

Global demand for food in the next 20 years

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“The global need for food, fibre and fuel—
is there enough land to satisfy the demands?”

Royal Swedish Academy of Agricultural and Forestry (KLSA)

Stockholm, September 27, 2011

Outline

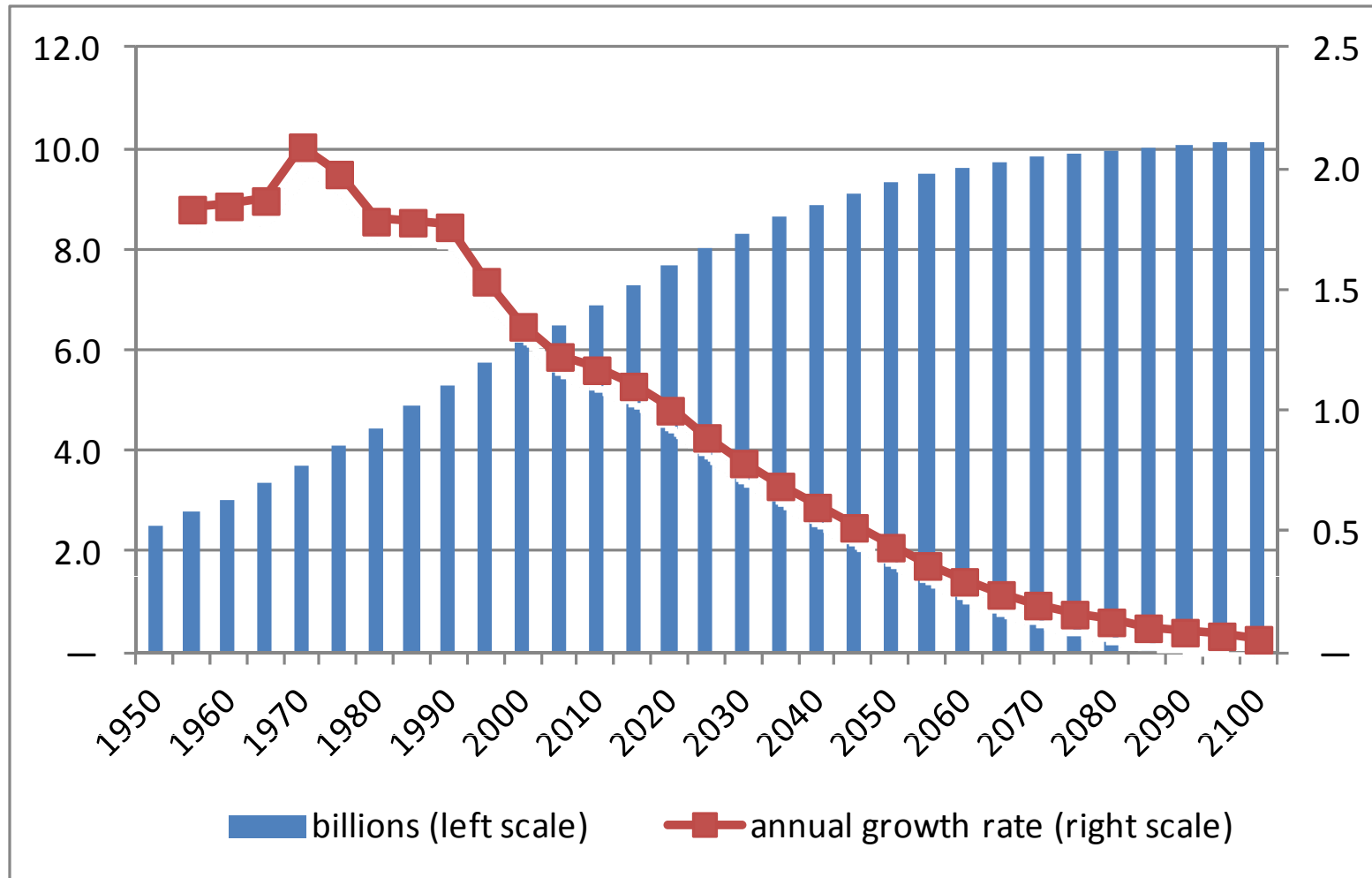
- Methodology
- Main long terms drivers: income and population
- The demand outlook
- Concluding remarks

Food demand specification

$$D_{c,i,t} = Pop_{c,t} \underbrace{\left[A_{i,c,t} \left(\frac{Y_{c,t}}{Pop_{c,t}} \right)^{\eta_{c,i,t}} F(P_{c,j,t}) \right]}_{\text{Per capita demand}}$$

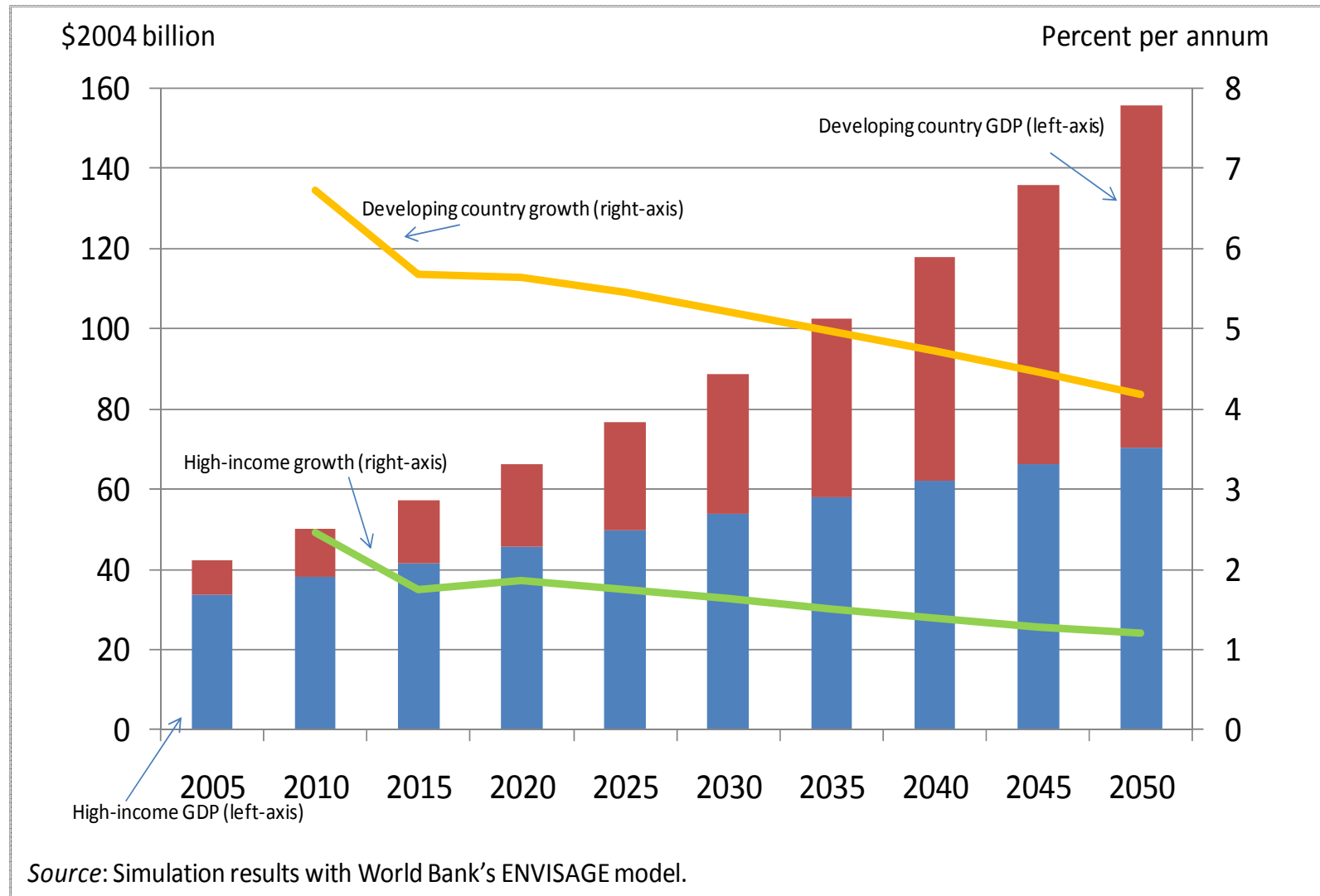
<i>D</i>	Demand for food item <i>i</i> in country <i>c</i> in year <i>t</i>
<i>Pop</i>	Total population in country <i>c</i> in year <i>t</i>
<i>Y</i>	Total income in country <i>c</i> in year <i>t</i>
η	Income elasticity of demand—low for basic foods, higher for meats, fruits and vegetables, low in industrial countries, higher in developing countries, declining as incomes rise

World population

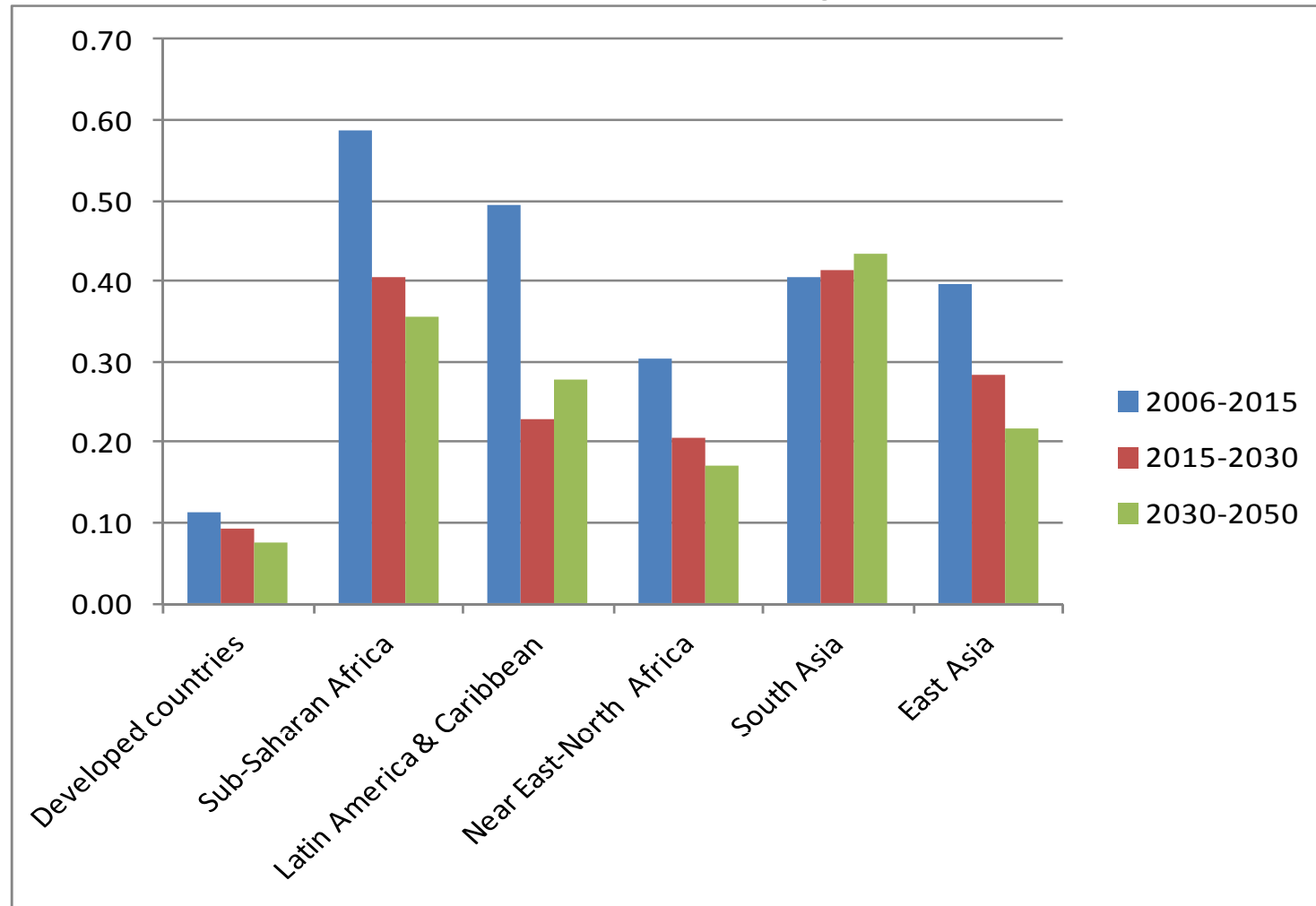


Source: UN, 2011

GDP growth



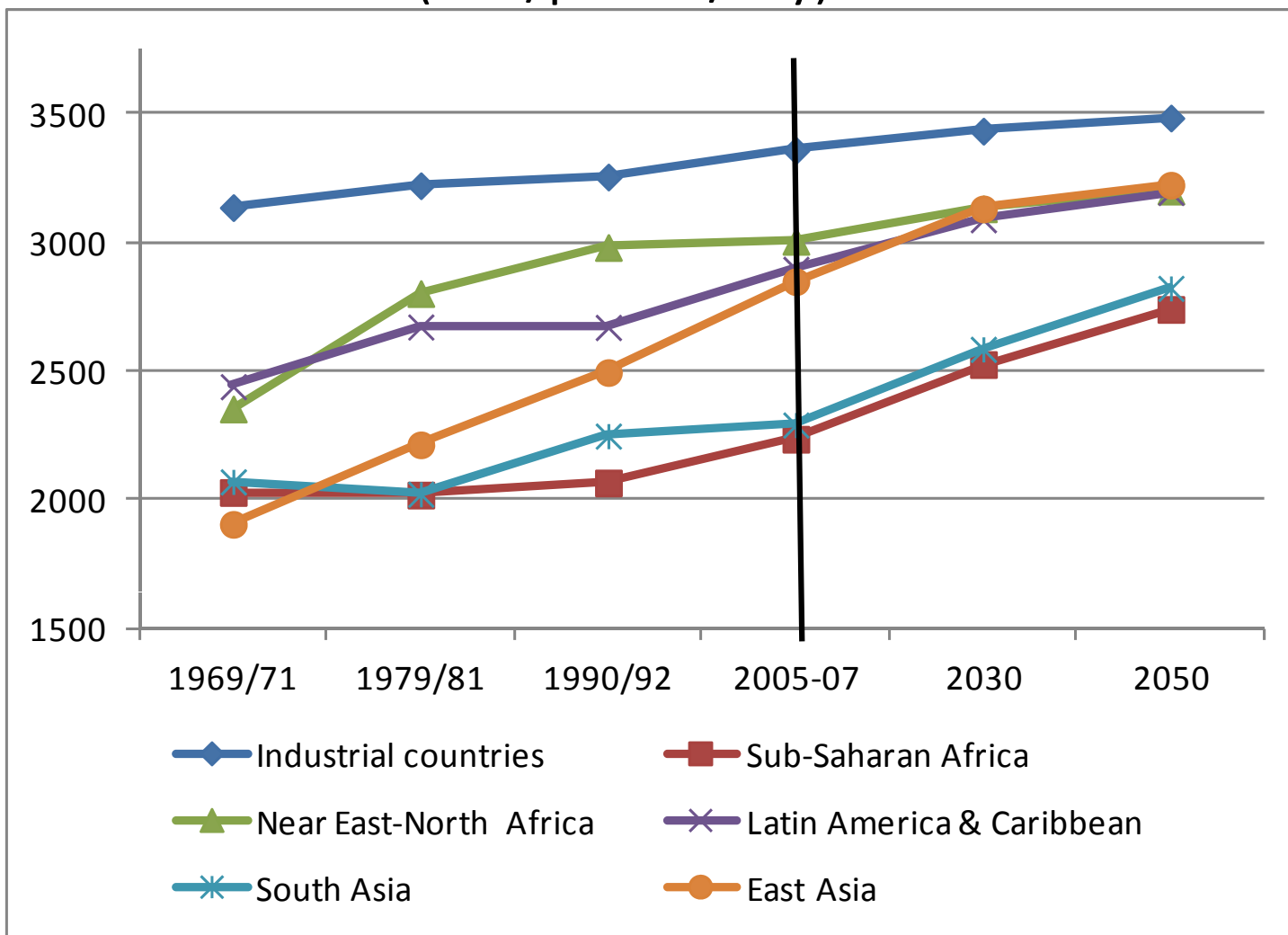
Income elasticities of food consumption



Source: FAO, 2011

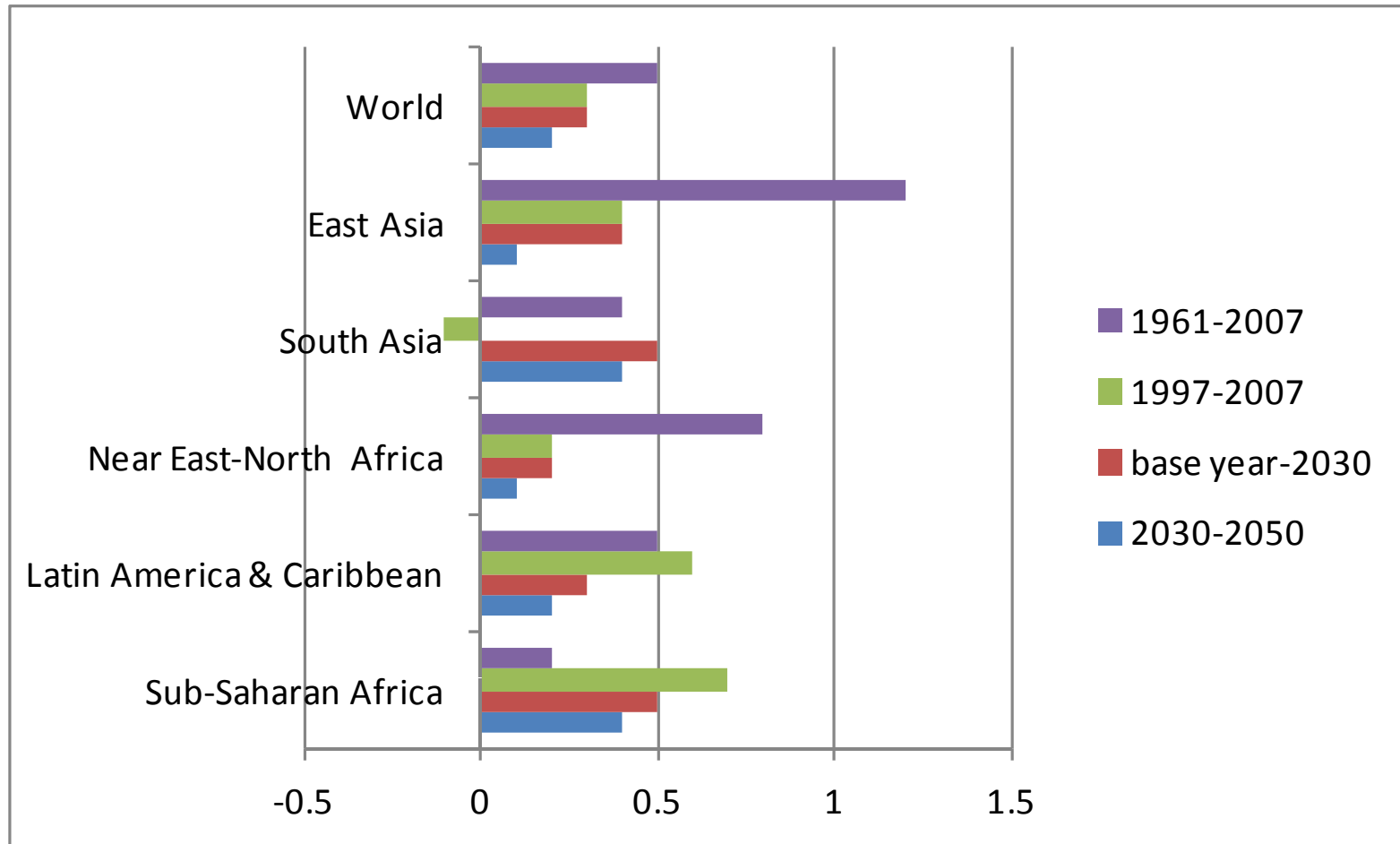
Food consumption

(Kcal/person/day)



Source: FAO, 2011

Growth rates: food consumption per capita is slowing down



Source: FAO, 2011

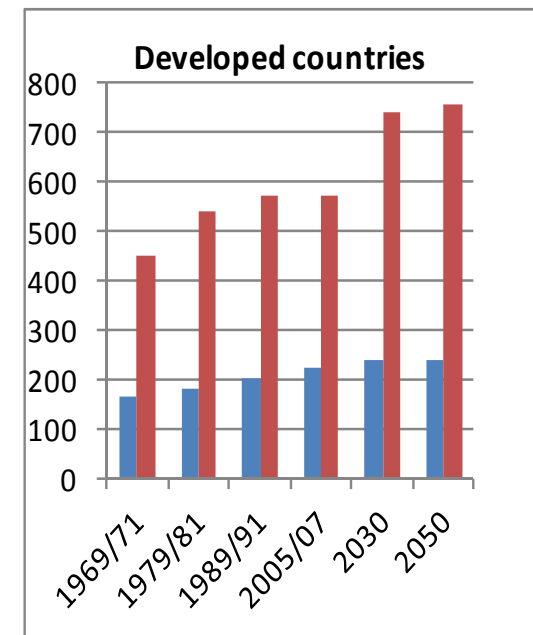
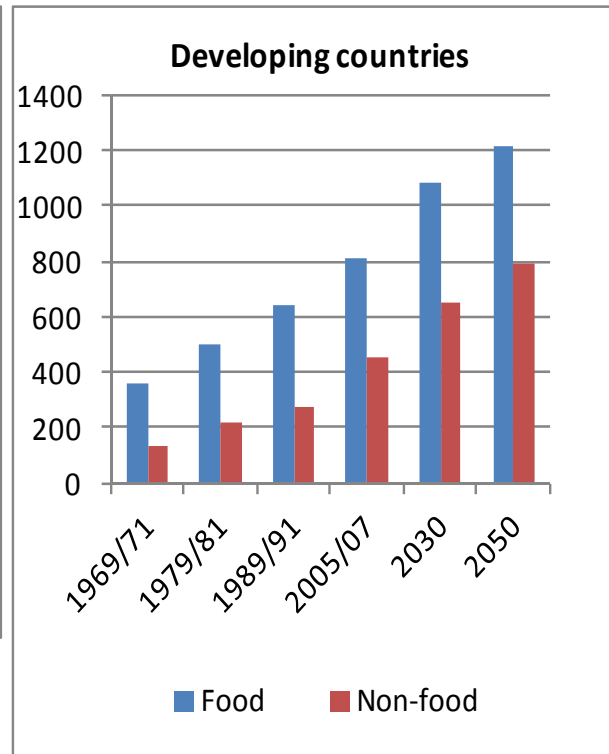
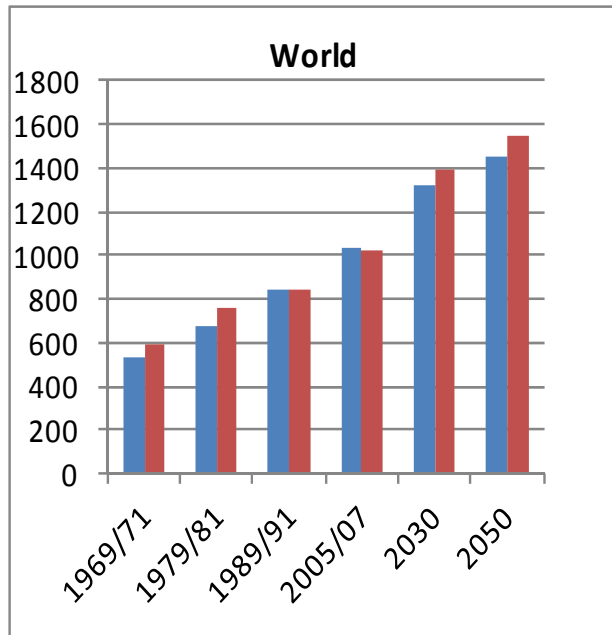
Undernourishment

	million				prevalence (percentage)			
	2005-07	2015	2030	2050	2005-07	2015	2030	2050
Developing countries	827	687	543	318	15.9	11.7	7.9	4.1
Sub-Saharan Africa	201	195	180	119	27.6	21.4	14.5	7.1
Latin America	47	38	28	18	7.4	6.0	4.7	3.4
Near East / North Africa	32	30	29	25	8.5	6.3	4.1	2.5
South Asia	331	279	211	93	21.8	16.1	10.5	4.2
East Asia	216	143	94	62	11.0	6.8	4.2	2.8

Source: FAO, 2011

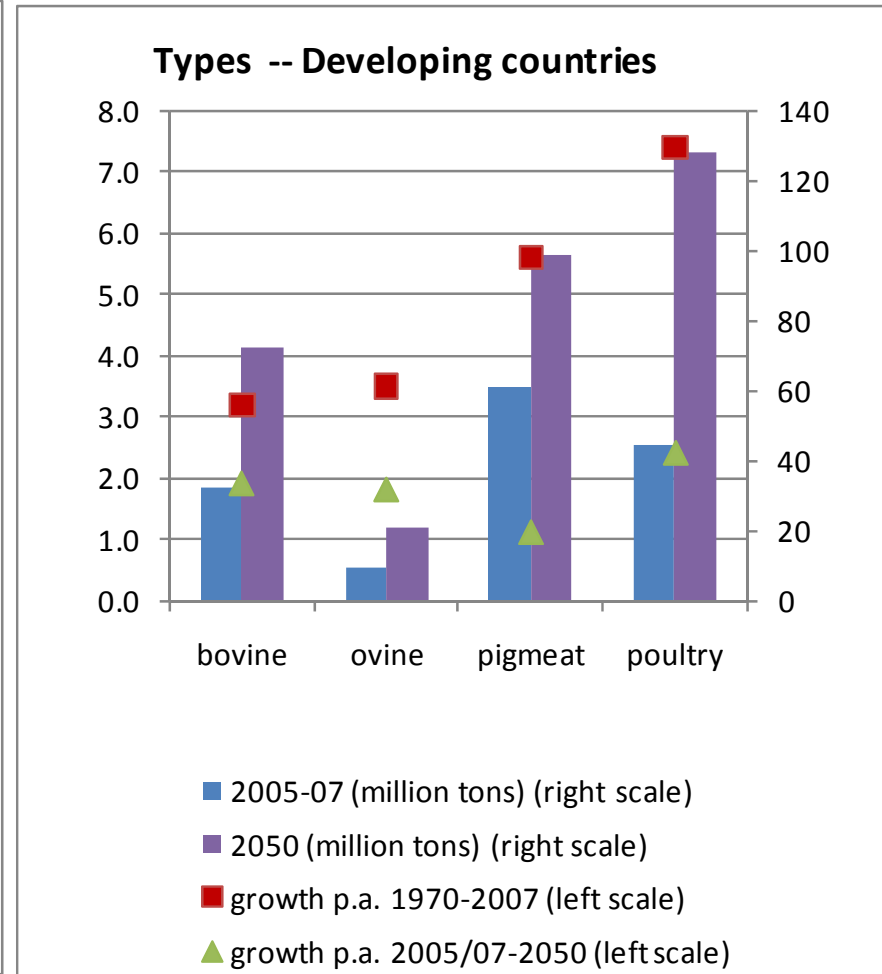
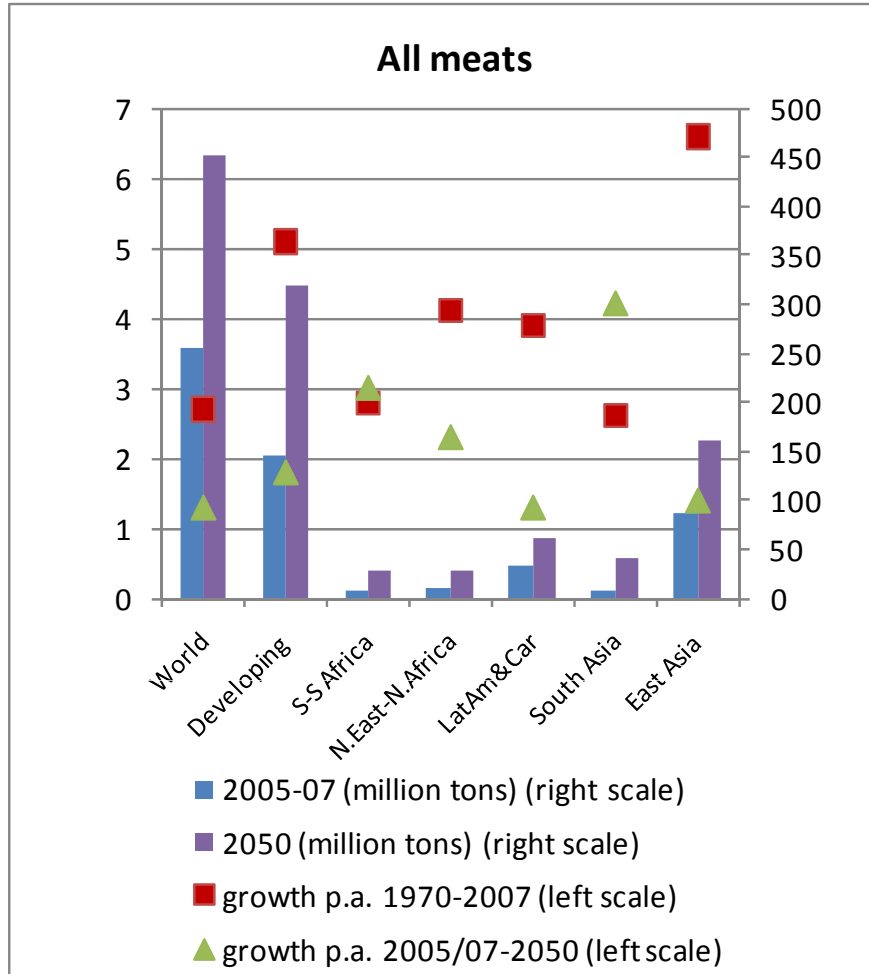
Cereals: food and non food use

(million tons)



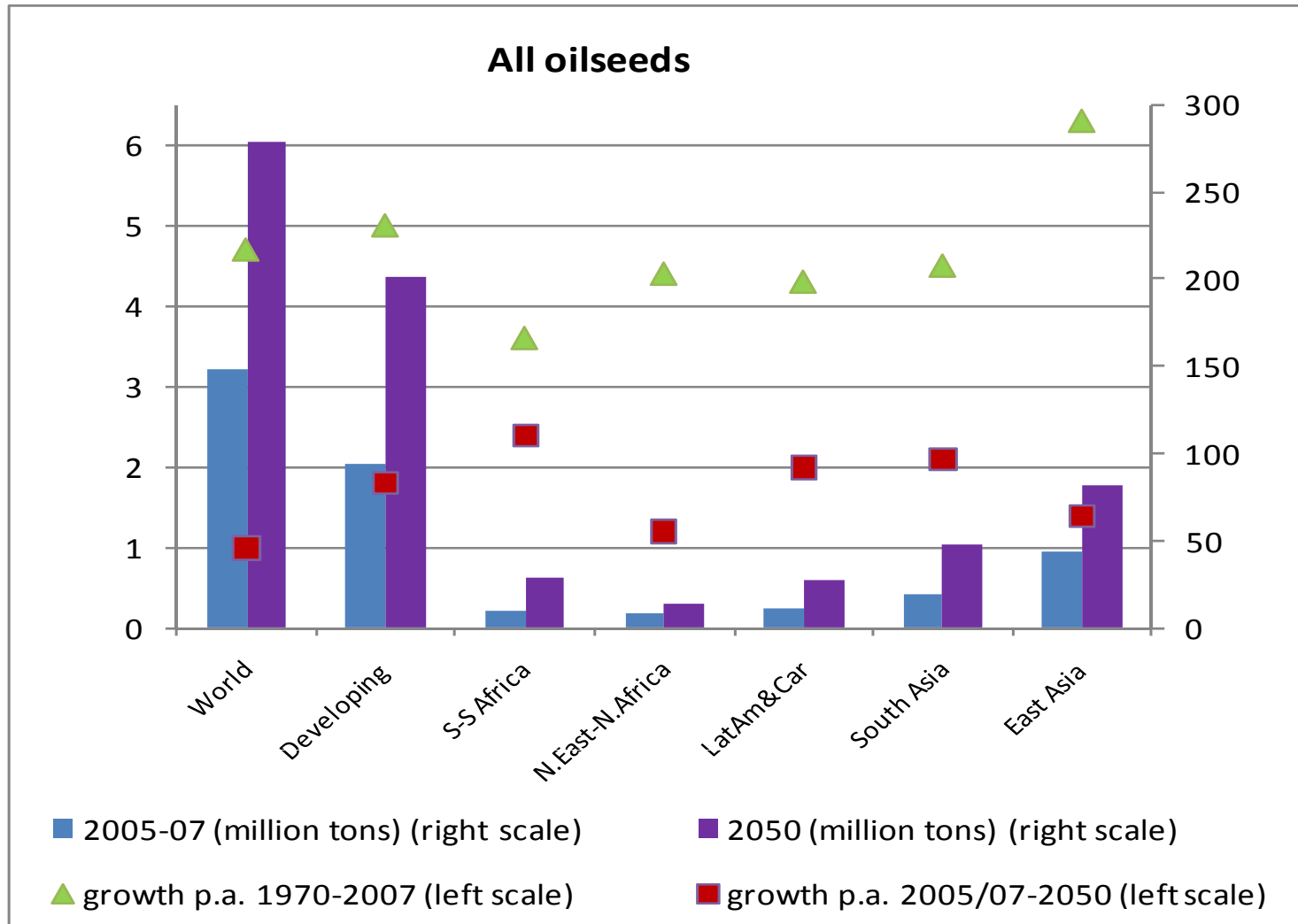
Source: FAO, 2011

Meat consumption



Source: FAO, 2011

Vegetable oils consumption



Source: FAO, 2011

.. but projected absolute increases are considerable:

In 2050, compared to 2005/07, the world would produce every year

- one more billion tons of cereals
- 196 more million tons of meats
- 660 more million tons of roots and tubers
- 172 more million tons of soybeans
- 429 more million tons of fruits
- 365 more million tons of vegetables

To conclude:

- Food demand is slated to decelerate over the next few decades
 - Could shift more—health and environment
- Still have pockets of malnourishment
 - Sub-Saharan Africa and South Asia
- Resources may be sufficient for 9.3 billion people
 - but their management needs to improve substantially
 - food security is likely to worsen for some countries/regions

Thank you
for your attention

more information at

<http://www.fao.org/economic/esa/esag/en/>