Overview

Global Perspectives in Food and Agriculture

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Food and Agriculture Organization of the United Nations

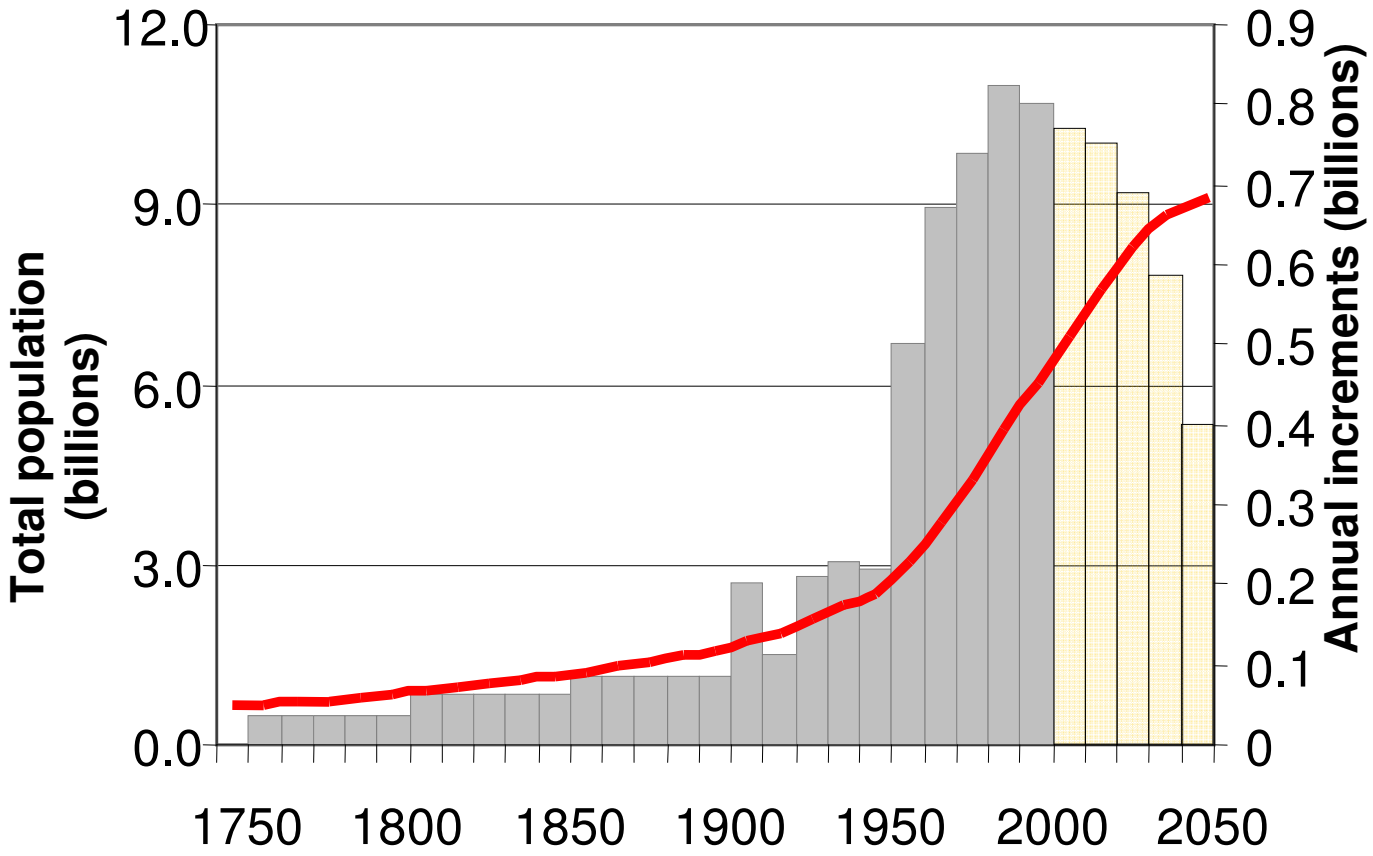
Overview

Global Perspectives in Food and Agriculture

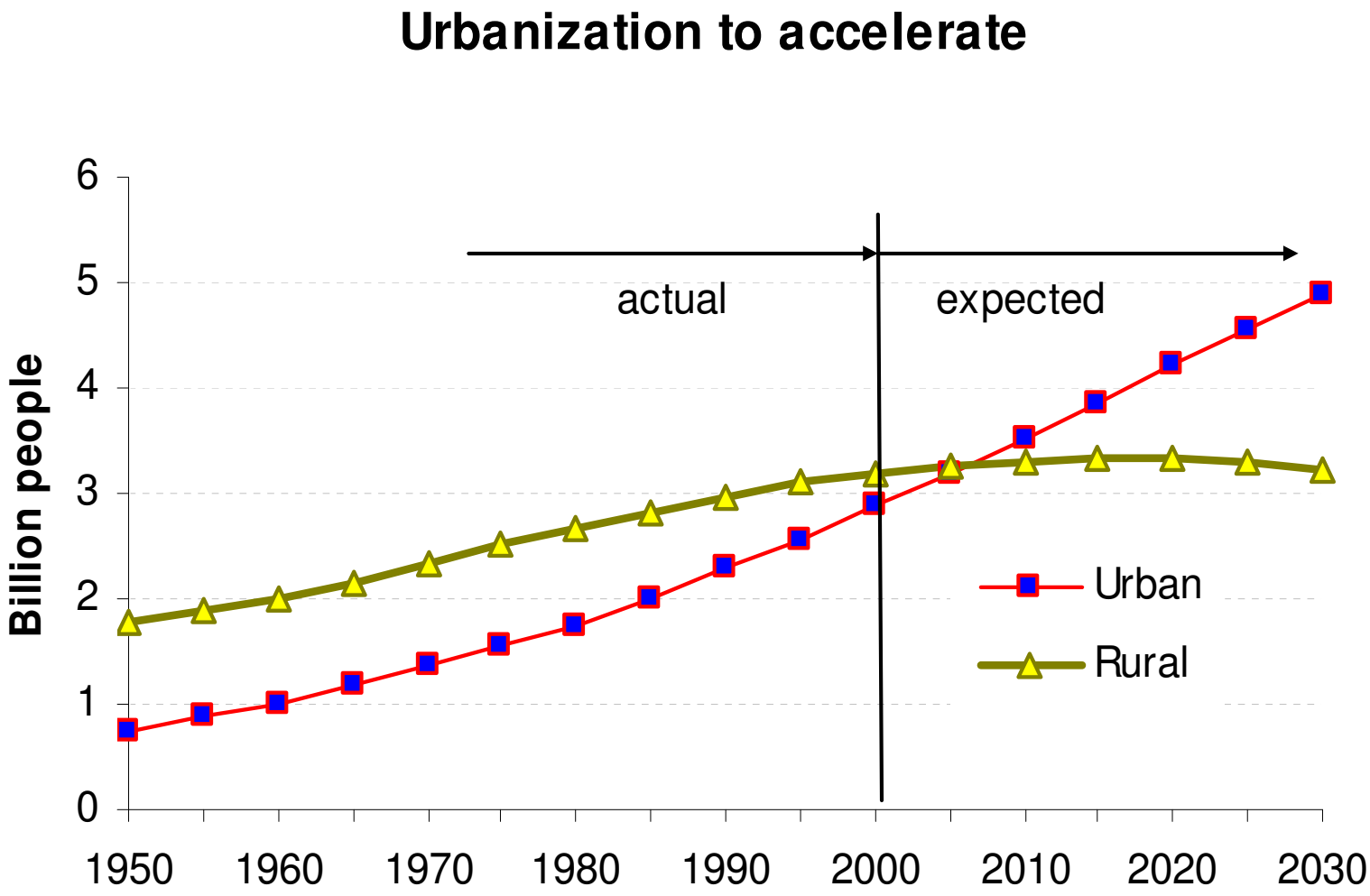
1.Population

Food markets: drivers of the long-term outlook

A drastic slow-down in world population growth



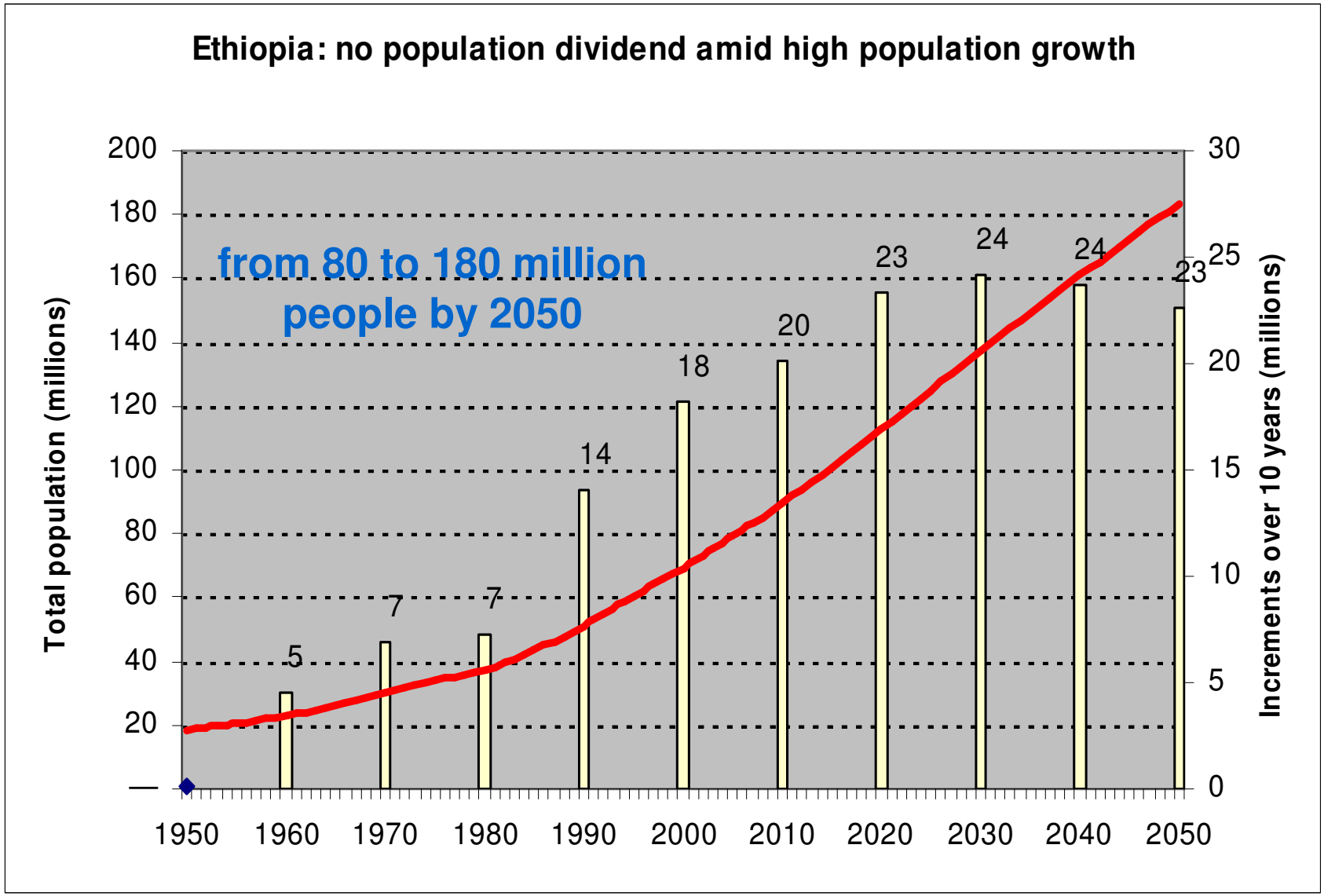
Food markets: drivers of the long-term outlook



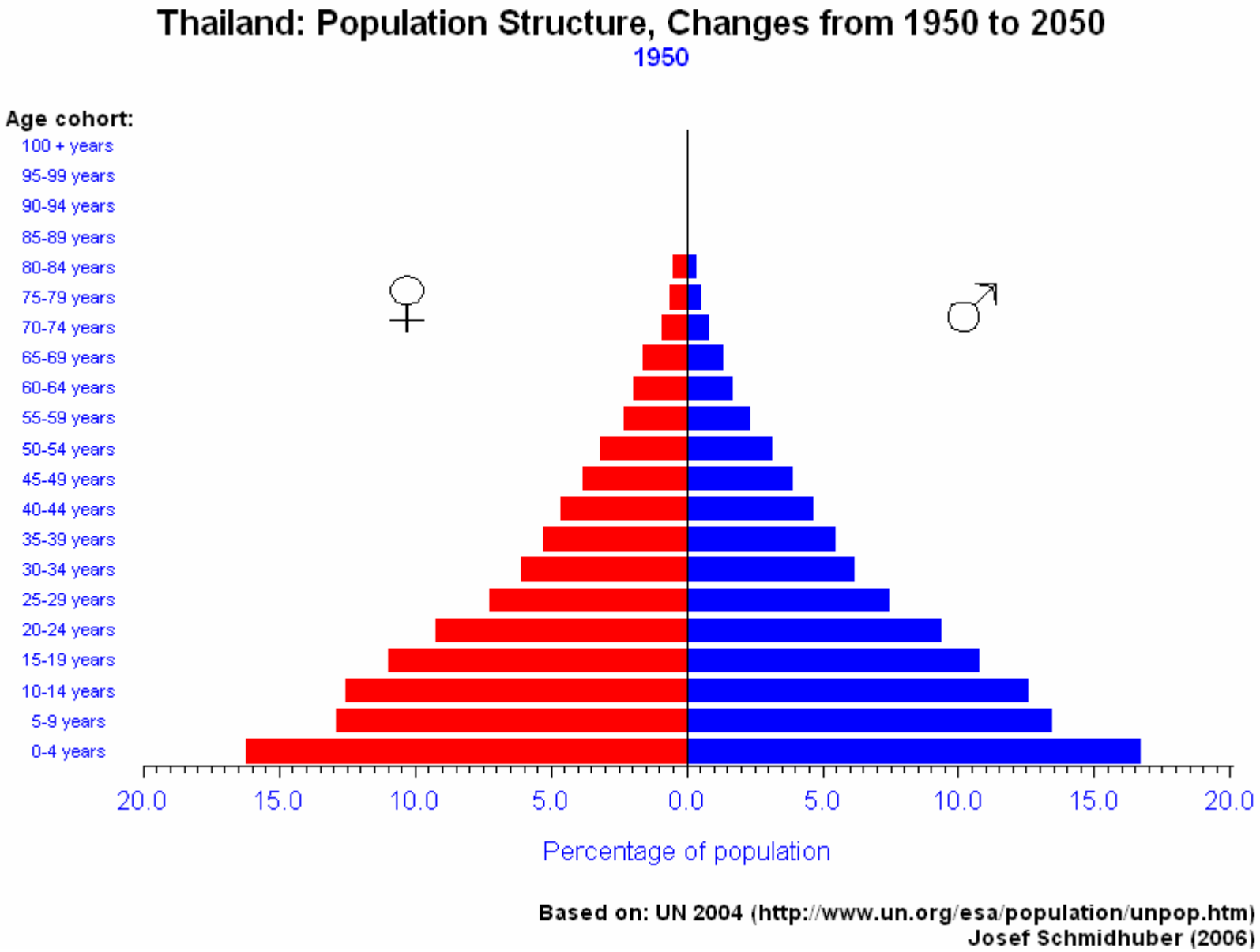
Source: UN, World Population Assessment 2002

The driving forces of demand to 2030

Food markets: drivers of the long-term outlook



Food markets: drivers of the long-term outlook



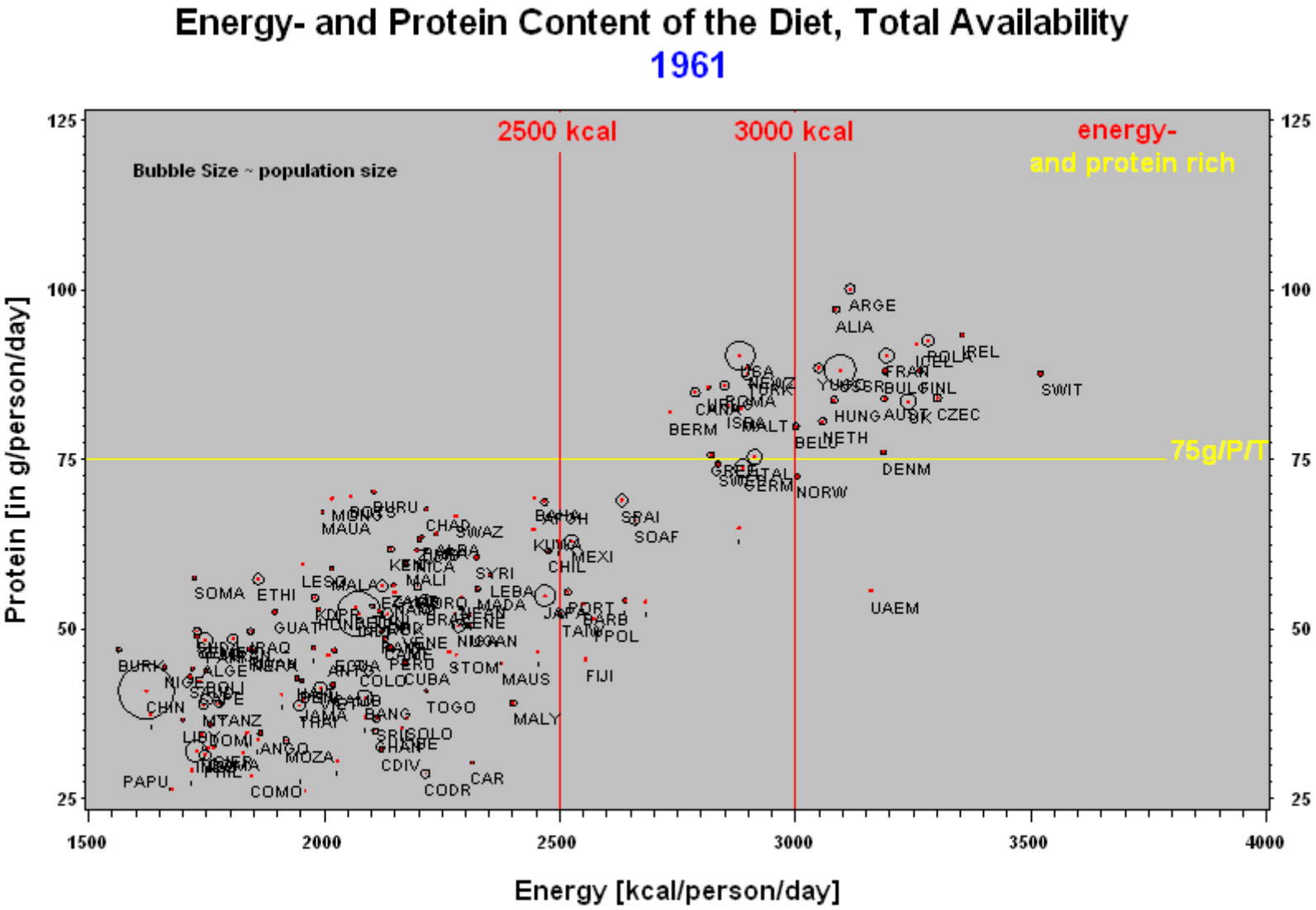
Overview

Global Perspectives in Food and Agriculture

1.Population

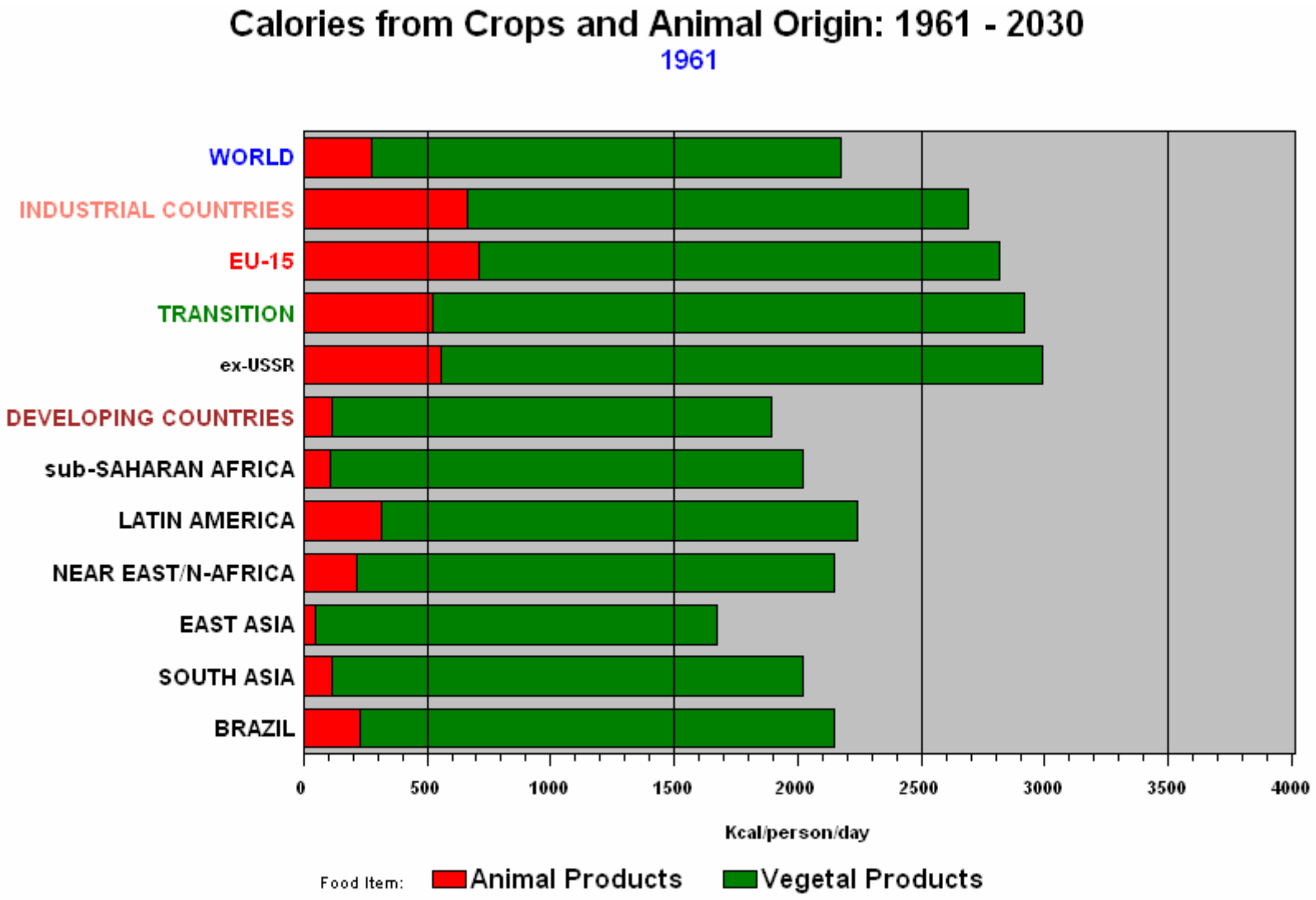
2.Hunger in the World

Food markets: Review and outlook to 2030



Source: FAO, Global Perspective Studies Unit (ESDG)
Josef Schmidhuber (2006)

Food markets: Review and outlook to 2030



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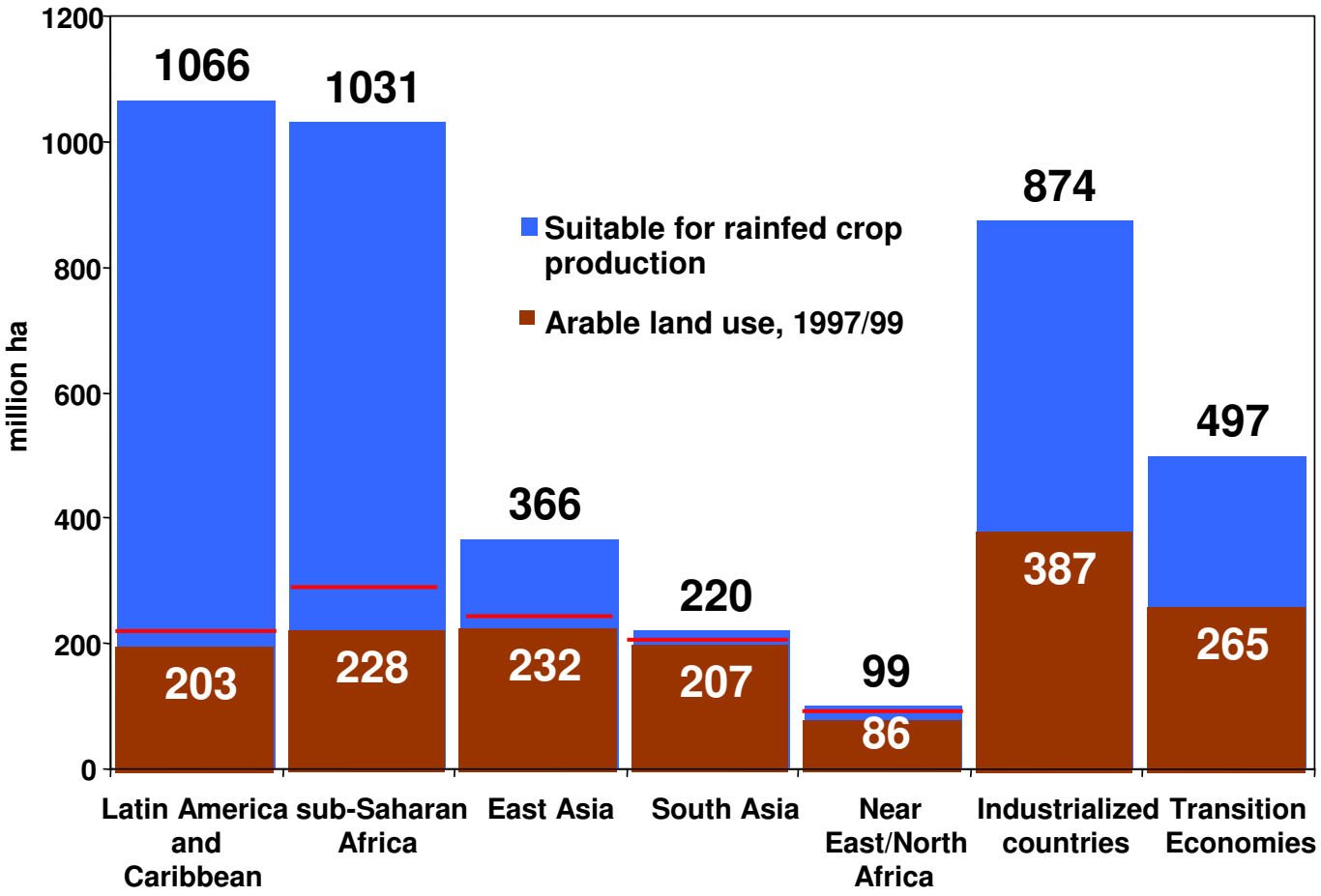
Global Perspectives in Food and Agriculture

1. Population
2. Hunger in the World
3. Natural Resources

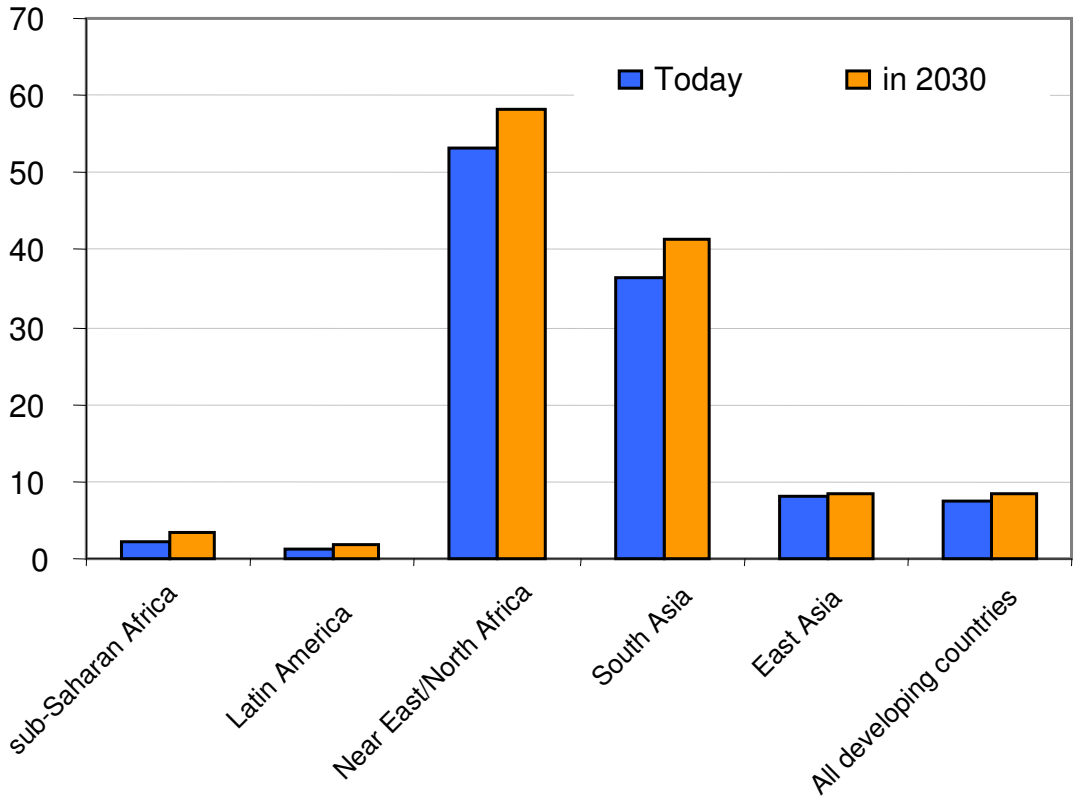
The resource base

Land in use versus suitable area for crop production



4. What challenges for the resource base?

Irrigation water withdrawal as a share of renewable water resources (%)



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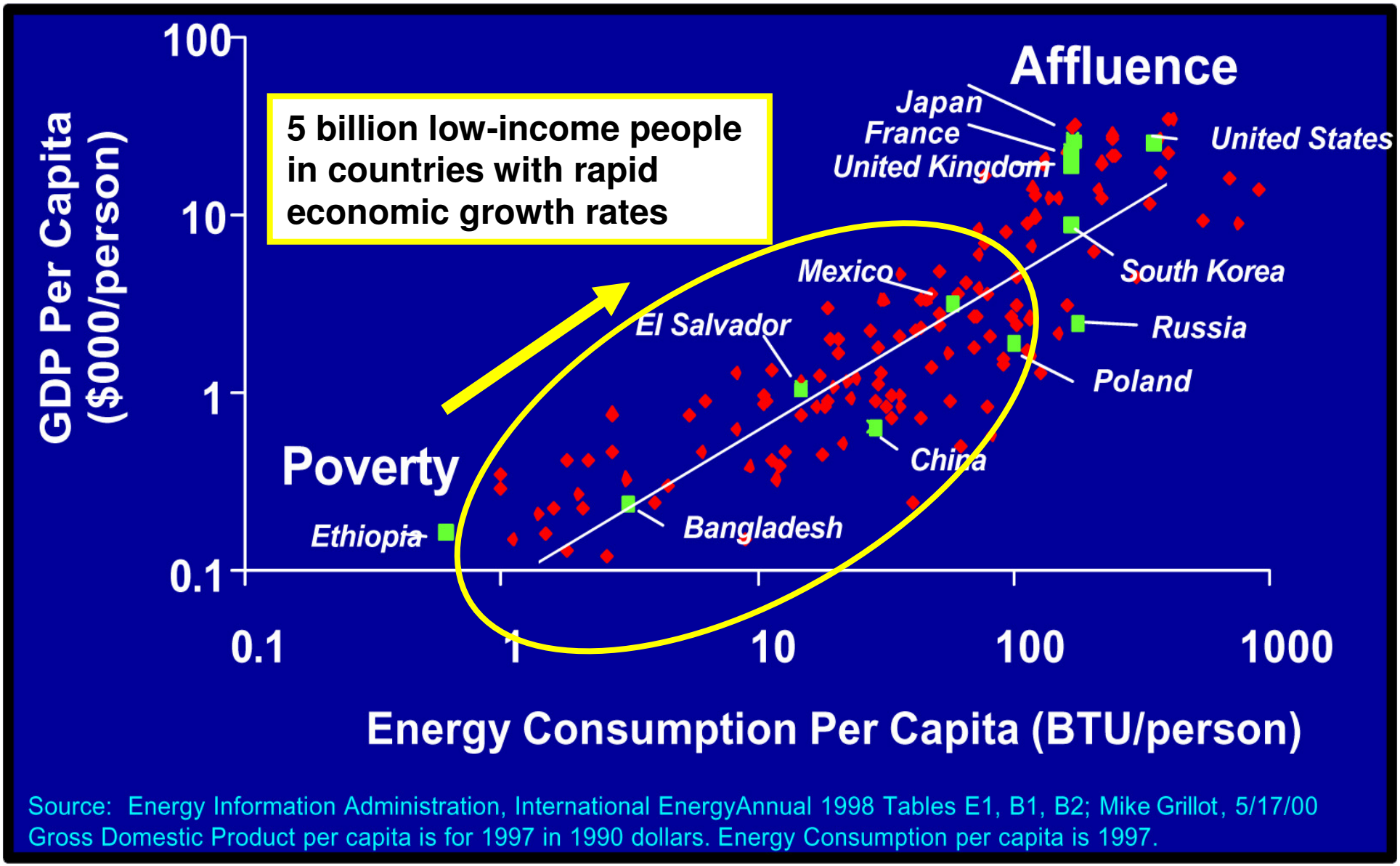
Global Perspectives in Food and Agriculture

1. Population
2. Hunger in the World
3. Natural Resources
4. Energy

Energy Consumption and Income are Linked



Source: Energy Information Administration, International EnergyAnnual 1998 Tables E1, B1, B2; Mike Grillot, 5/17/00
Gross Domestic Product per capita is for 1997 in 1990 dollars. Energy Consumption per capita is 1997.

How big is the market for biofuels?

Energy production and potential, biofuels and land use

		Exajoule (10^{18}), EJ		
Energy source:	**Year**	**World**	**OECD**	**non-OECD**
All sources	**2004[2]**	**463**	**231**	**232**
	2030[2]	**670**		
	2050[2]	**850**		

1.) Potential based on Schrattenholzer and Fischer, IIASA, 2000
2.) Based on IEA: Key energy statistics, 2006
3.) Derived from http://www.earth-policy.org/Updates/2005/Update49.htm, Earth Policy Institute

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Biomass	**Actual use**	**2004**	**49**	**8**	**41**

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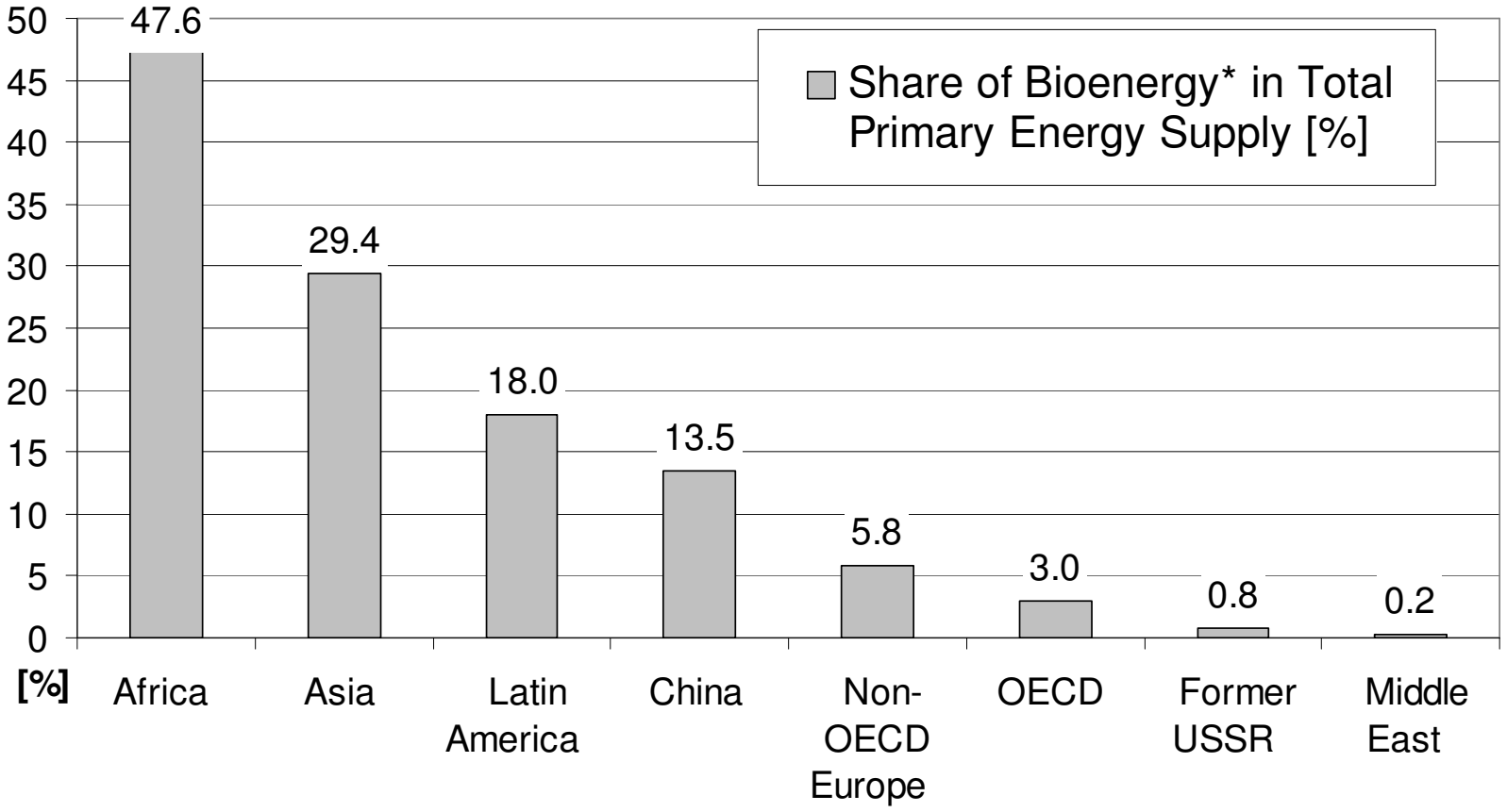
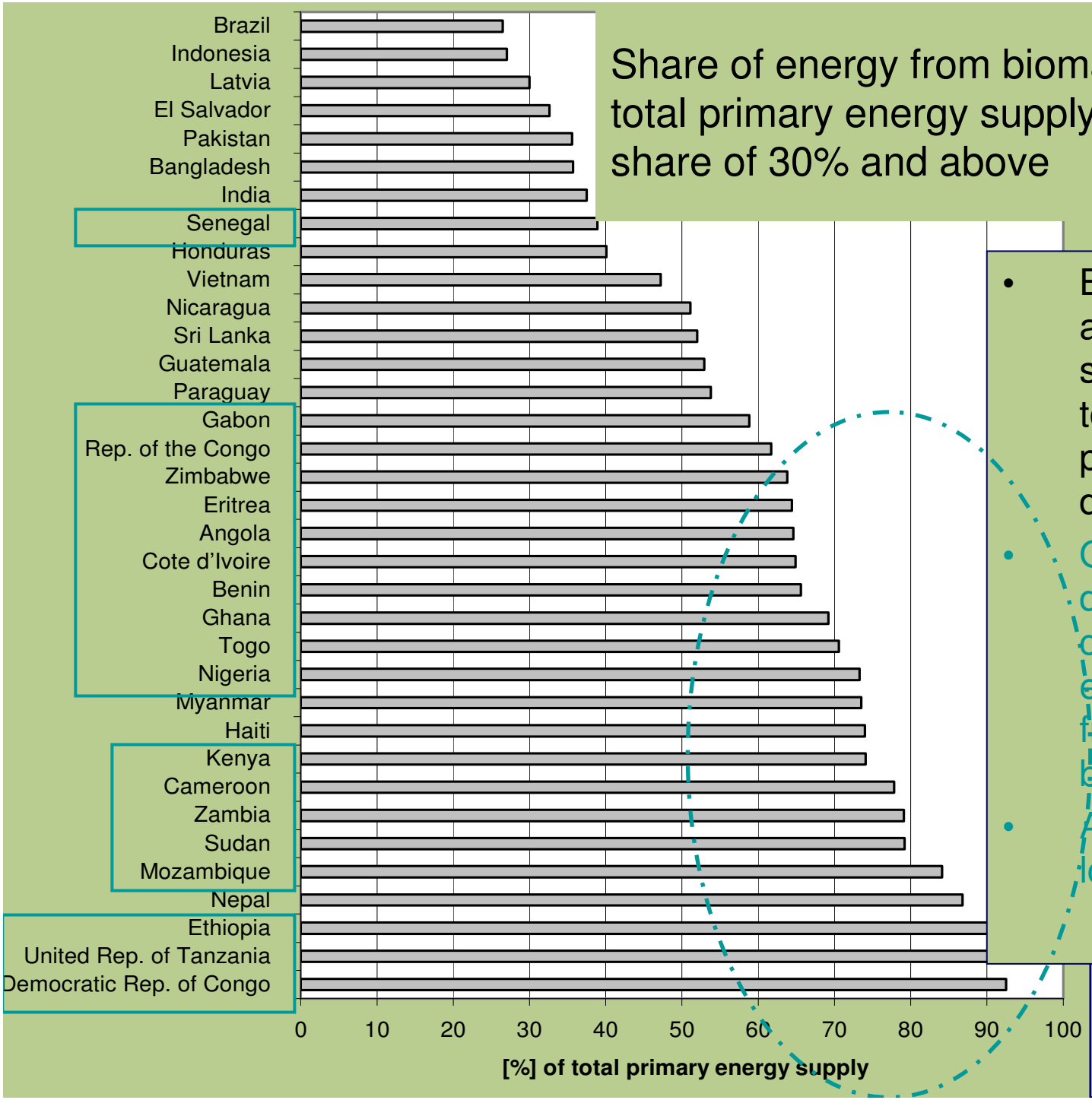
Biofuels	**Ethanol**	**2006**	**1.06**	**0.48**	**0.58**
	Biodiesel	**2007**	**0.45**	**0.27**	**0.18**

Bioenergy supply in 2004 (according to IEA 2006)



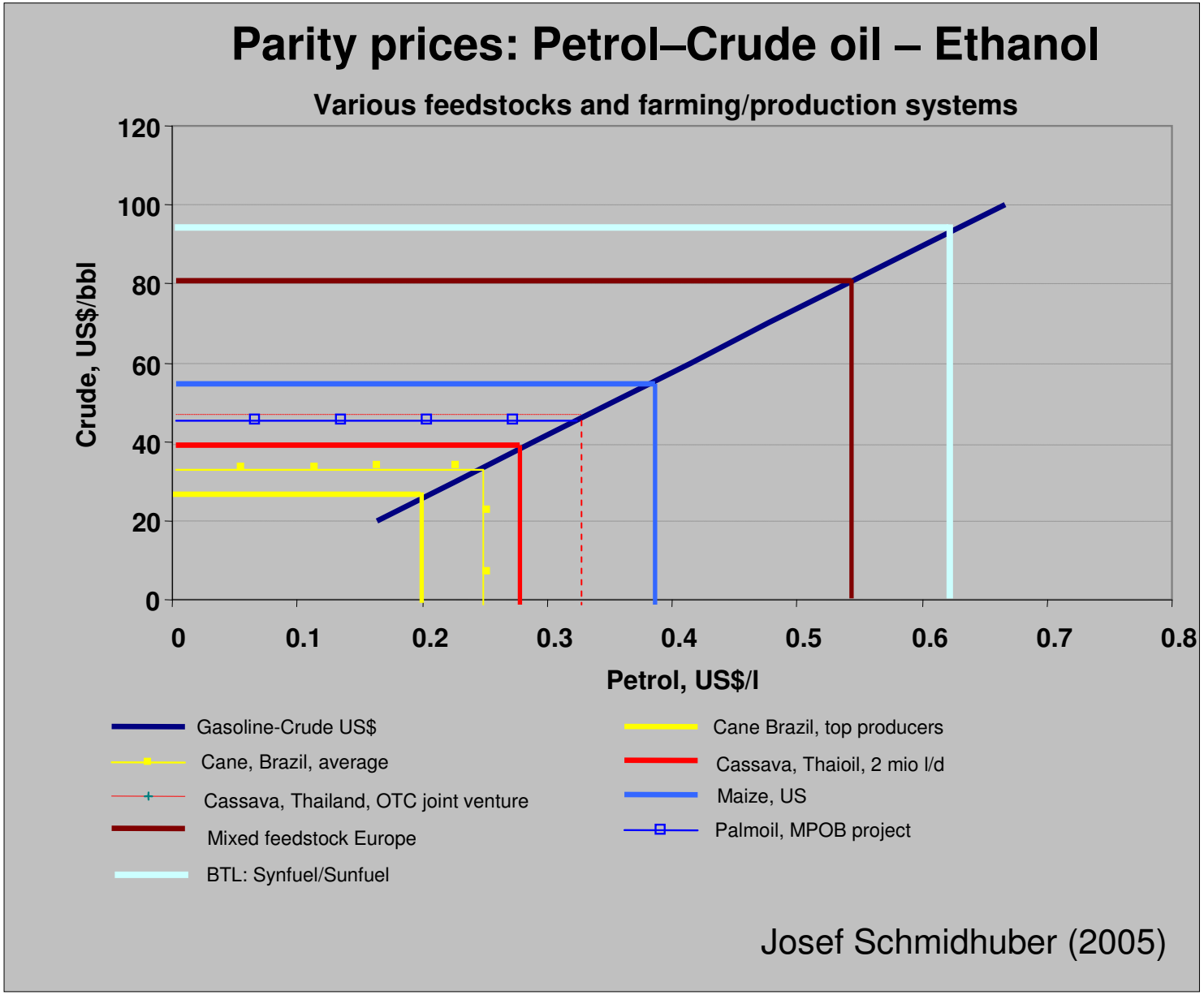
Share of energy from biomass and waste in total primary energy supply for countries with a share of 30% and above



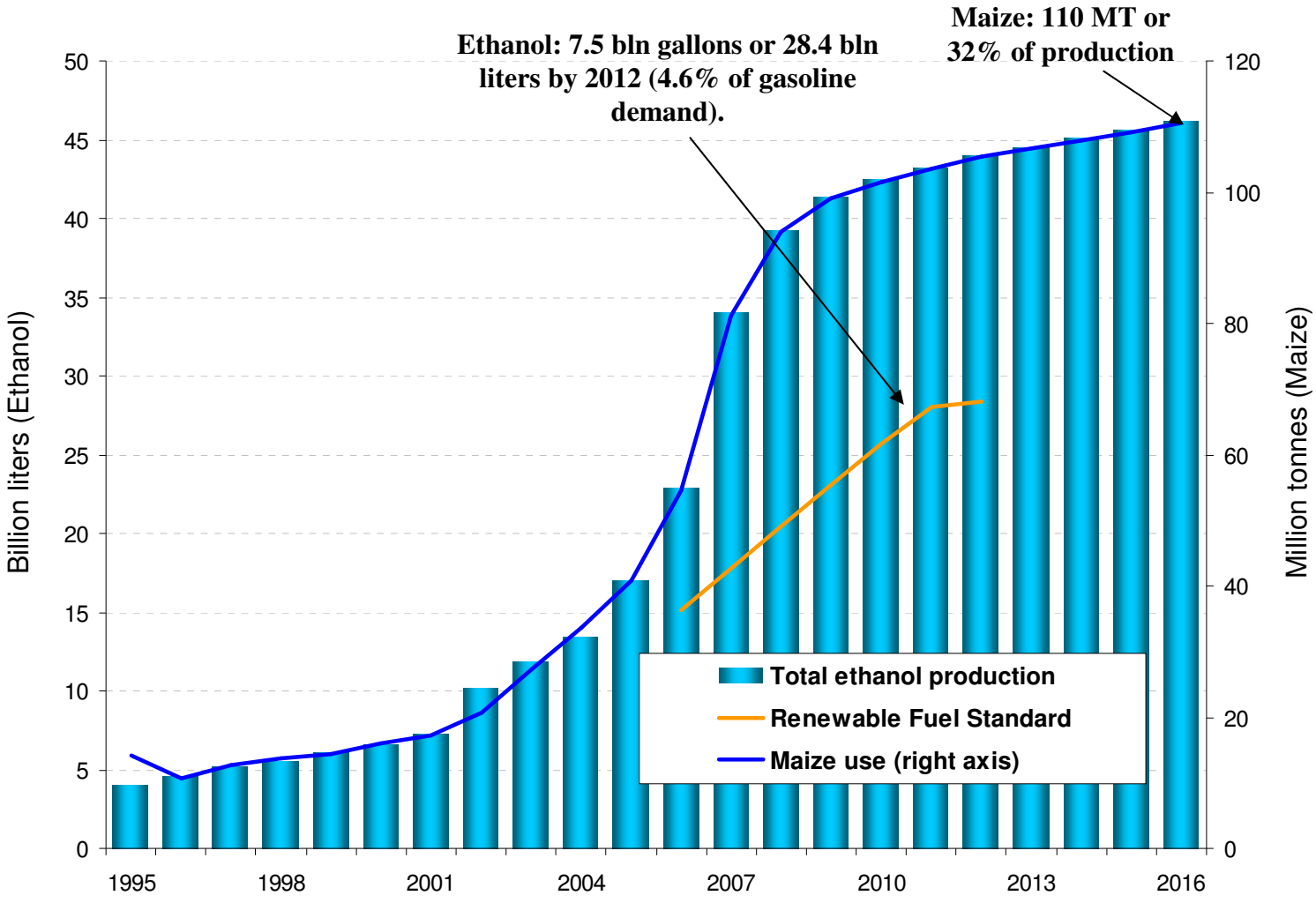
- Bioenergy currently accounts for a significant share of total energy supply, particularly in the developing world
- On aggregate, in developing countries, >80% of energy is derived from traditional bioenergy systems
- And the bulk of it is located in Africa

Source: Juergens (FAO) 2006 based on data from IEA 2006

Competitiveness by feedstock



Expansion of US ethanol production and corresponding use of maize



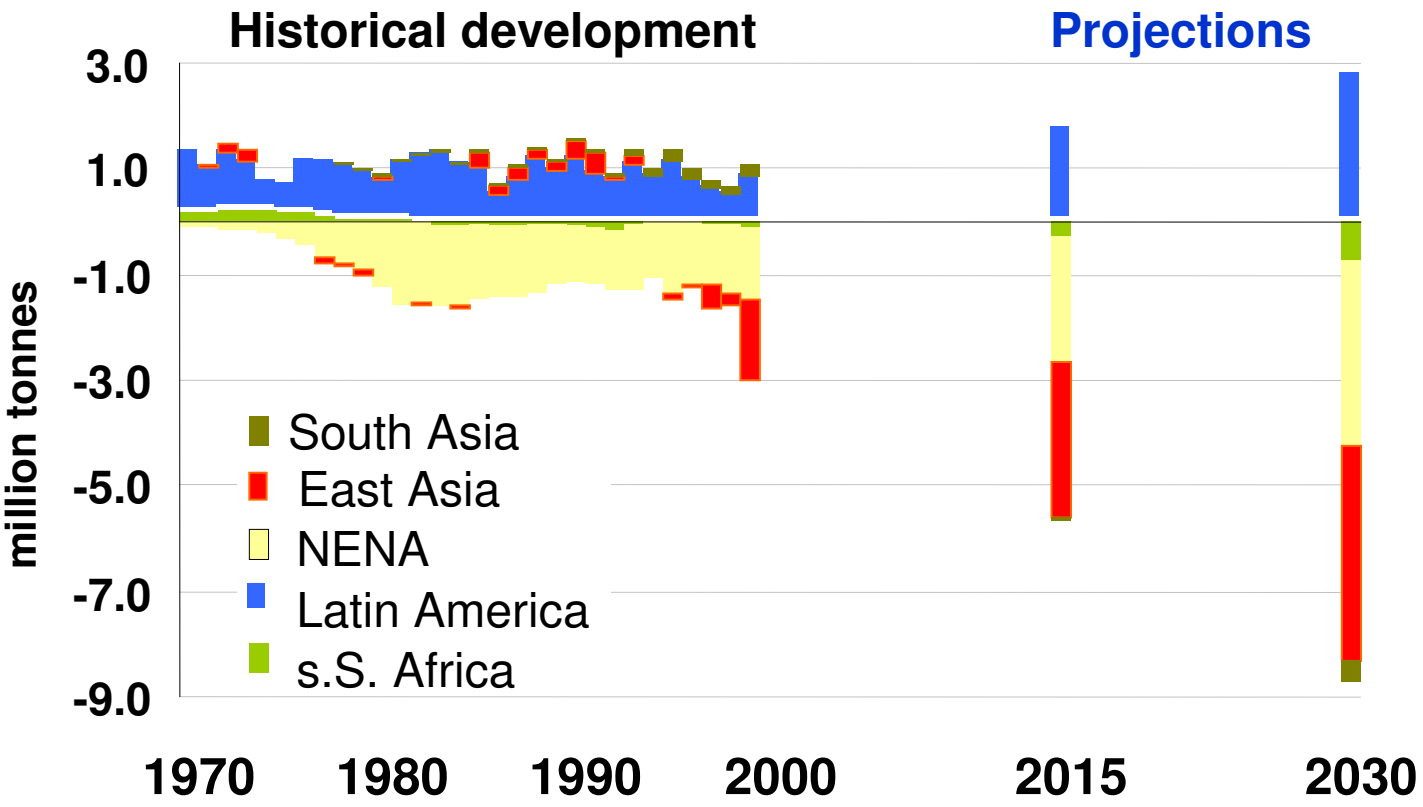
Source: USDA/ERS in OECD-FAO Agricultural Outlook 2007-2016

Wieviel Prozent der Ackerfläche benötigt man, um 10 % Treibstoff zu ersetzen?

	Rohstoff	Anteil Ackerfläche	Anteil lw. Nutzfläche
DE	Raps, Rüben, Weizen	29,6%	20,5%
EU 15		26,7%	14,0%
EU 25		16,9%	13,3%
EU 25	Raps, Rüben, Weizen Erträge wie in DE	13,0%	10,2%
DE	**Ethanol** nur auf Rübenbasis	27,2%	19,0%
EU 25	Erträge wie in DE	15,6%	12,3%

World markets and export opportunities

Meat imports/-exports by developing countries



The world markets for agricultural produce

World markets and export opportunities

Cereal imports of developing countries

1970-2030