Changes in consumption of food over the history and future trends to be expected
HISTORY

Potatoes  staple food  →  +  seasonal vegetables
Rice
Cereals  +  sometimes with meat - fish or eggs
### Food consumption per capita (kcal/person)

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>2000</th>
<th>2015</th>
<th>2030</th>
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</thead>
<tbody>
<tr>
<td>World</td>
<td>2400</td>
<td>2800</td>
<td>2950</td>
<td>3050</td>
</tr>
<tr>
<td>Europe/USA</td>
<td>3050</td>
<td>3300</td>
<td>3450</td>
<td>3500</td>
</tr>
<tr>
<td>Asia</td>
<td>2050</td>
<td>2500</td>
<td>2900</td>
<td>3000</td>
</tr>
<tr>
<td>Developing</td>
<td></td>
<td></td>
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<tr>
<td>Countries</td>
<td>2100</td>
<td>2400</td>
<td>2600</td>
<td>2750</td>
</tr>
</tbody>
</table>

**Responsible for the increase:**

1. **FAT**
2. **SUGAR**
3. **MEAT**
What to expect from 2000-2050?  (source FAO)

Drivers of food consumption

- Cereals (54-49%)
- Milk (especially USA/EU → replacement drinks and juices)
- Meat
- Eggs
- Seafood
- Root crops (potato/vegetables)
- Oil / fat / sugar (more in EU-USA-China and India. Less in SA and Africa)
Increase of potato production over the years
The drivers and consequences of food consumption (1)

**Drivers**
- socio-economic
- urbanization
- trade policies
- market liberalization
- increased incomes
- women in employment
- consumer attitudes
- food supply
- changes in retail- rise in supermarkets
- year round
- availability of food
- long-product shelf life
- intensive food production methods
- food industry market

**Consequences**
- health
- diseases of urbanization
- obesity
- cordial diseases
- agriculture/food production
- loss of biodiversity
- effects on the environment-land and water use
- carbon footprint

- food consumption convergence of diets
- ‘westernization’
- increased intake of meat, fat
- processed foods, sugar and salt
- nutrition transition
The drivers and consequences of food consumption

**INCOME**

Worldwide  
2% growth over the 30-40 years

China  
1980 → 2015  
400% growth of income

- poverty rate  
  1978  
  -/- 20%
  1998  
  -/- 6%

move in consumption (1978-2000)  
- less carbo hydrates  
- more fat  
- more sugar  
- more meat
The drivers and consequences of food consumption (3)

URBANISATION

1900 → 10% of world population in cities
2010 → over 50% in cities

Urbanisation will continue
The drivers and consequences of food consumption (4)

GLOBAL DIETARY SHIFTS

- Increased intake of caloric sweeteners
- Edible oil increases in most of the lower and middle income economies
- Increased animal source foods
- Increased intake of processed foods, refined carbohydrates
- Reduce intake of fruits and vegetables and legumes
- Reduced preparation time, increased intake of pre-cooked foods
The drivers and consequences of food consumption

TRADE LIBERALISATION → removal food barriers

MAYOR FOOD COMPANIES →

KFC

RETAILING → availability of products
cheaper food
increased buying power of consumer
AGRICULTURE
- Shortage of land
- Shortage of water
- Increase output/Ha
- Climate change
- Generic modification?

Potato needs less water as other crops

How much WATER is needed to produce 1 kg of:
- 300 ltr
- 500 ltr
- 800 ltr
- 2,500 ltr
- 15,000 ltr
Health Impact

“There are in the world more people with Overweight than UNDERweight!!”
Overweight more than tripled among Chinese men and doubled among women. The 11-Year Change in the BMI Distribution for a Cross-Section of Chinese Adults 20-45.

Patterns Of Overweight & Obesity Globally For Nationally Representative Samples (Percentage overweight + Obese)

- <10%
- 10-20%
- 21-30%
- 31-40%
- 41-50%
- ≥51%

Source: The World is Fat (Penguin, Dec 2008)
Health Impact

The Effect of Income Changes on Total Fat Intake in China

For every 10% increase in income, intake of the proportion of energy from fat is increasing greater among the poor than the rich in China. Most importantly there are significant changes found in all income groups.
A vast shift from breast milk and water to a large variety of caloric beverages
Health Impact

Major Global Dietary Shifts
Health Impact

From Traditional to Modern Leisure

If we do nothing....... we burst!
How to proceed?

Aging

Globalisation will bring new challenges for future policy

Urbanisation

Clearly action needed at all levels; however I believe the only way to produce concerted change is to look to the models of tobacco use, seat belt, other major public health changes

Regulations, taxation, mass education are key components.
Conclusions

- Less calories and more variety in calories
- Ensure still sufficient staple food and micro nutrition's
- Less sugar, less fat
- Increase fruit and vegetables
- Agriculture policy
  - Grow in value instead of full focus for volume
  - More varieties