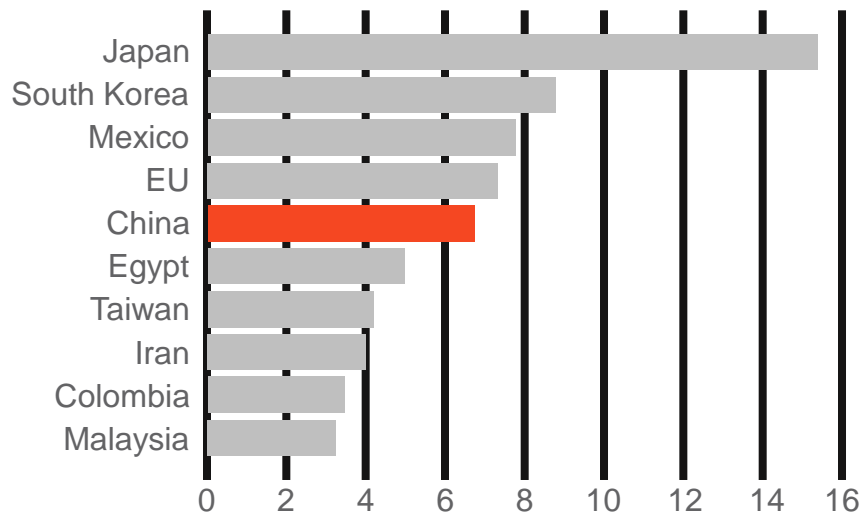


*2013 based on actual Q1 2013 figures x4.

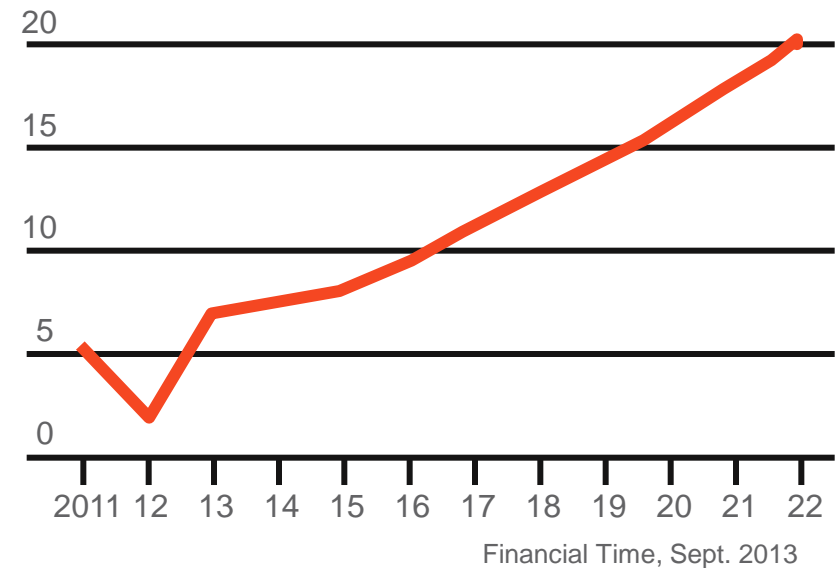
Source: FAO, USDA & World Trade Atlas (June 2013)

Rising imports of feed corn – rethinking self-sufficiency?

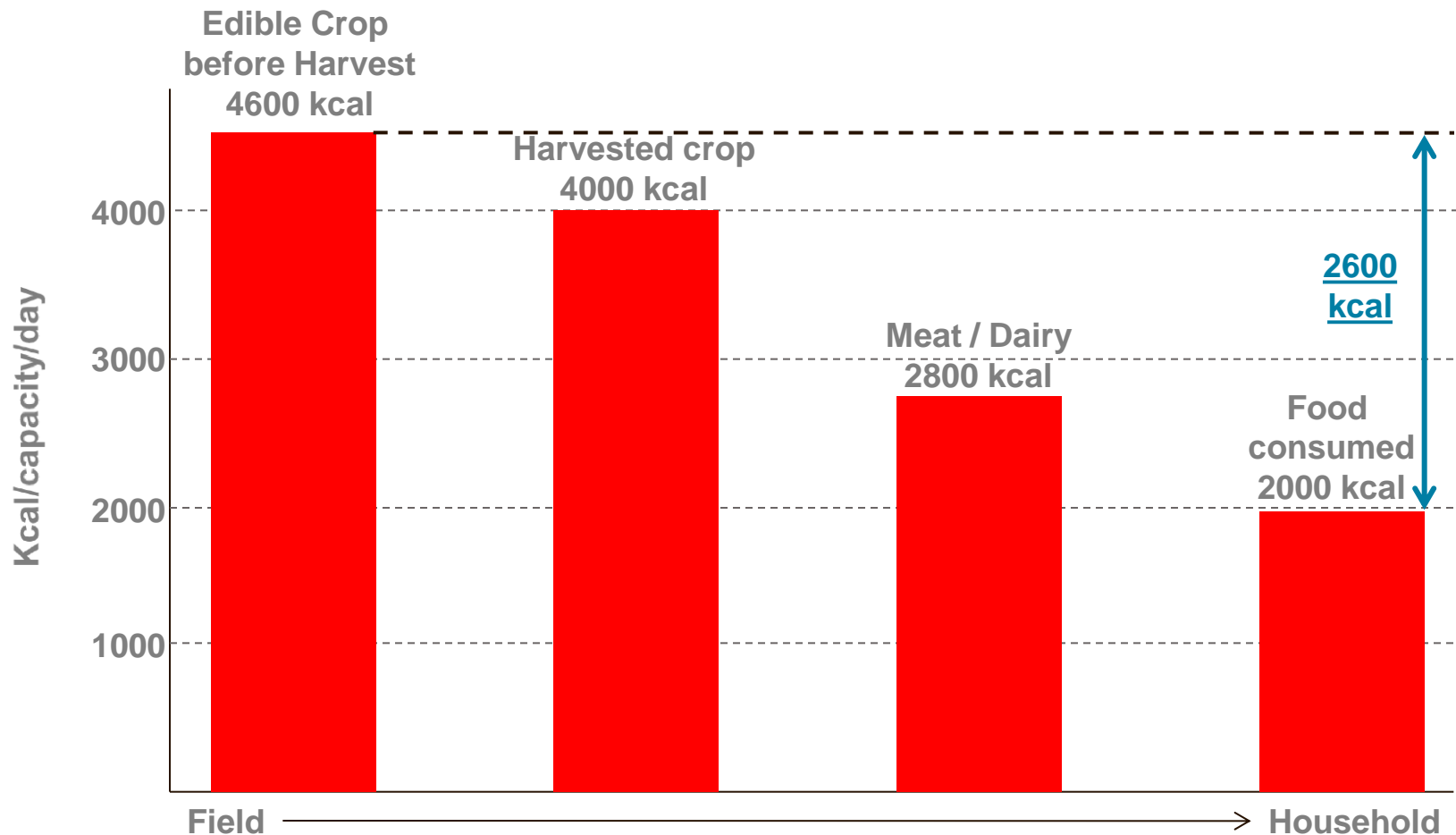
The world biggest corn importers
(2013/14 forecast in million tons)



Chinese corn imports
(Forecast in million tons)

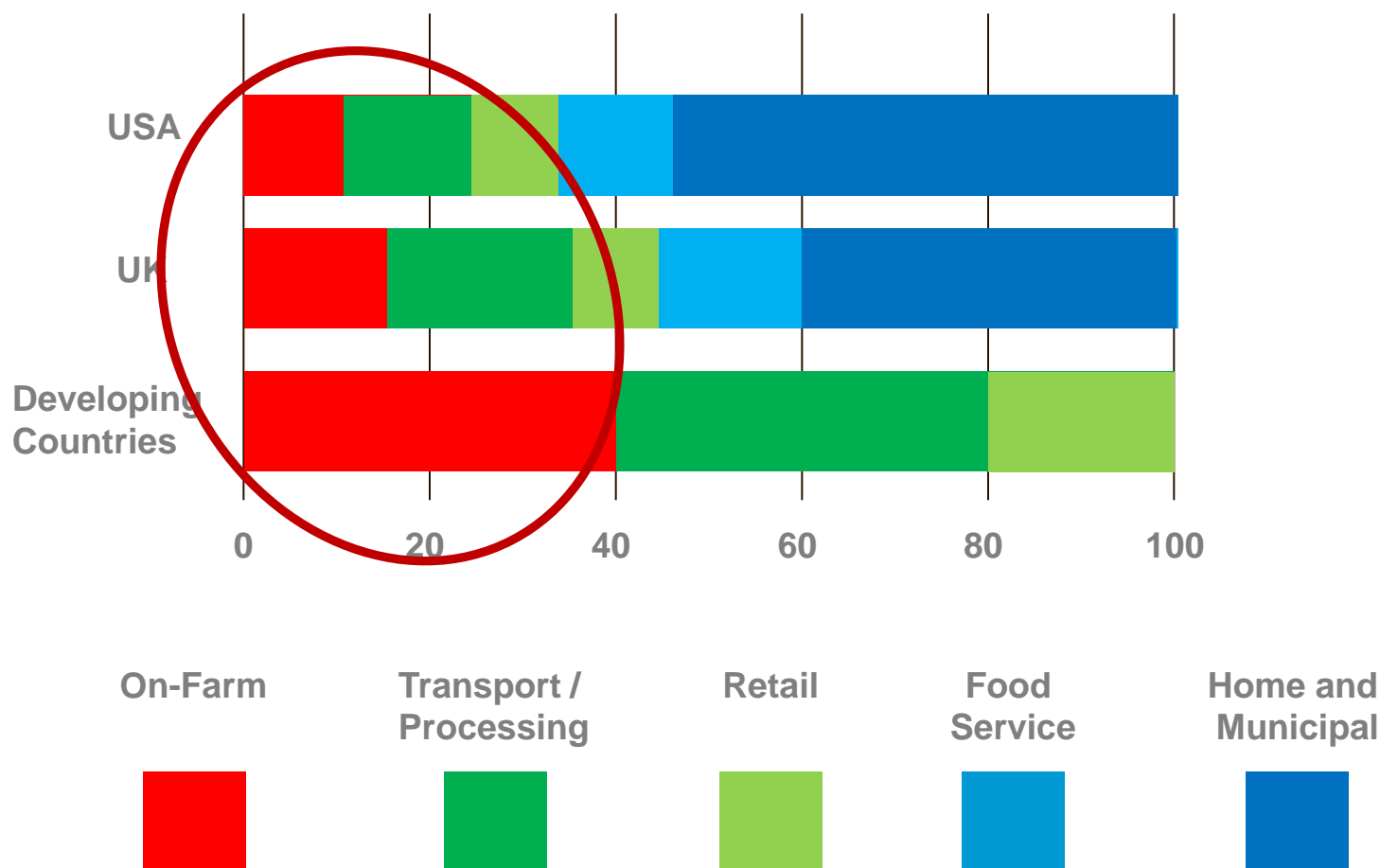


The makeup of food waste (1/2)



Source: Lundquist *et al.* 2008

The makeup of food waste (2/2)



Source: Source: H. Charles, J. Godfray *et al.* 2010

Sustainable Agriculture Initiative Nestlé (SAIN)



LAND



WATER



ENERGY



CLIMATE



PEOPLE

To ensure supply we have to smarter use natural resources by

- **Not wasting**
- **Not polluting**
- **Not destroying**

and a good start is eradicating the worst and promoting better

Sustainable Agricultural Practices.

Producing more food from the same area of land while reducing the environmental impacts requires what we call **“Sustainable intensification of Agriculture”**.

NO FOOD WASTE



SAIN support instruments in Farmer Connect



Technologies

- Fodder/feed production & conservation, planting material
- Animal health and welfare
- Biodigesters, irrigation



Market Access and Price Stability

- Organisation of Supply Chain, Logistics
- Transparent pricing schemes and improve price stability



Financial Support Schemes

- Pre-financing
- Investment credits
- Bank guarantees



Education, Training & Extension

- Good agricultural practices
- Standards (e.g. 4C, Utz, Rainforest Alliance, Organic)
- Vocational schooling, further education, agripreneurship



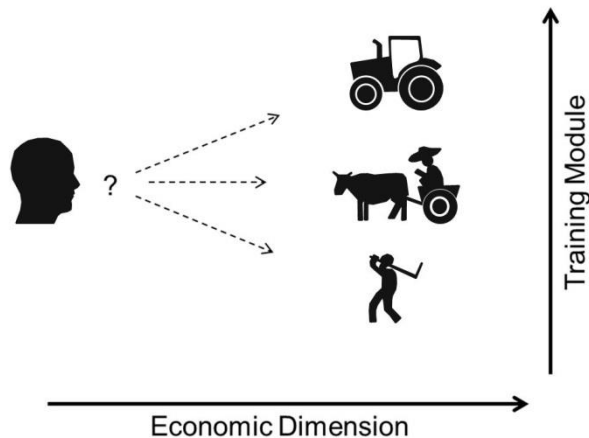
Economy of Scale

- Bargaining power
- Price reductions through scale effects in procurement of agricultural inputs

Developing the next generation of farmers

Agripreneurship as a rural development concept that...

- Focusses on developing progressive farmers in rural entrepreneurship
- Dairy farmers



Agripreneur Skills



** an agripreneur is and entrepreneur whose main business is in farming related activities*

Expected outcome of Agripreneurship

- **Social and economic benefits:** Economically challenged agripreneurs are providing their families nutritious food that is affordable, medical care and schooling for their children
- **Net income:** They are selling their quality produce generating income and free cash flow to sustain their family and grow their business
- **Sustainability:** Agripreneurs are learning and embracing sustainable farming methods, and becoming players in the cyclicity of the agripreneurship system
- **Next generation farmers:** Farmers enabled to cope with future challenges of sustainable farm development and production of raw materials such as cocoa and coffee

Nestlé Dairy Farming Center, Shuangcheng

The Nestlé Dairy Farming Centre (DFC) shall become a center of competence that addresses the need of creating the required human resources of trained farm staff, dairy professionals and farm managers.



The center consist of:

- **The Dairy Farming Institute (DFI)** teaches the theory and links up with farm equipment and service providers.
- **Dairy Farms** teach the practice; students and professionals work on the farms and get trained on practical matters.



Opening 2014

Nestlé supports self-sufficient agricultural school model in Paraguay

Self-Sufficient Agricultural Schools combine the teaching of traditional high school subjects with high-quality technical and business training through a hands-on education approach.

Business and practical skills are taught to run profitable small businesses.

The **school enterprises generate enough income** to cover the school's operating costs ensuring the affordability of education and long-term financial sustainability.

This **entrepreneurial model** gives a platform for students to lift themselves out of poverty.

Partner: Fundación Paraguaya
Opening 2013



Summary

- Dairy farmers shall become true **agripreneurs**, that are business orientated and do farming by choice;
- Dairy farmers operate business models that make **efficient use of resources** be it human or natural renewable resources;
- Dairy farmers are aware of the sensitivity of their produce and **comply with global safety and quality standards**.

Dairy farmers produce a precious, high grade raw material with a excellent nutrient composition for human consumption at all ages!

¡Siéntete orgulloso de ser un productor de leche!



