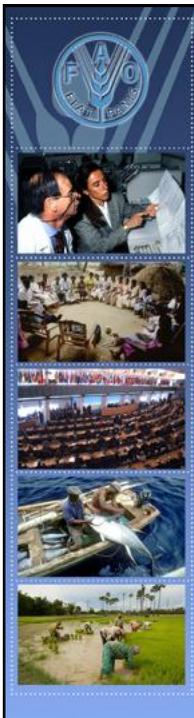


The impact of the global economic crisis on agriculture and food security in Asia

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Outline

- GEC: growth likely to be slow over medium-term
- GEC affects income growth in developing countries:
 - Declining revenues from exports of goods and services, reduced investment inflows, lower international remittances
 - Changes in prices of manufactures relative to prices of commodities caused by the global economic crisis
- Unlike other economic crises, this came on top of food price crisis of 2008: food prices remain high
- Food price crisis was caused in part by neglect of agriculture
- Economic stimulus measures can kill two birds with one stone



Economic recovery is likely to be slow

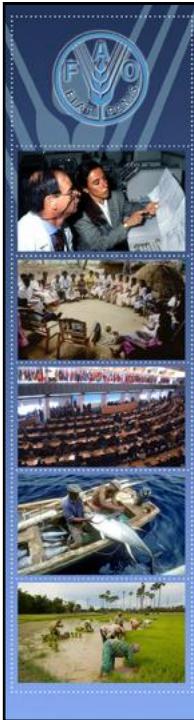
IMF projections	2008	2009	2010
World GDP growth	3.0%	-1.1%	3.1%
Dev Asia GDP growth	7.6%	6.2%	7.3%
Trade volume	3.0%	-11.5%	2.5%
Commodity prices (nonfuel)	7.5	-20.3%	2.4%



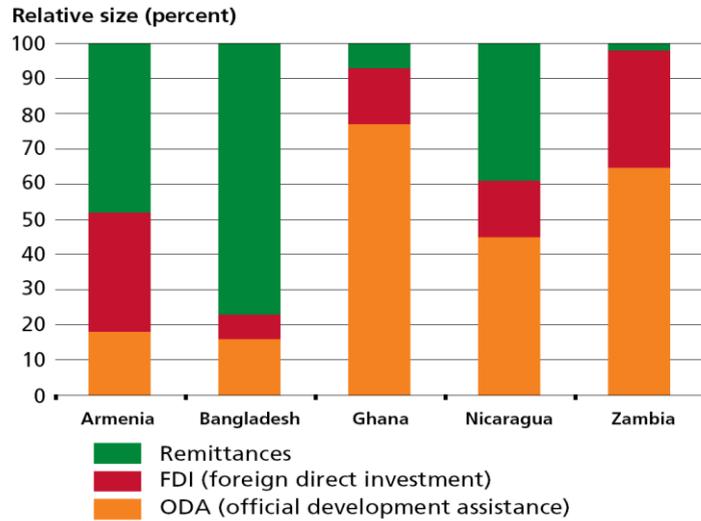

...As example of Asian economic crisis shows

COUNTRY	PERIOD	Annual average growth rate by sector				
		(Percentage)				
		Agriculture	Industry	Manufacturing	Services	GDP
Indonesia	5 years pre-crisis	2.5	9.2	10.3	8.5	7.1
	1998	-1.3	-14.0	-11.4	-16.5	-13.1
	5 years post-crisis	3.0	4.1	4.9	5.8	3.7
Malaysia	5 years pre-crisis	0.5	11.1	12.7	10.2	9.2
	1998	-2.8	-10.7	-13.4	-5.0	-7.4
	5 years post-crisis	3.4	6.1	7.5	5.2	5.0
Republic of Korea	5 years pre-crisis	1.4	8.0	7.7	7.2	6.9
	1998	-6.4	-8.2	-7.9	-3.9	-6.9
	5 years post-crisis	1.0	7.4	9.7	4.6	6.4
Thailand	5 years pre-crisis	0.7	9.8	10.6	7.2	6.5
	1998	-1.5	-13.0	-10.9	-10.0	-10.5
	5 years post-crisis	3.3	6.3	6.8	4.0	4.8

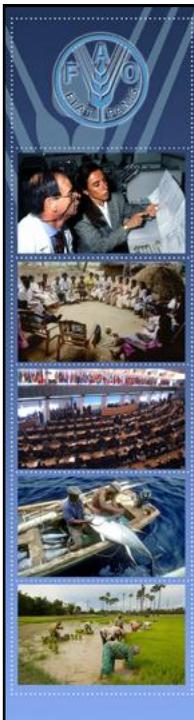




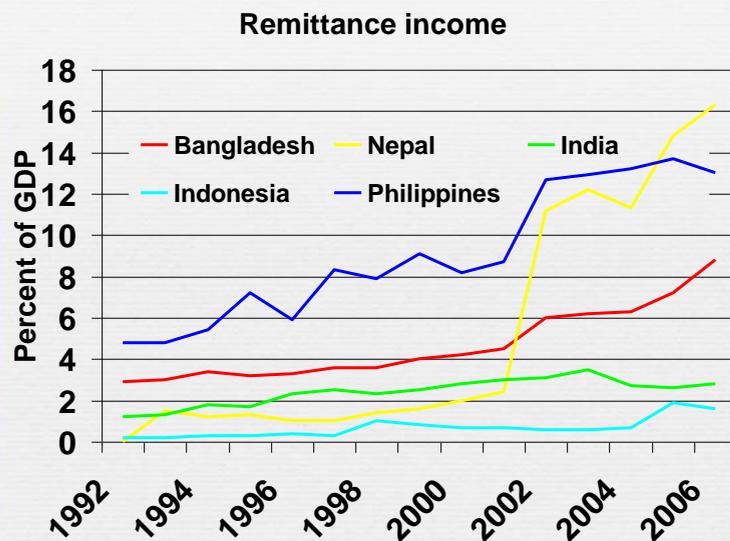
... Sources of income shocks vary across countries

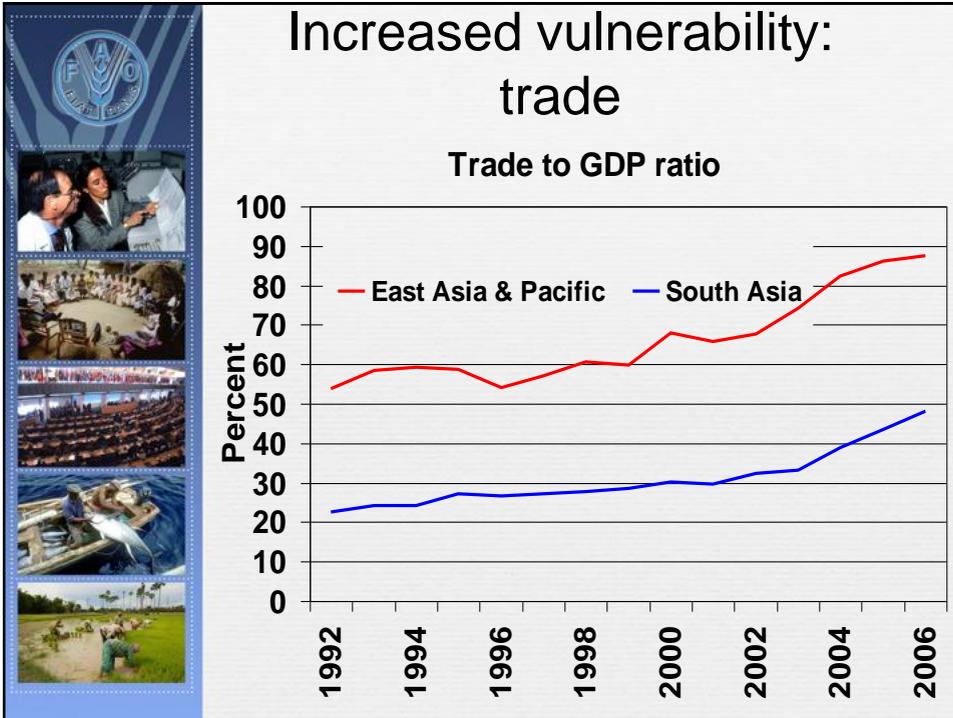


Source: World Bank

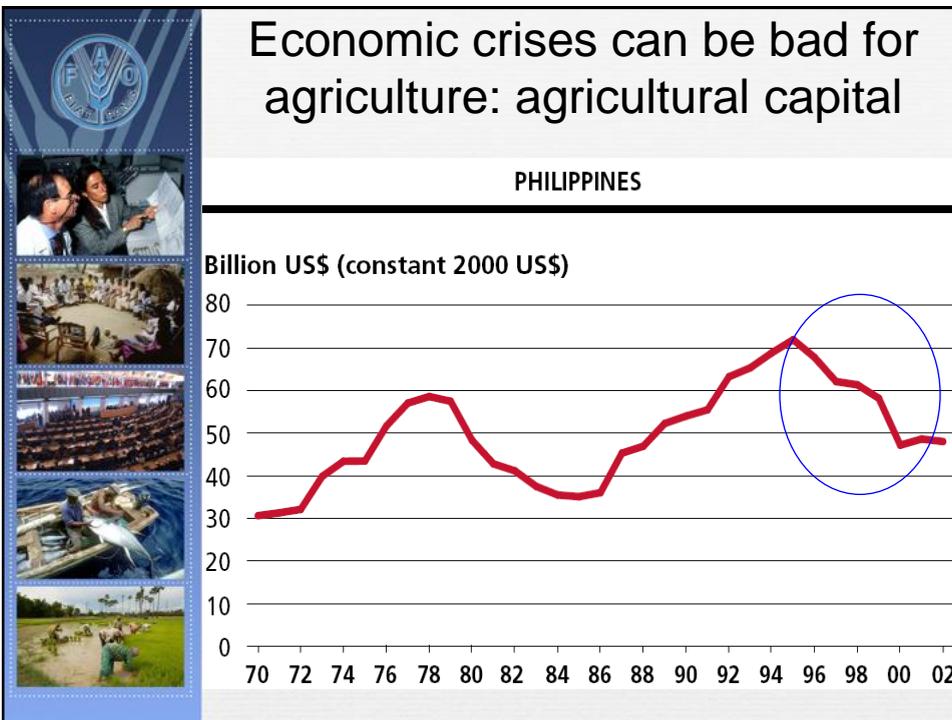


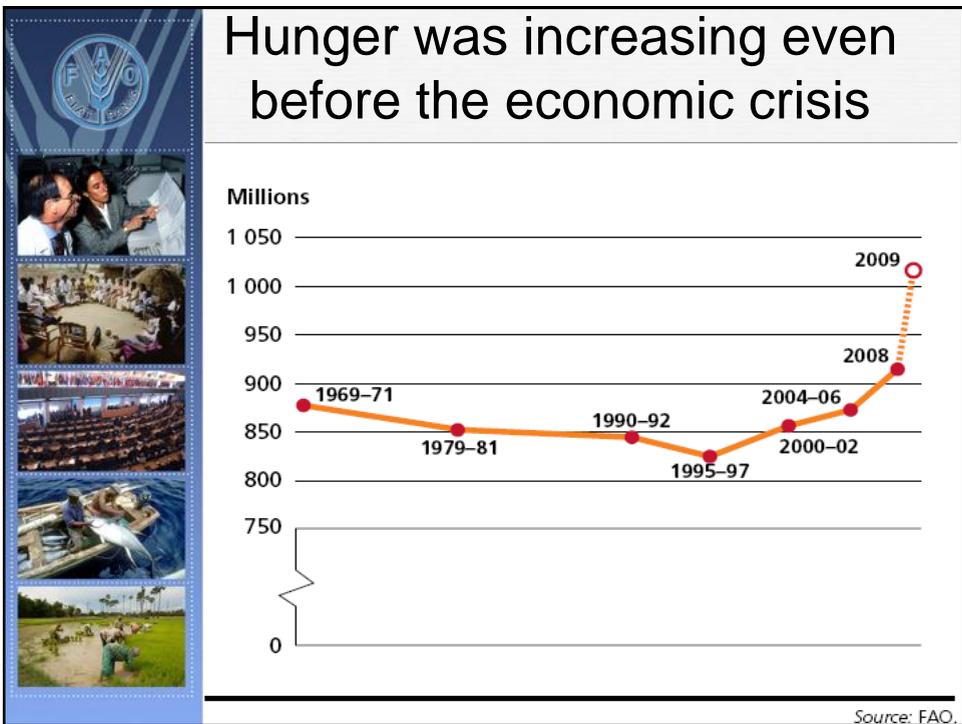
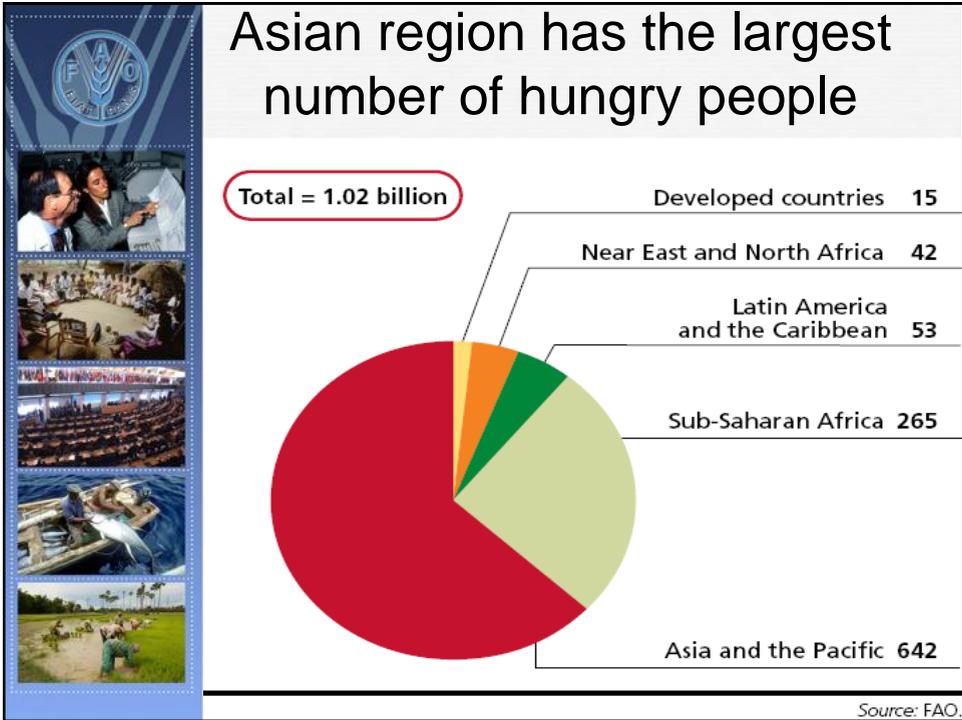
Increased vulnerability: remittances

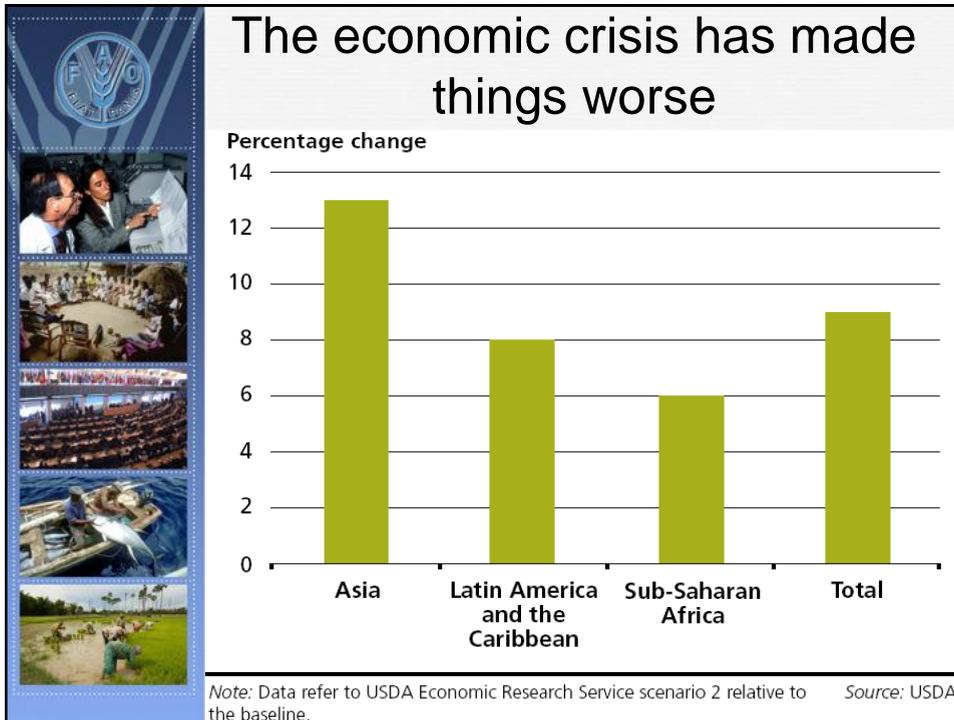




- ## Households cope in various ways
- New income sources
 - Casual labour, out migration, petty trade, return to agriculture, petty crime
 - Consumption smoothing
 - Livestock sales, borrowing, support from extended family
 - Changes in expenditure patterns
 - Eating less, buying cheaper food, cutting back on health and education expenditure

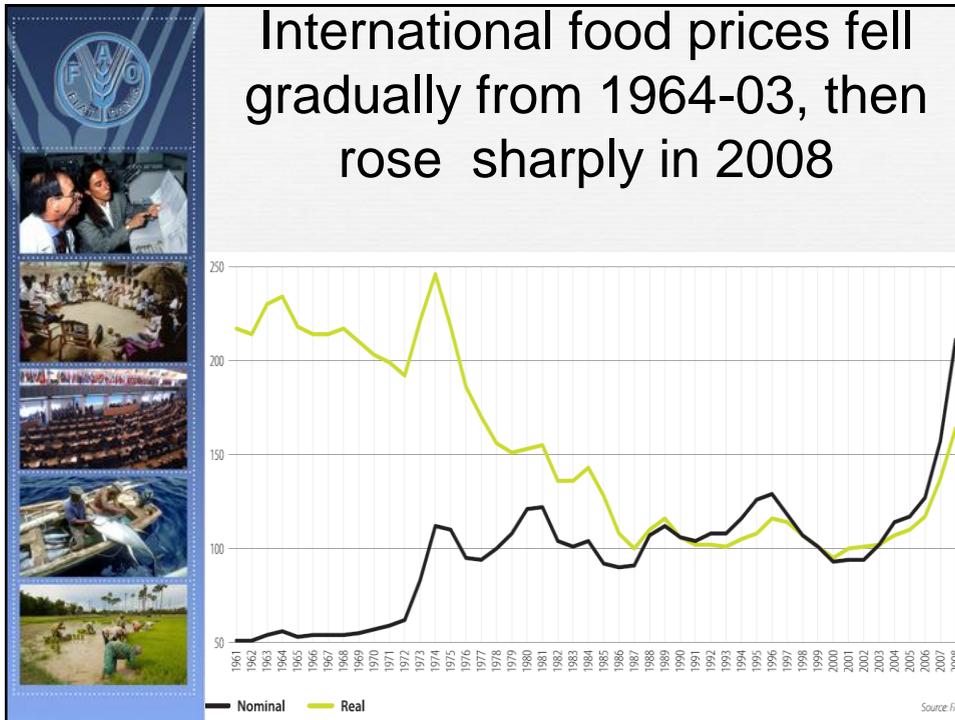


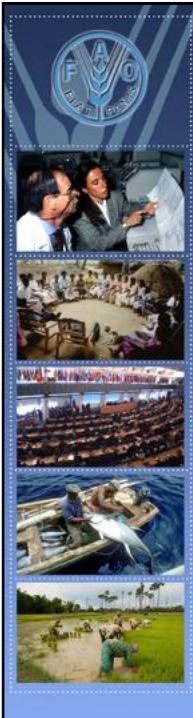




Worst case: slow growth *and* high food prices. Can it happen?

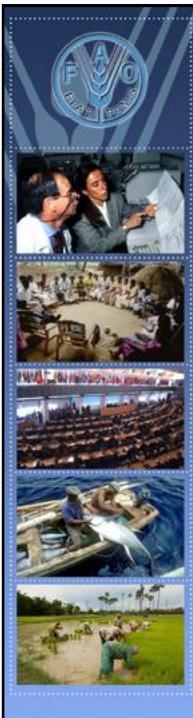
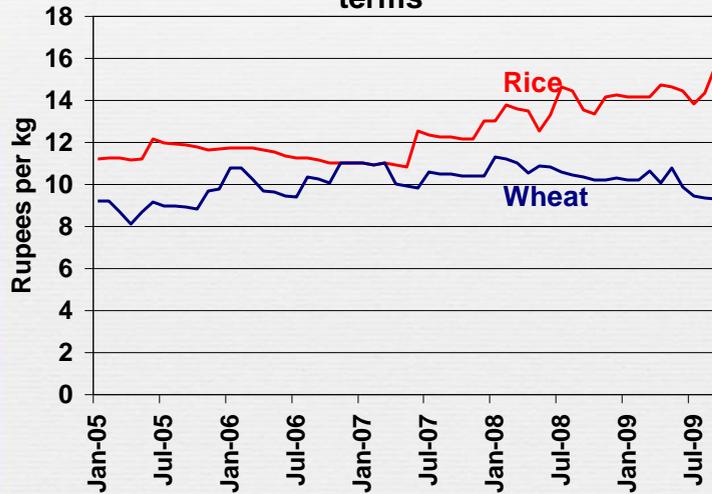
- Food price crisis of 2007-08 interrupted long-term decline in real food prices
- Cereal production did not match demand
- Demand for cereals projected to increase by nearly 30% and for meat by over 40% by 2030
- Can this be met sustainably?
- Supply of food: land, water, technology
- Public investment in infrastructure is crucial
- And produces high returns
- Yet public investment in agriculture and development assistance are falling





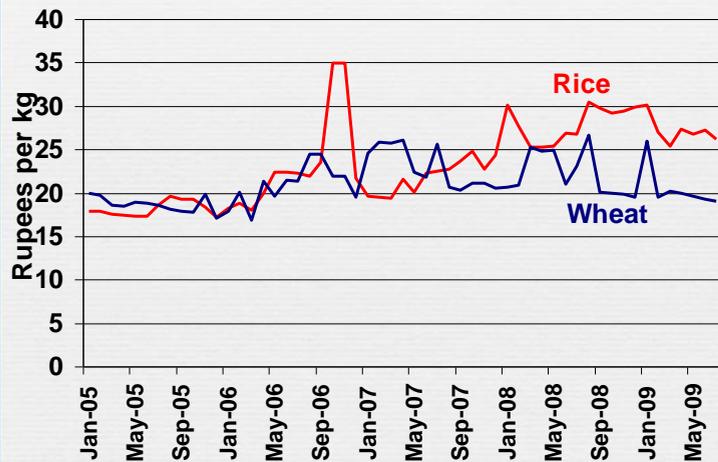
Domestic food prices remain high

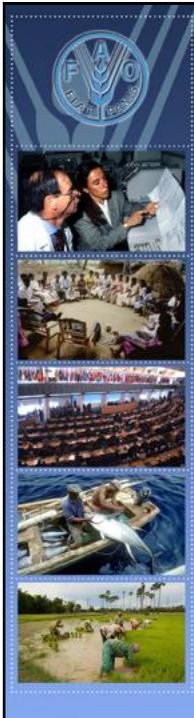
India, rice and wheat retail prices in real terms



Domestic food prices remain high

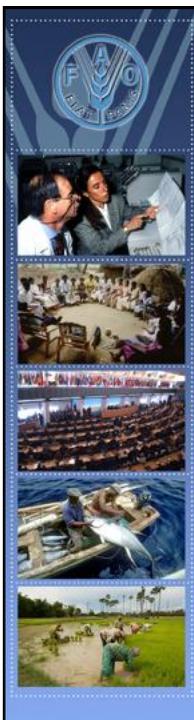
Nepal, rice and wheat retail prices in real terms





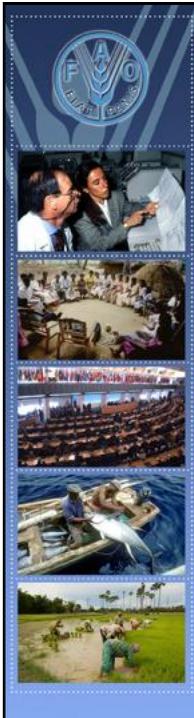
OECD-FAO forecast: food prices to remain high

- Real prices over 2009-18 are projected to be higher than in 1997-2006
 - Average crop prices by 10-20%
 - Veg oil prices by 30%
 - Milk and butter prices slightly higher.
 - Meat prices slightly lower in real terms
- Broad balance between demand and supply will be maintained
- Key assumption: economic recovery begins in 2-3 years.

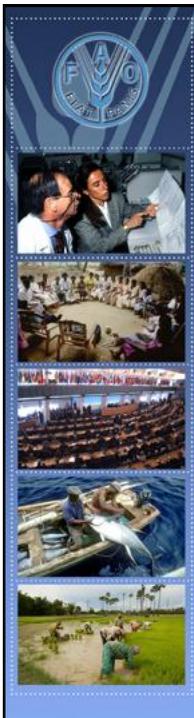
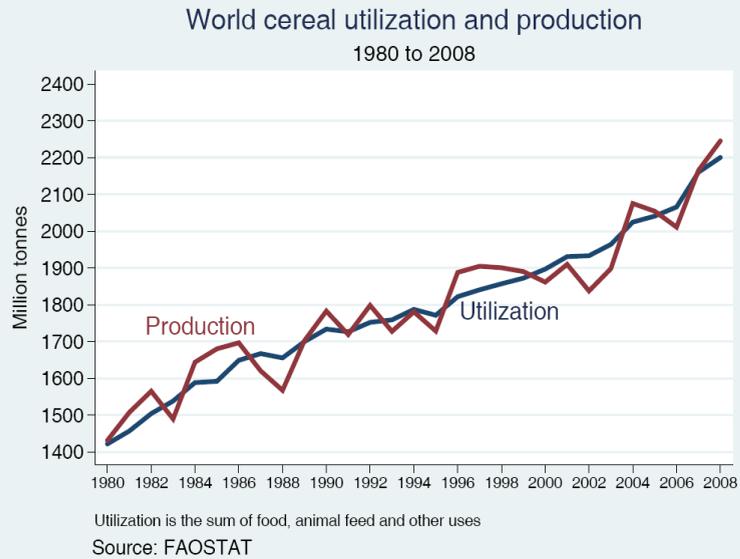


Why high food prices?

- There was a Perfect Storm:
 - **Cereal production failed to keep up with utilization from 1999 to 2007**
 - Energy prices rose sharply
 - Biofuels demand added to price rise
- Demand from China and India did not play a role
- Speculation probably played a minor role
- Role of climate change: cannot be sure



Cereal production failed to keep up with utilization from 1999 to 2008



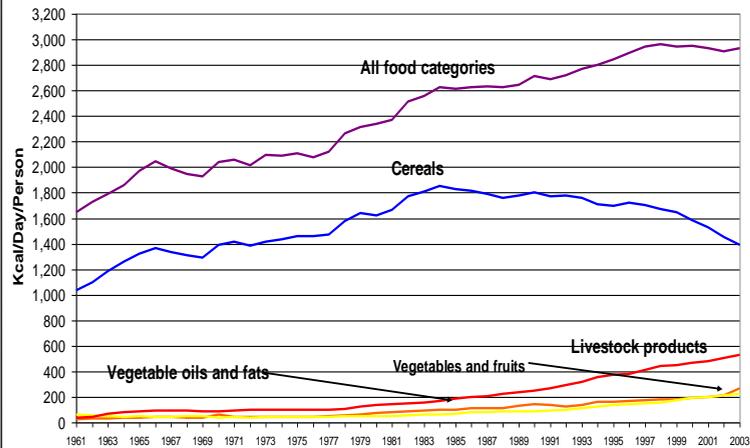
Revisit cereal production / utilization imbalance

- Food demand depends on:
 - Income growth (Engel's Law)
 - Population growth
 - Changing tastes
- Production depends on
 - Area harvested
 - Arable area
 - Cropping intensity
 - Irrigation and climate
 - Yield per hectare



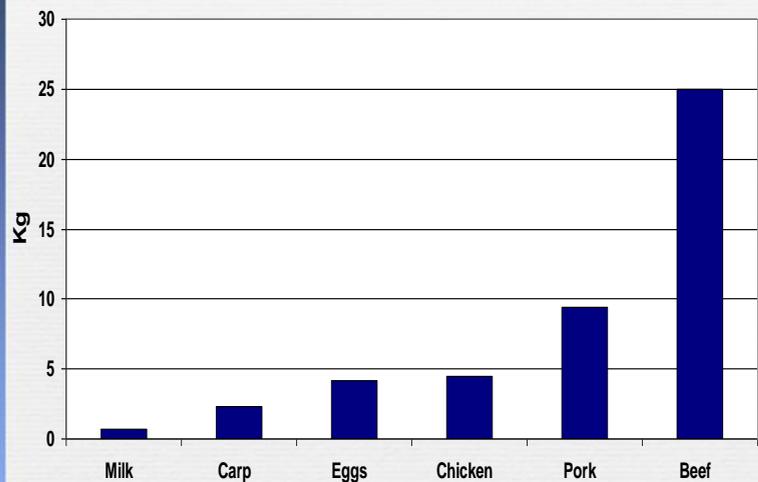
Income growth & changing preferences

East Asian calorie consumption 1961-2003



Grain requirements for feed

Feed conversion rate
Kilograms of feed per kilogram of edible weight










Can the world be fed?

- FAO projections: demand growth of nearly 30% for cereals & >40% for meat between 2009 and 2030
- Can this increase in demand be met?
 - Probably yes
- Can it be met sustainably?
 - Heavily qualified yes
- How?

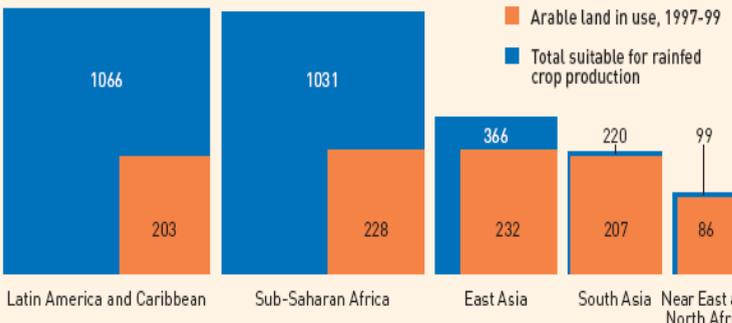







Arable area expansion is no longer feasible

Cropland in use and total suitable land (million ha)



Region	Arable land in use, 1997-99 (million ha)	Total suitable for rainfed crop production (million ha)
Latin America and Caribbean	203	1066
Sub-Saharan Africa	228	1031
East Asia	232	366
South Asia	207	220
Near East and North Africa	86	99



Yield growth is critical in Asia

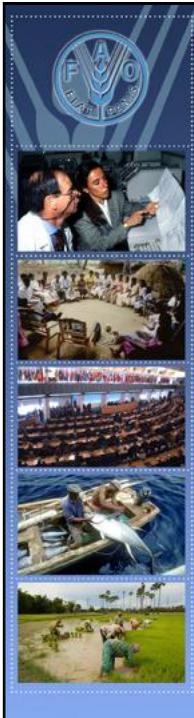
	1961-75	1976-90	1991-05
E Asia & Pacific			
Arable area exp	3	46	30
Increased cropping intensity	11	-24	-9
Yield growth	86	78	79
South Asia			
Arable area exp	13	3	0
Increased cropping intensity	13	9	0
Yield growth	75	88	100




Emerging issues

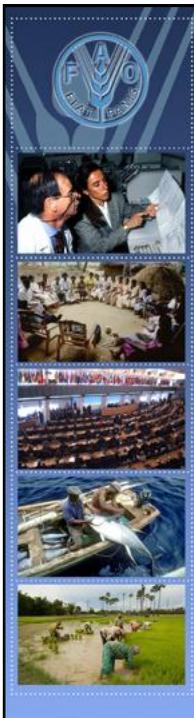
- Environmental degradation
 - soil, water...
- Climate change and agriculture
 - two-way relationship
 - implications for food security
- Biofuels
 - policy driven
 - tradeoffs with food, environment...





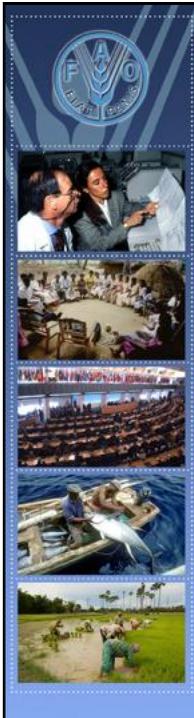
Likely medium-term impacts of climate change

- Moderate warming:
 - Good for temperate zone agriculture
 - Bad for tropical agriculture
- First decades of 21st cent: strong impact on developing countries despite relatively weak biophysical impact of CC
- This is because coping capacity is less: lower incomes & higher dependence on agriculture
- Later decades will see stronger biophysical impact of CC but also greater coping ability
- Underlying assumption: developing world will succeed in transforming away from agriculture toward non-agriculture



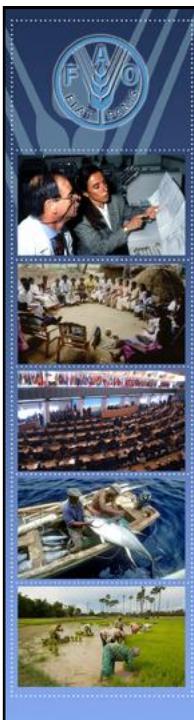
To sum up...

- The region's agriculture has supplied enough food to satisfy demand and reduce food insecurity since 1975
- But agric growth continues to be critical
- Technological change must be emphasized because yield growth will be the major source of agricultural growth

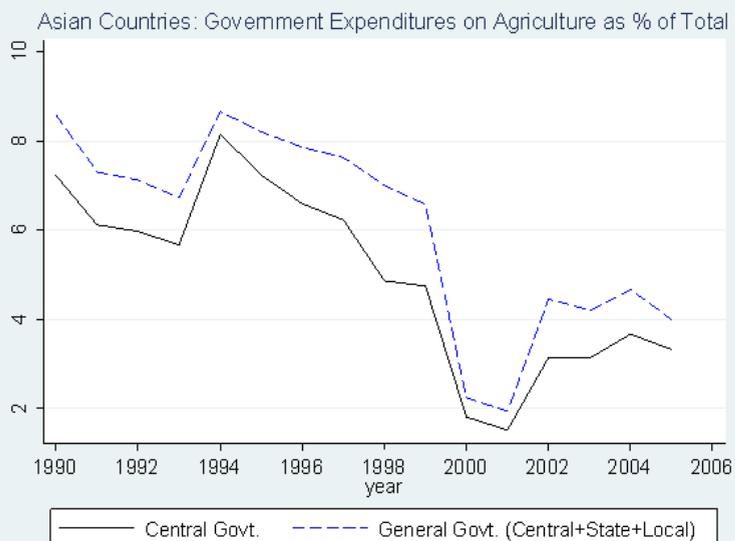


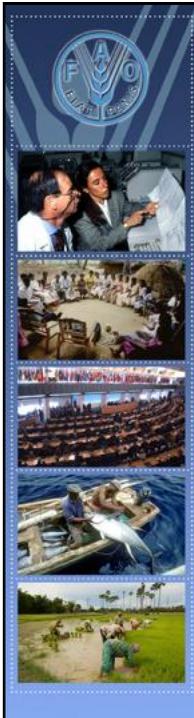
To sum up... (contd)

- Policy advice to governments: **investments in agricultural public goods, especially basic research and infrastructure are critical**
- Advice is reinforced by very serious long-term threat posed by climate change

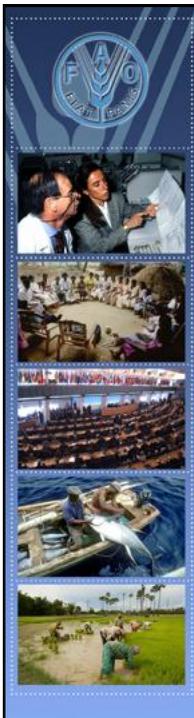
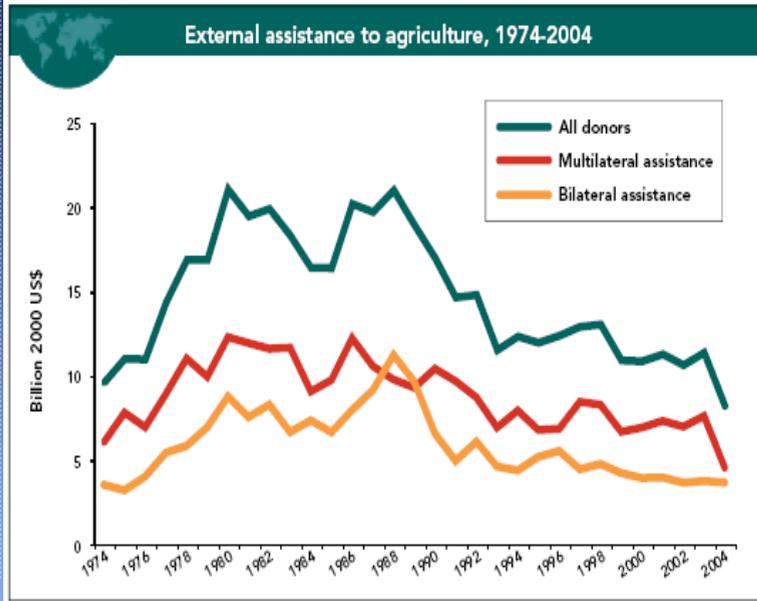


Yet govt investments in agric declined in the 1990s...



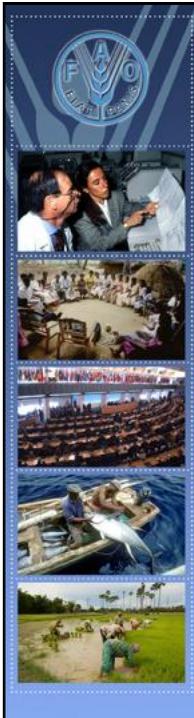


As did flows of aid to agriculture from major aid donors



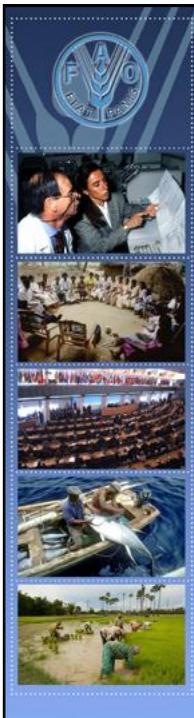
Despite high returns...

- **FAO: incremental public investment of USD 30 billion per yr in agric can produce benefits of USD 120 billion per year**
 - Improve agric productivity and enhance livelihoods and food security
 - Develop and conserve natural resources.
 - Expand and improve rural infrastructure and broaden market access.
 - Strengthen capacity for knowledge generation and dissemination.
 - Ensure access to food for the most needy through safety nets and other direct assistance.



Conclusions

- 1.3 billion more people by 2030
- Need to:
 - meet growing demand for food, feed and industrial inputs,
 - in a sustainable manner,
 - while allowing cereal stocks to be rebuilt
- Public investments in agriculture are a key part of any sustainable solution to these challenges
- **Can stimulus packages address this need?**



Conclusions (cont'd)

- Encouraging signs of reversal
 - High-Level Conference on World Food Security (2008): the total pledges amounted to US\$22 billion
 - G-8 Summit July in Japan: US\$30 billion should be invested each year in agriculture
 - The L'Aquila Declaration of the G20 (2009): promote increased investment in agriculture, including through ODA