



Poverty and Food Security in the Context of Economic Volatility, Resource Scarcities, and Climate Change

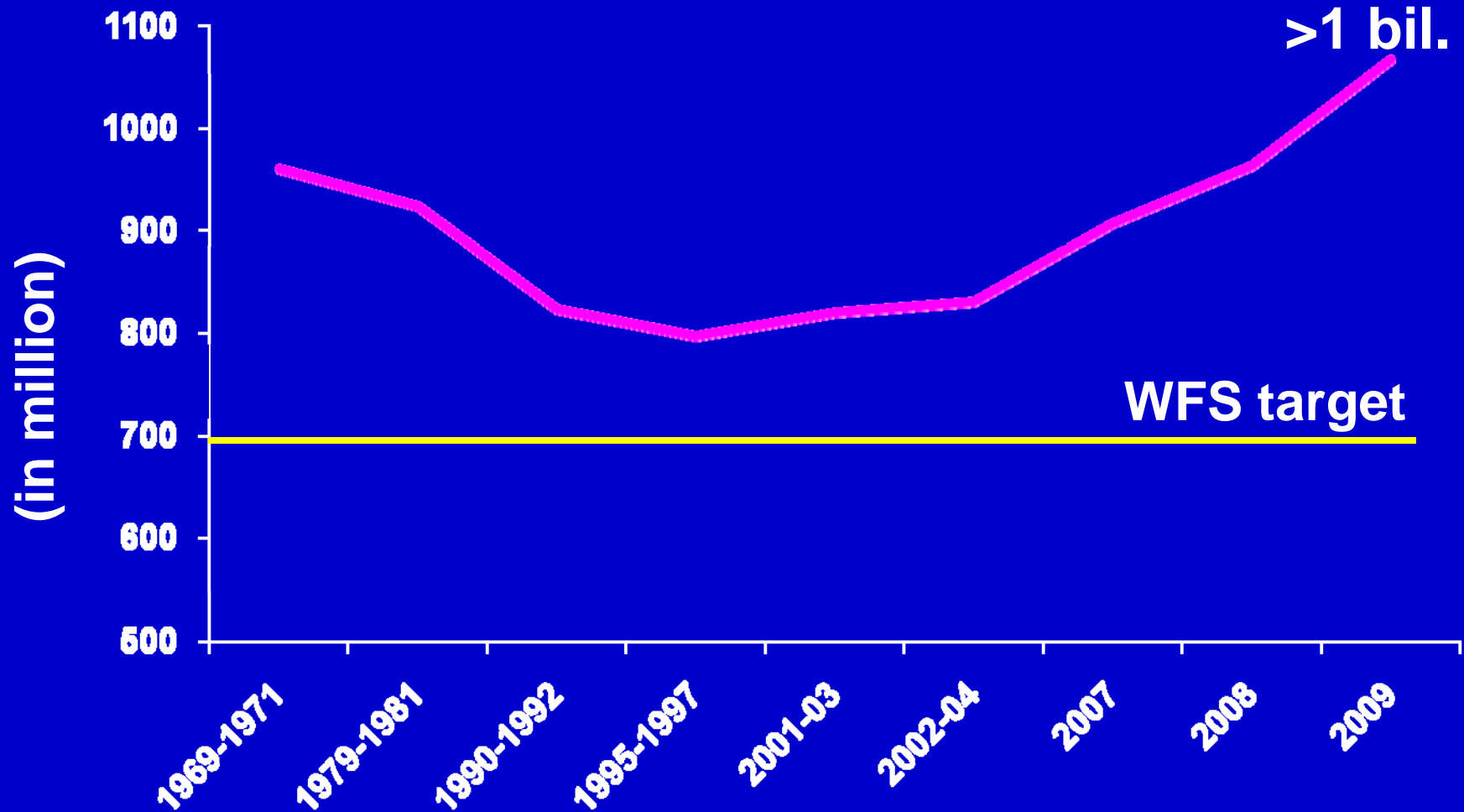
Joachim von Braun
International Food Policy Research Institute

DFID
London, September 8, 2009

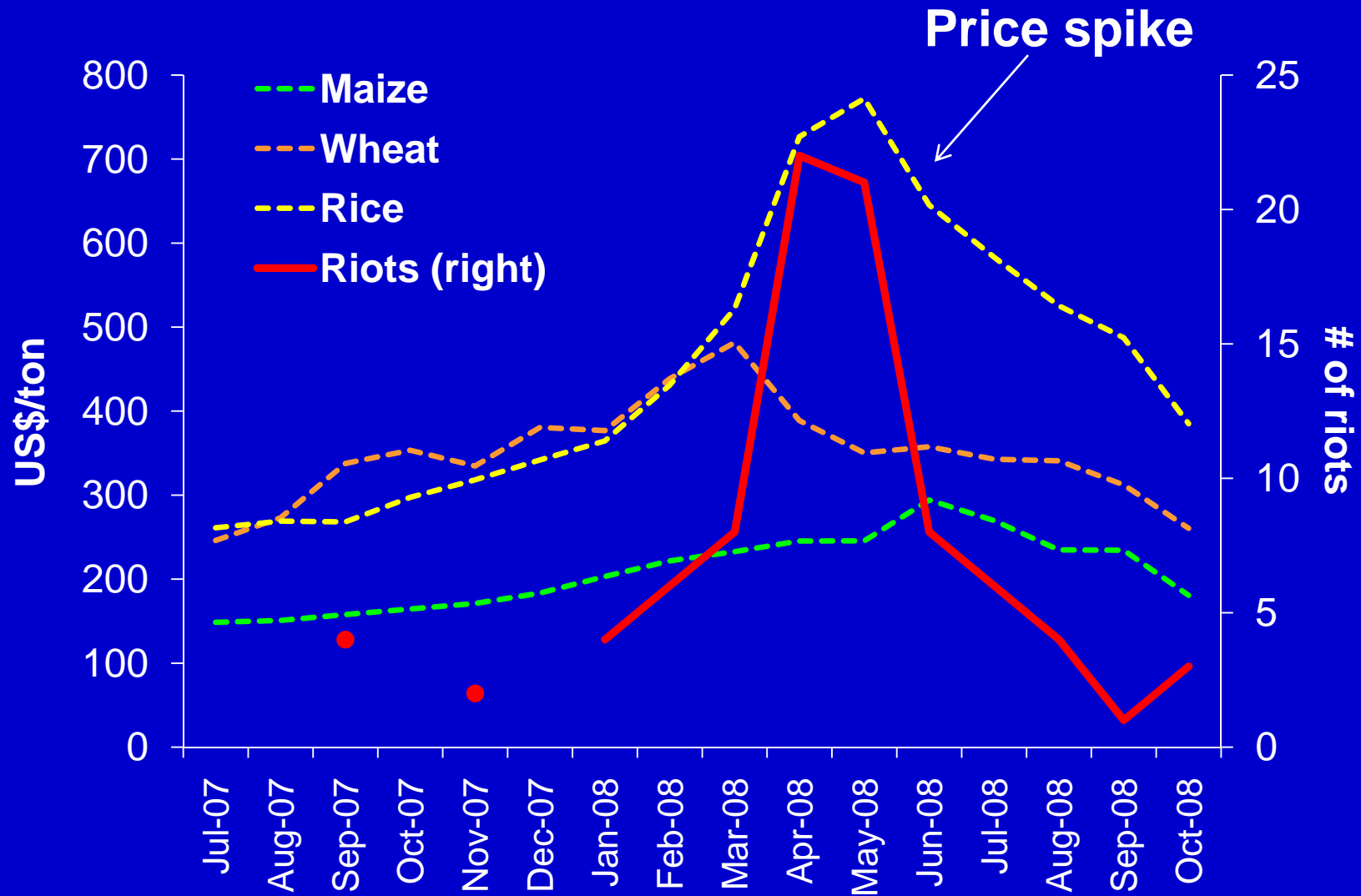
Overview

- 1. Poverty, food insecurity, new complex risks – now and emerging**
- 2. Policy agenda for investment and action**

Rising number of hungry people in the developing world

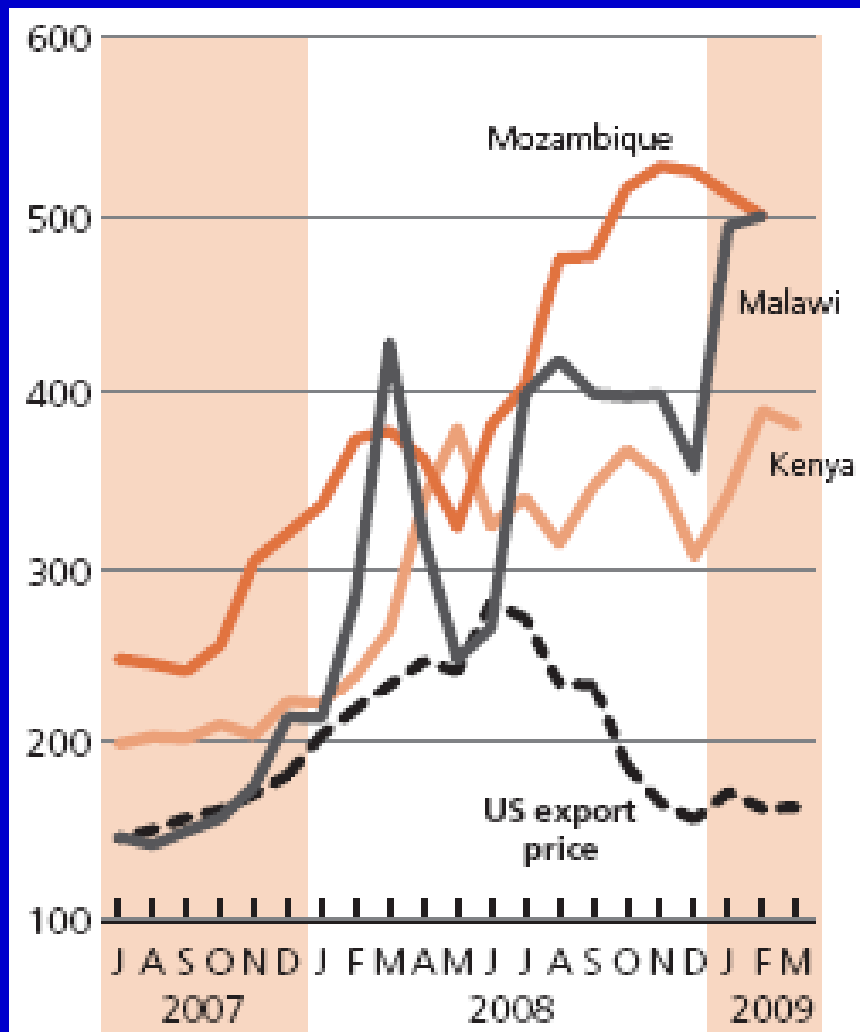


Food riots a mass phenomenon when prices spike

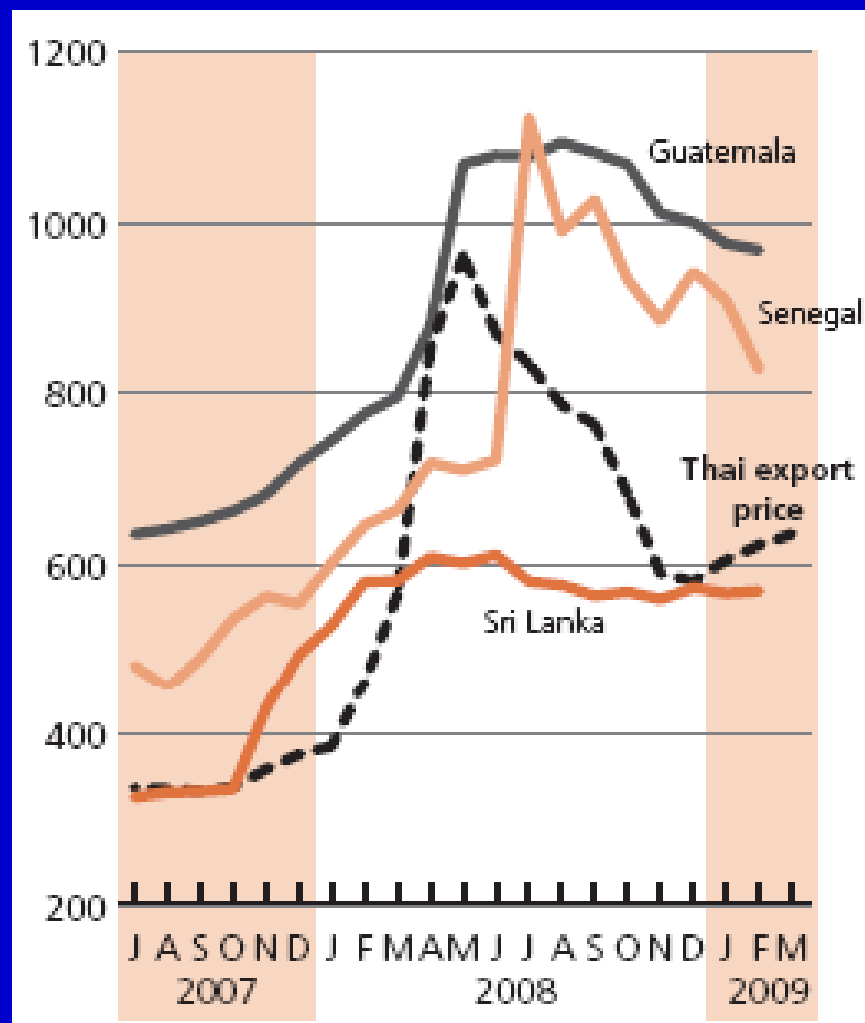


...but domestic prices remain high and volatile

Maize

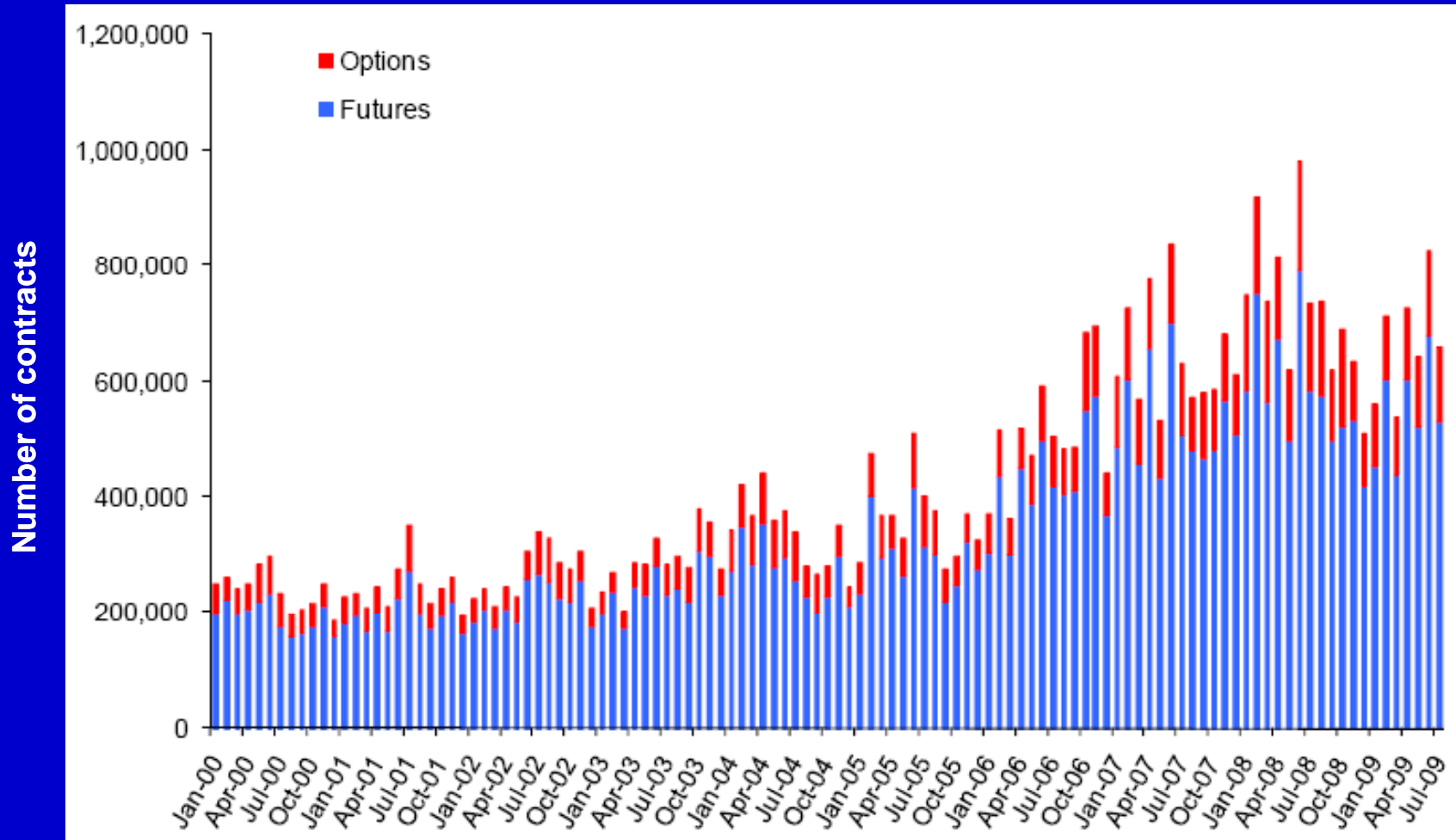


Rice



Increased speculation in food markets, and link to energy price

Grain and oilseed futures and options - Ave. daily volume

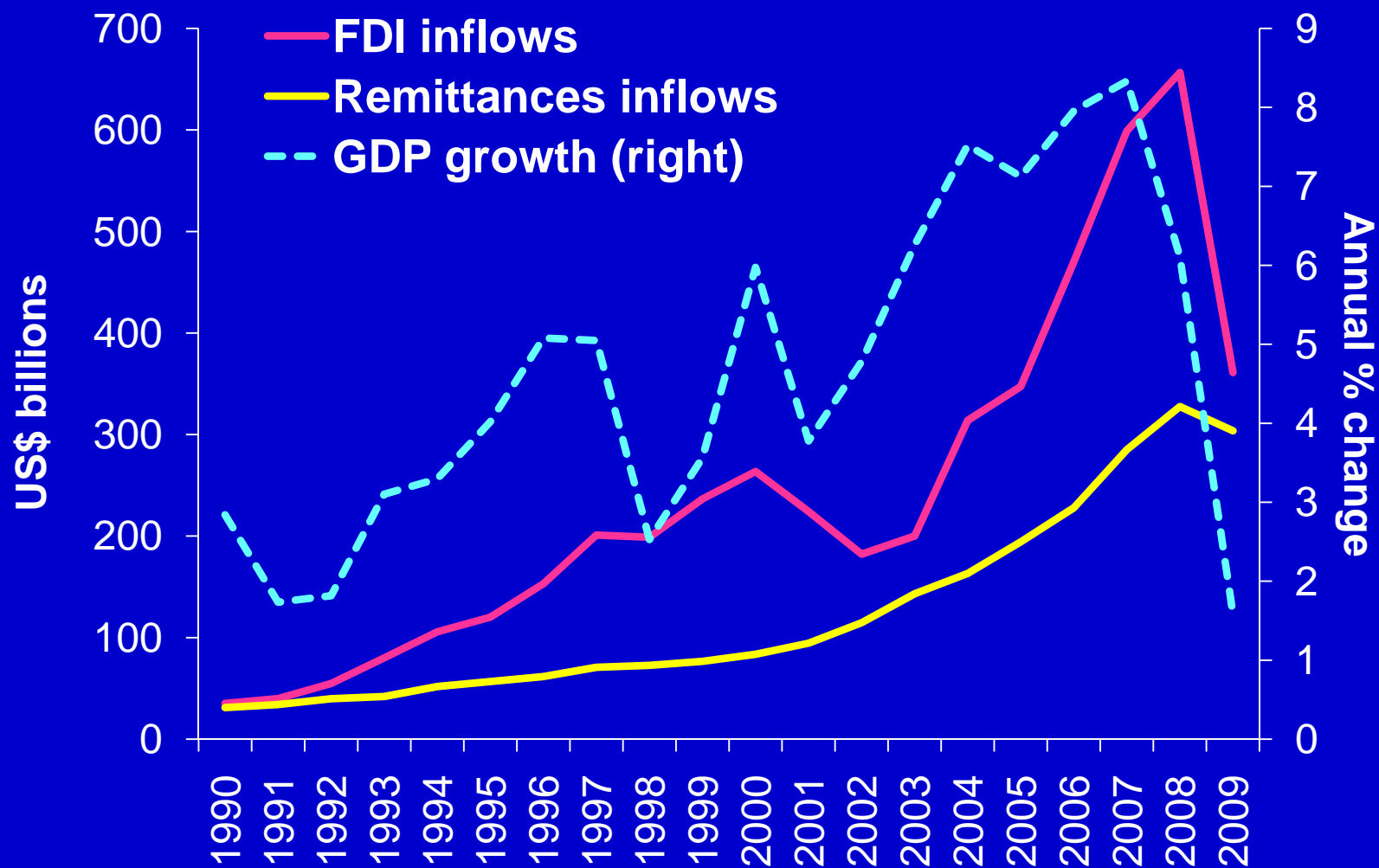


And closure of commodity exchanges (India, China, etc.)

The financial crisis and the recession complicates food security

- Less capital available today and in the future for the agriculture
- More debt specially for small holders which had already invested in the expansion of their production
- Shift of attention of policies for agriculture and reduction of public investment
- Reduction of employment and wages of low skill workers
- Reduction of remittances

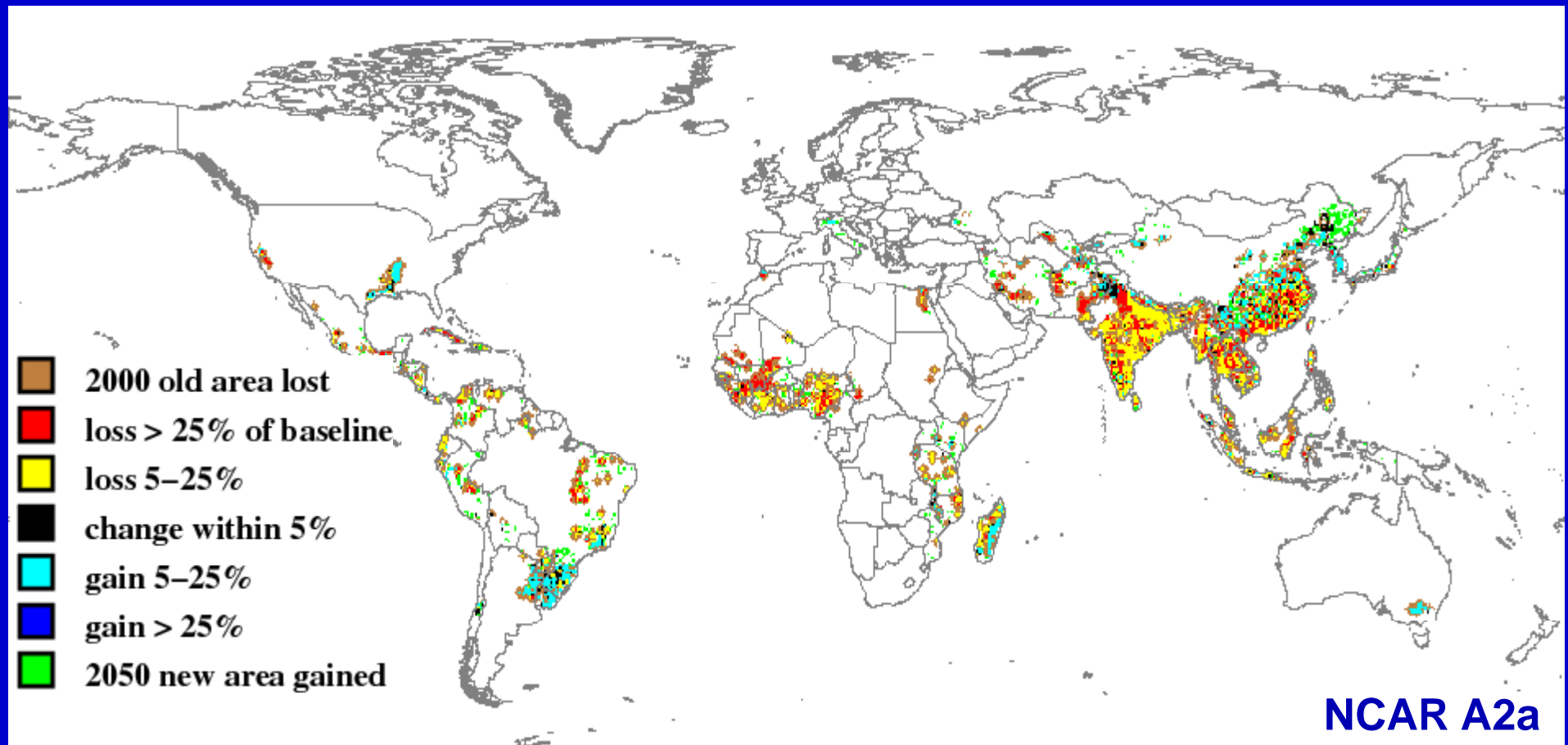
Food system now also affected by volatility in financial system



Source: Data from IMF 2009; Ratha, Mohapatra, and Silwal. 2009; UNCTAD 2009, and World Bank 2009.

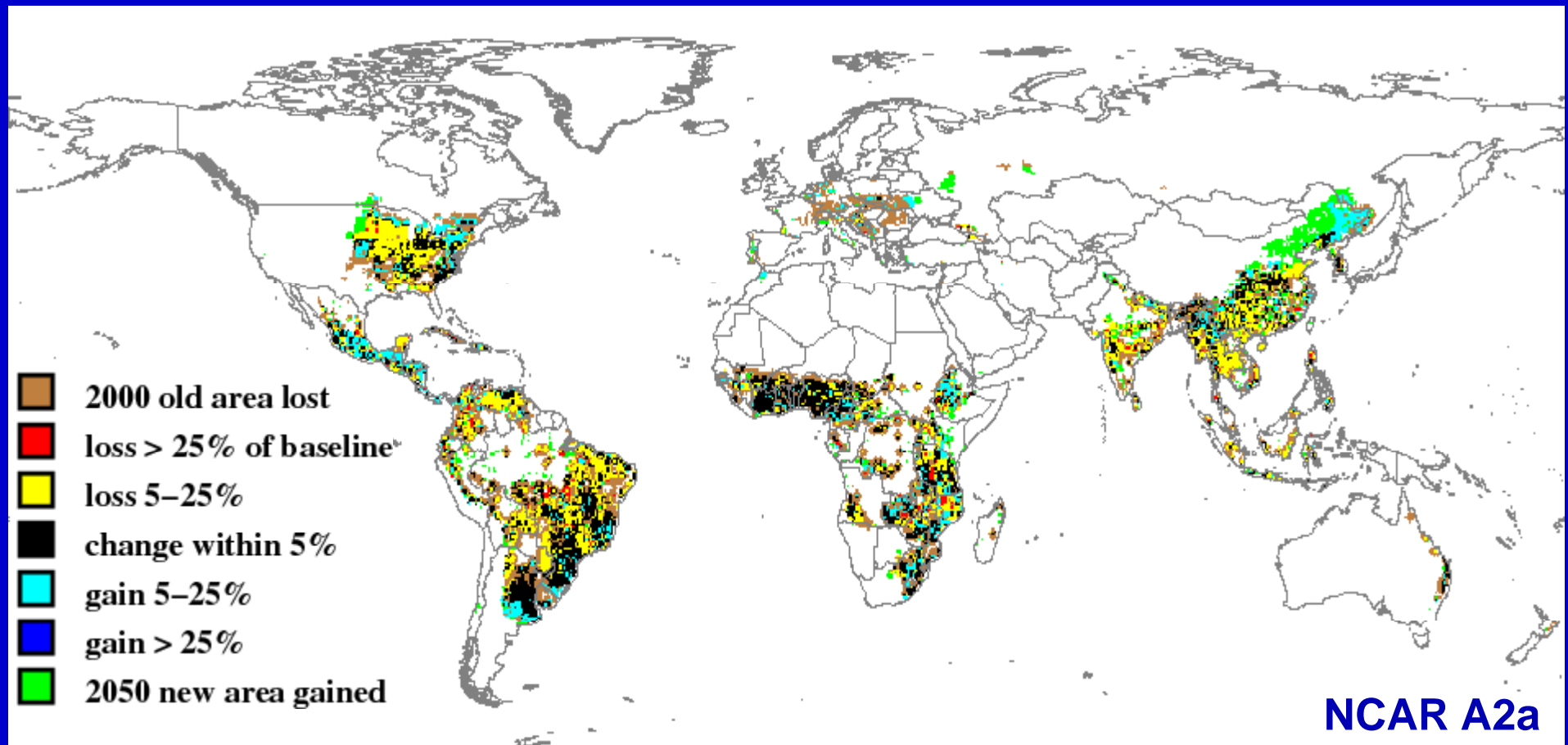
Climate change, agriculture and food security

Climate induced percentage change in production in 2050: Irrigated rice



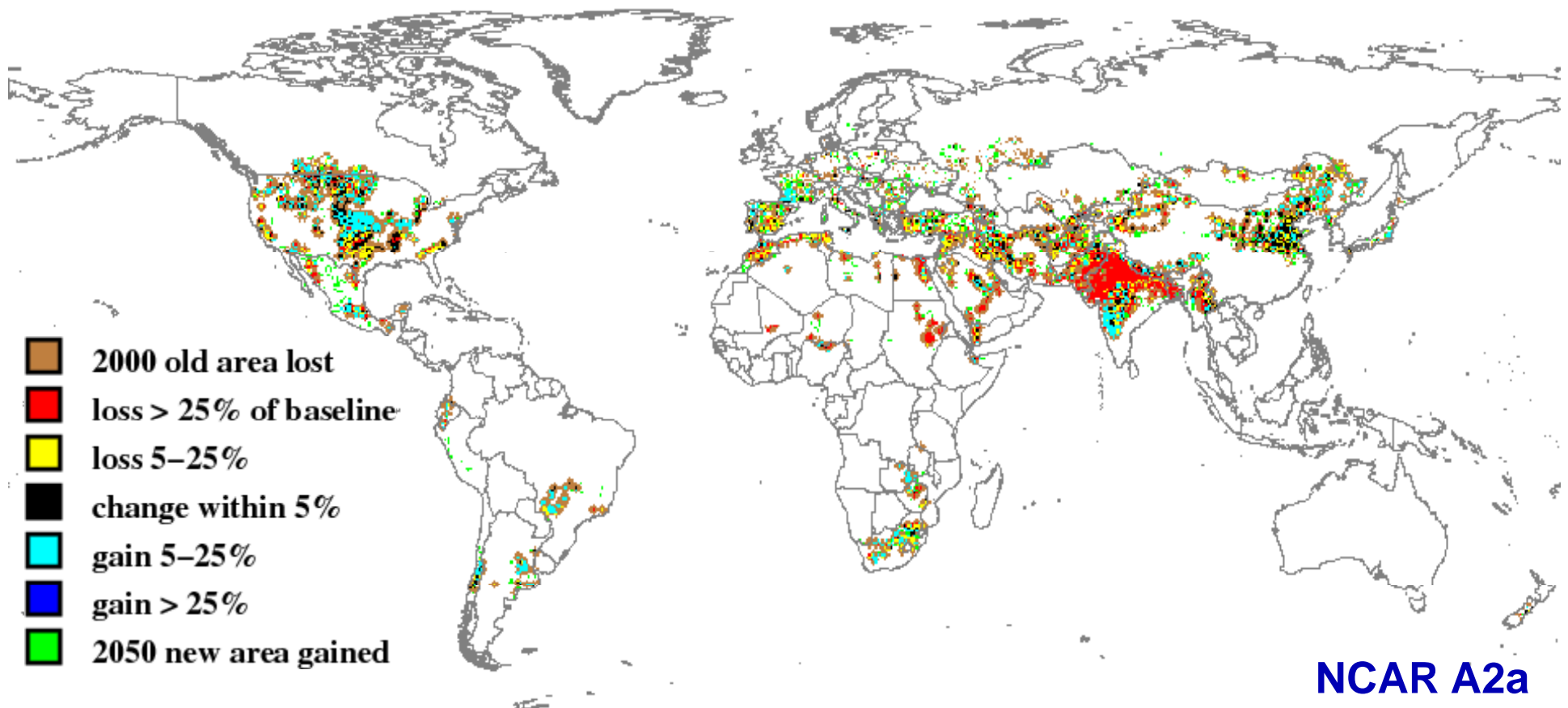
Global production = -27%

Climate induced percentage change in production in 2050: Rainfed maize



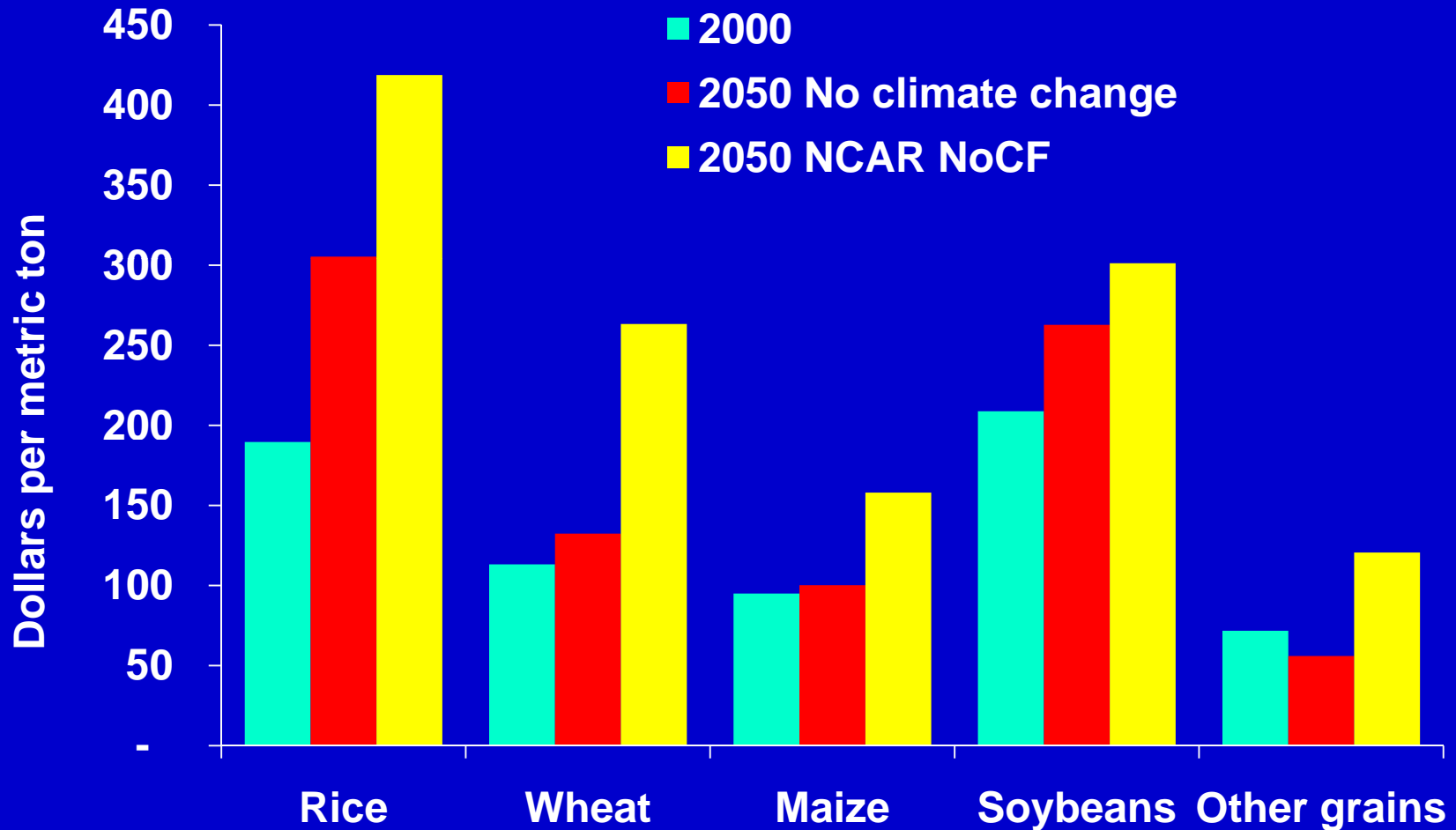
Global production = -16%

Climate induced percentage change in production in 2050: Irrigated wheat

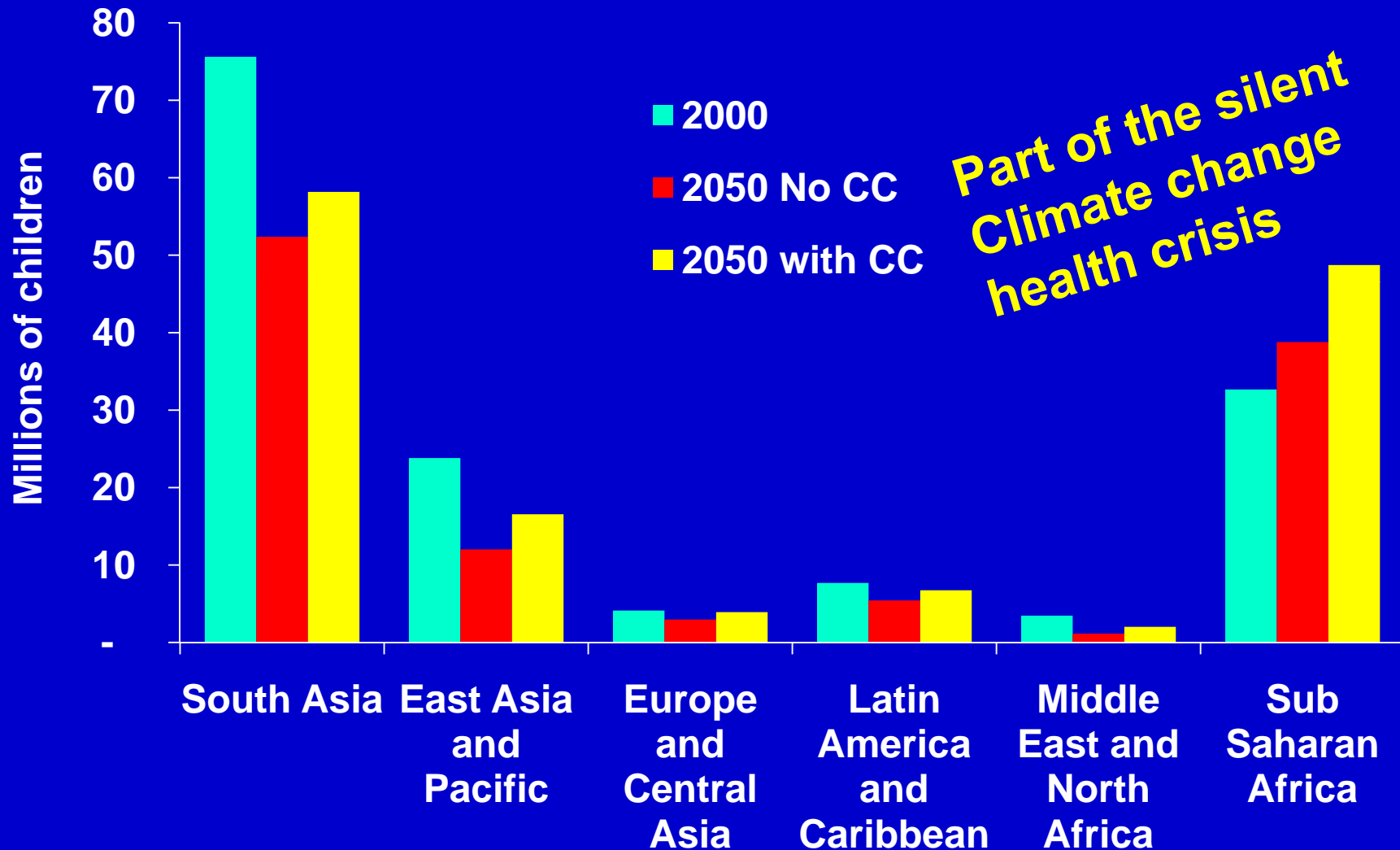


Global production = -42%

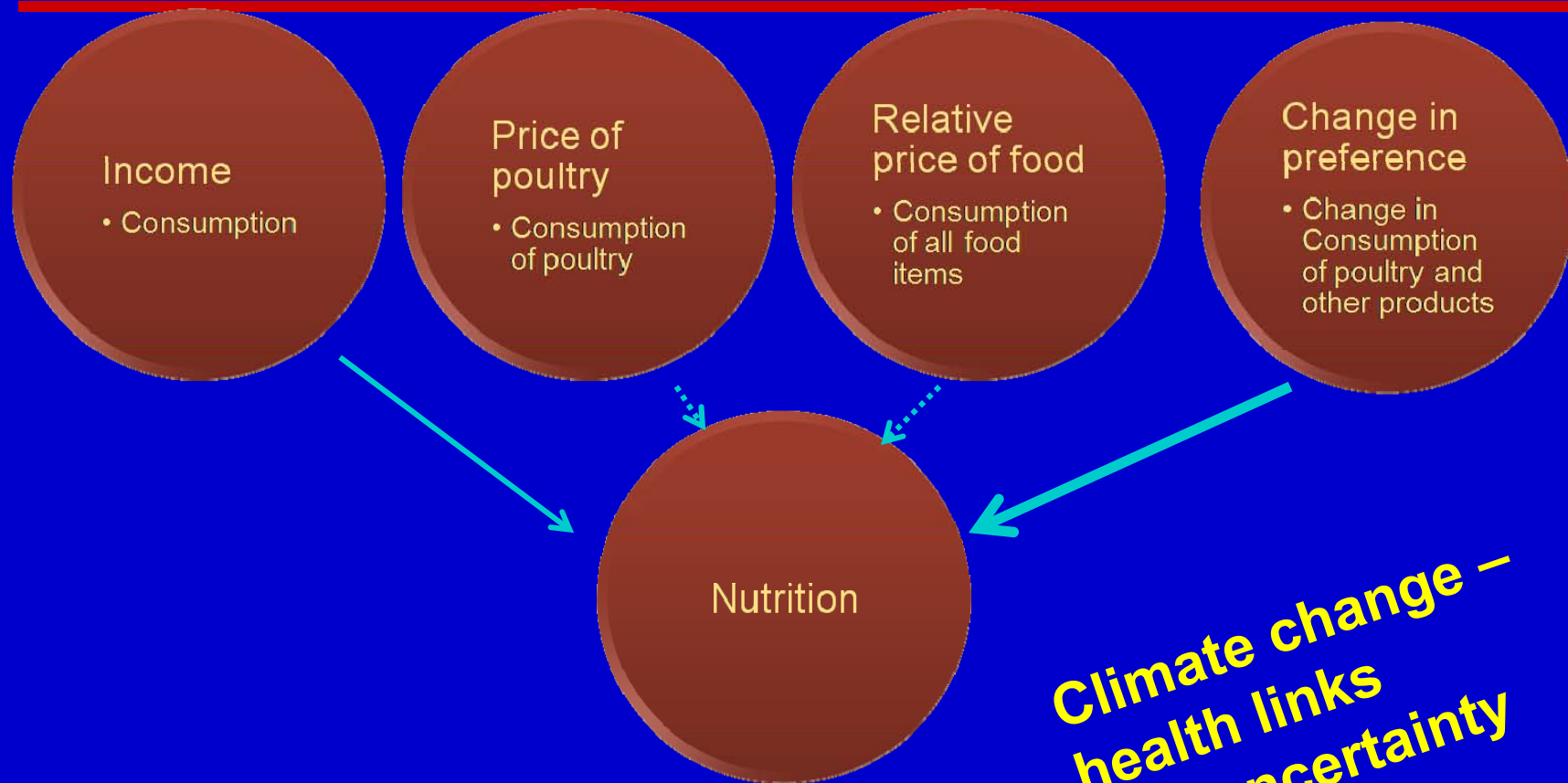
Climate change impact: Global food prices



Climate change impact: Child malnutrition



Potential Impact of HPAI on nutrition



Results for Indonesia:

Potential significant impact of HPAI on stunting, anemia and hemoglobin concentration if an outbreak happens

Source: Lannotti, Barron, Roy IFPRI (2008)

Agriculture must be on the 2009 Copenhagen agenda, but how?

1. **Investment:** agriculture-related investments, as part of a Global Climate Change Fund
2. **Incentives:** phase in incentives first to reduce emissions and support technological change
3. **Information:** Establish comprehensive information and monitoring services of land use and soils for verification purposes

In sum: Risk patterns and emerging change

- 1. The risk of high and volatile food prices**
- 2. Financial and economic shocks driving volatility further**
- 3. climate change accelerating volatility**
- 4. risk of human disease and crop and livestock disease make the poor more vulnerable to shocks in a volatile context**
- 5. Political volatilities and fragile states with increasingly reduced capacity to address risks**

Overview

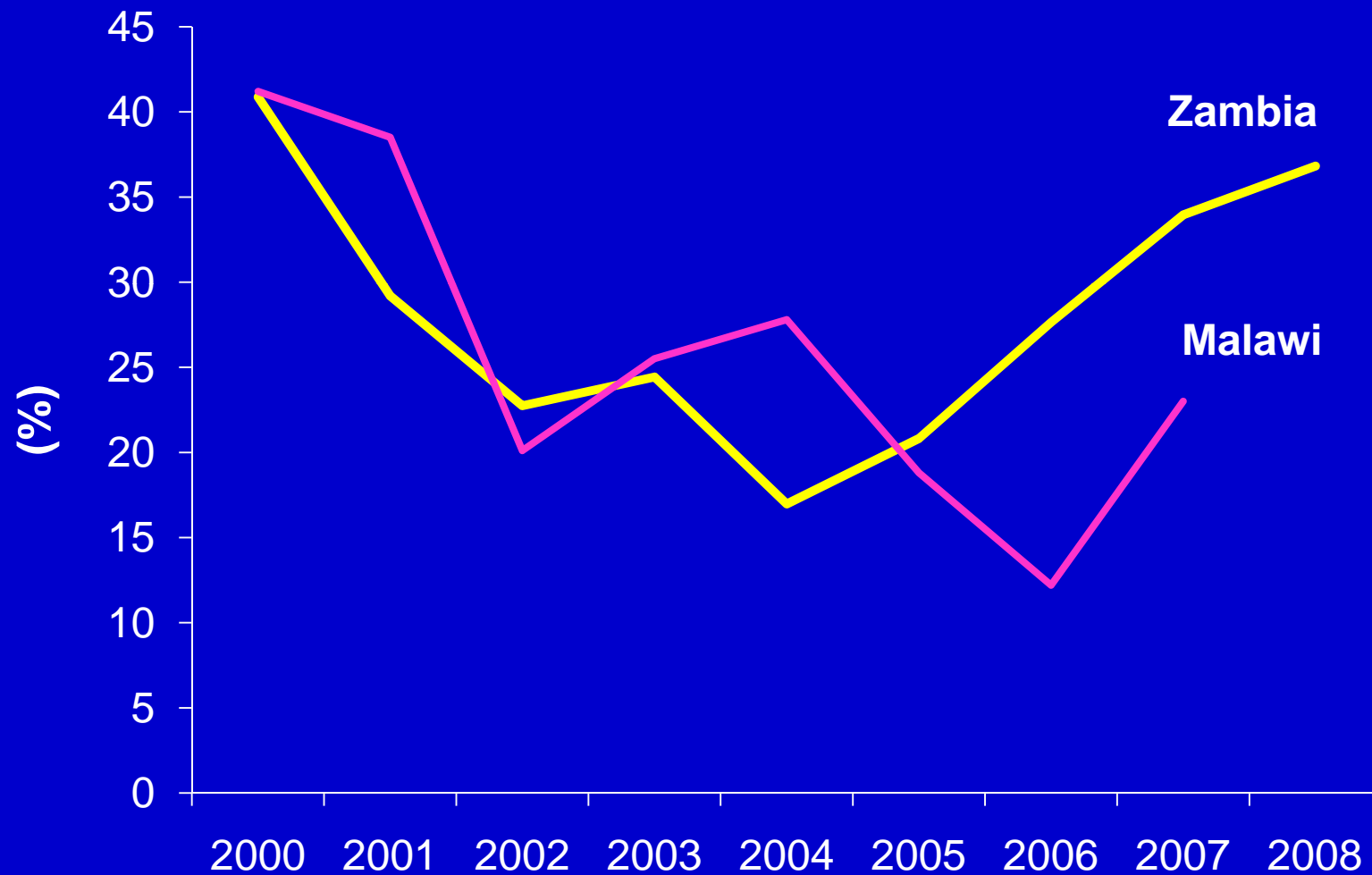
1. **Poverty, food insecurity, new complex risks – now and emerging**
2. **Policy agenda for investment and action**

Response in national and international spending for agriculture and food security and private investment

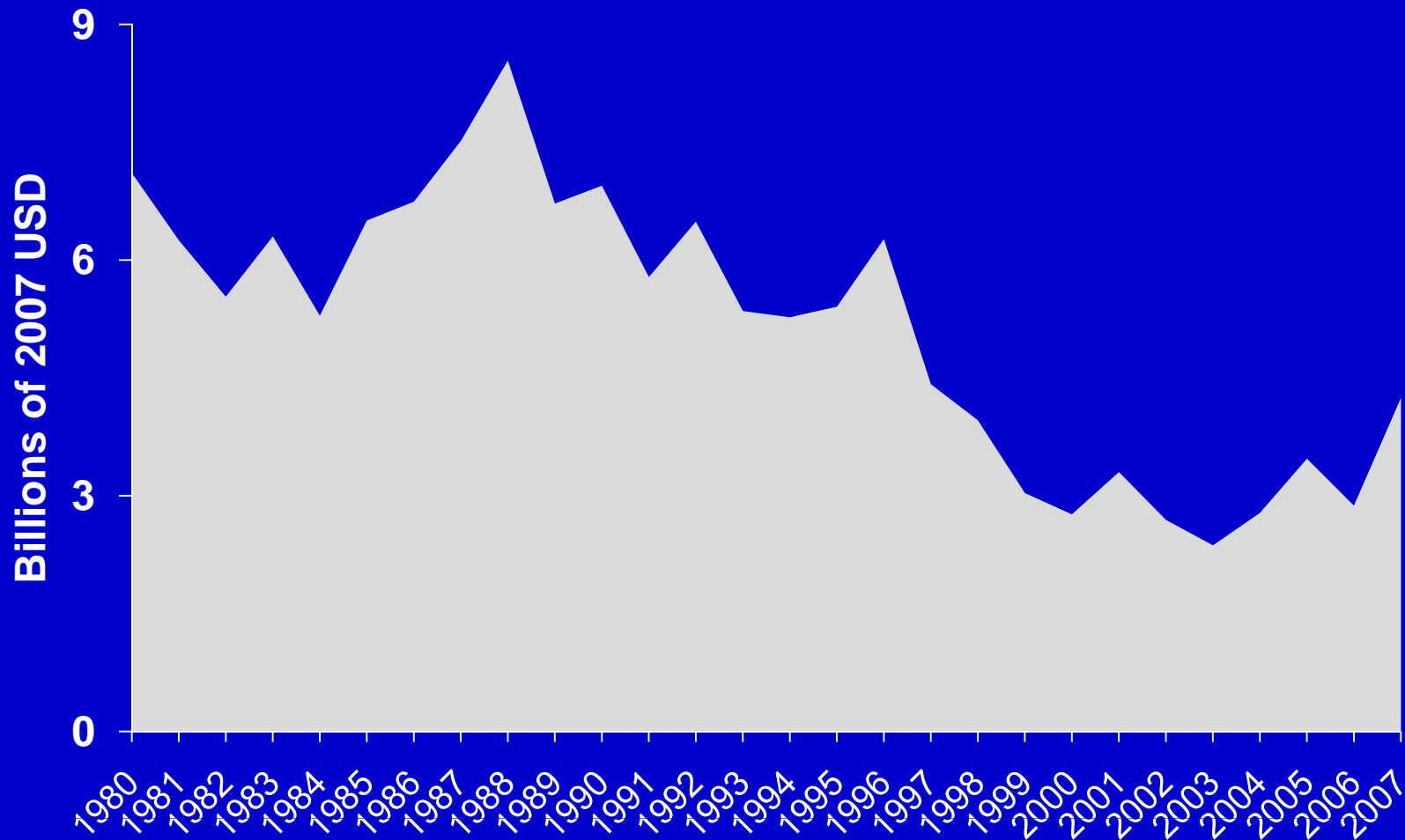
Aid pledges rise with the food crisis, 2008-09

Organization/Country	Pledge (bln. \$US)	Disbursed (bln. \$US)
European Commission	10 +	4 +
World Bank	2	0.9
G8 total	30	13.4
France	3.5	
Japan	3.2	With doubts about the G6 \$20 Billion pledge
Spain	1.3	
United Kingdom	2.7	
United States	8.5	

Share of foreign aid in government agriculture spending



Foreign aid to agriculture trends, 1980-2007



Food Security Portal

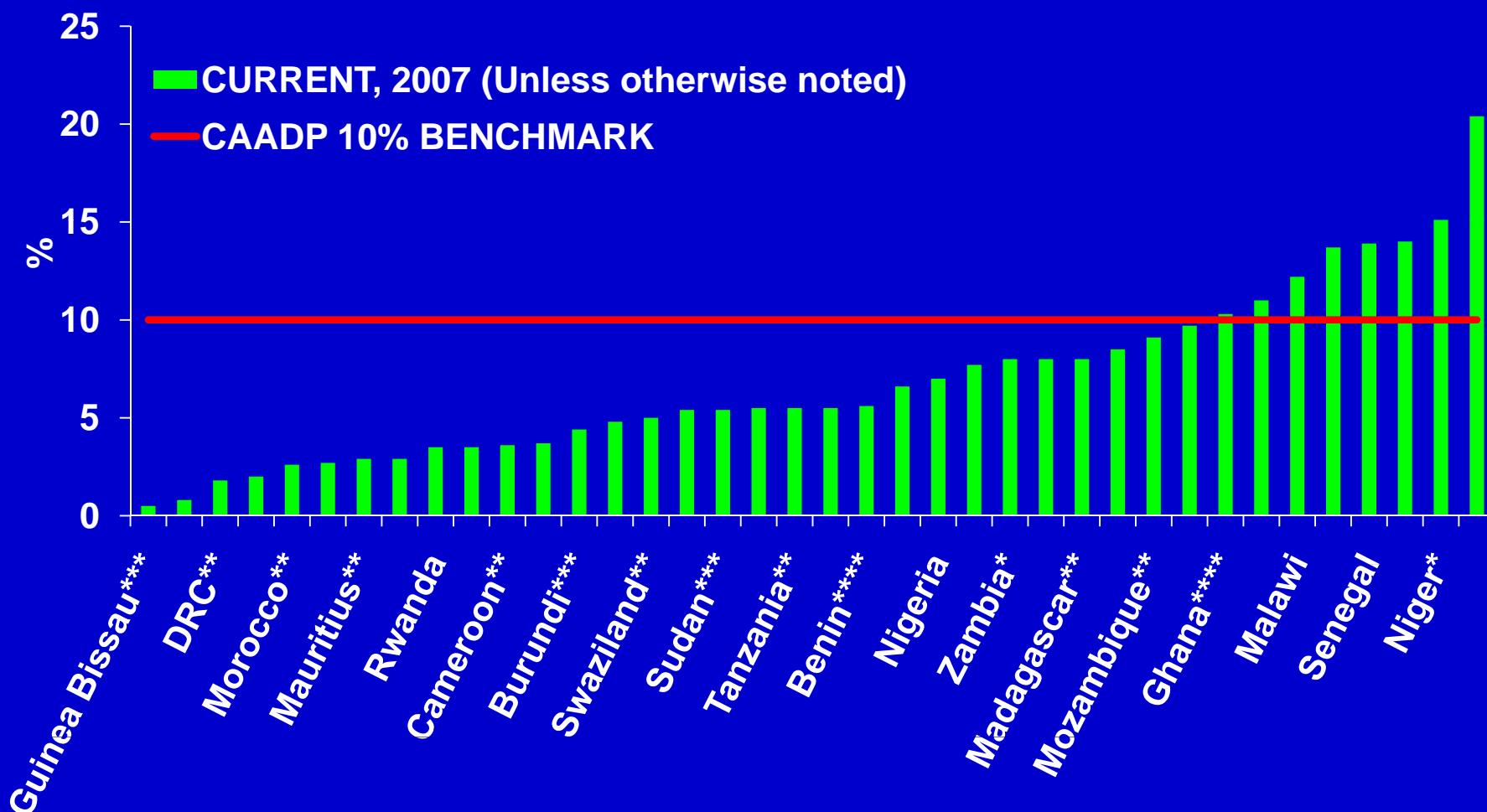
<http://www.foodsecurityportal.org>

The screenshot displays the Food Security Portal interface. At the top, it features the logo 'FOOD SECURITY PORTAL FACILITATED BY IFPRI' and a search bar. Below the logo is a navigation menu with links for Home, Countries, Commodities, News, Policy Analysis Tools, About, and Developer Toolkit. The main content area is divided into several sections: a large introductory text block, four feature boxes for News, Commodity Prices, Policy Analysis Tools, and Country Profiles, a 'Global Commodity Prices (Mar 2009)' section with price charts for Maize, Wheat, Rice, Soybean, and Oil, a 'Global Food Security Hotspots' map, and a 'Latest Food Security News' sidebar with several news items dated August 25, 2009.

- Presents current info on world food system developments
- Increases ability to respond quickly and adequately
- Facilitated by IFPRI

Progress towards 10% budget allocation of the Maputo Declaration in Africa

Agric. expenditures as a share of total spending (%), 2007



*=2006; **=2005; ***=2004; ****=2008 estimates

Investments in agriculture can be strongly poverty reducing - Ethiopia

- **It has a high growth-poverty elasticity: A 1% increase in per capita GDP growth reduces poverty by 2.2%**
- **Analysis based on longitudinal household data shows that:**
 - **Receiving at least one extension visit reduces headcount poverty by 9.8% points and increases consumption growth by 7.1%**
 - **Access to all-weather roads reduces poverty by 6.9% points and increases consumption growth by 16.3%**

Commercial pressure on land and water

Land constraints

- **At most 12% more arable land available that isn't presently forested or subject to erosion or desertification**
- **Land area in production could be doubled, but only by:**
 - **massive loss of forests and of biodiversity and carbon sequestration capacity**
 - **high marginal costs of investment**
- **Land prices per hectare: 1000 – 100.000 \$**

Investment in foreign land (with water) should be guided by:

- **Code of conduct to address threats**
 - Transparency in negotiations
 - Respect for existing land rights
 - Sharing of benefits
 - Environmental sustainability
 - Adherence to national trade policies
- **Appropriate policies to facilitate opportunities**
(rule of law, contract security, etc.)

If so, win-win for local agric. and investors

Private sector increases investment in smallholder agriculture

- **Rural Business Hubs (India)**
 - Public-private-Panchayat partnership that fosters growth for rural areas
- **Agrodealers (Kenya, Malawi, Mali, Tanzania)**
 - Facilitate smallholders access to productivity-enhancing inputs and technologies
- **West Africa Seed Alliance:**
 - Ensures smallholders' access to improved seed varieties

**A revised policy agenda
needed,
focused on growth, incl.
agriculture, and risk
reduction for the poor**

Agenda: a new pro-poor risk prevention, reduction, and management strategy

- 1. Promote agriculture growth with technology and institutional innovations to prevent risks**
- 2. Innovate in insurance systems**
- 3. Facilitate open trade and reduce market volatility**
- 4. Expand social protection and child nutrition action**

Concept for agenda addressing risk in development and poverty reduction



Source: Adapted from Jacquier, C., G. Ramm, P. Marcadent, and V. Schmitt-Diabate. 2006. The social protection perspective in microinsurance. In C. Churchill (ed.).

Actions for agric. productivity enhancement that serves food security

- **Access to inputs**
(e.g. quality seeds, fertilizer, feed, veterinary drugs)
- **Access to services, extension**
- **Investment in rural infrastructure**
(rural roads, electrification, water and irrigation)
- **Agricultural research and innovation: triple
the CGIAR by 2020**

Policy and investment scenarios (background research for a new CGIAR Strategy)

1. **INC AG RES**: 60% increase in crop yield growth and 30% increase in livestock growth
2. **INC AG RES w/EFF**: productivity growth by 30% in 2015 and by 50% in 2030
3. **NRM/IMM**: Enhanced water and soil management with enhanced market access
4. **INC AG RES w/EFF & IRR EXP**
5. **COMP POL_INV**: NRM/IMM + INC AG RES w/EFF + IRR EXP

Maize yields

	SA	SSA	Developing	World
2000 (mt/ha)	1.9	1.5	3.0	4.4
2050				
NCAR CF (mt/ha)	2.4	2.2	5.4	7.8
NRM/IMM (3)	1.7	2.7	1.0	-0.2
INC AG RES(1)	5.2	19.9	18.1	5.7
INC AG RES w/EFF (2)	3.9	48.9	47.3	16.6
INC AG RES w/EFF & IRR EXP (4)	6.5	48.9	48.2	17.5
COMP POL_INV (5)	8.3	53.6	47.8	17.0

Source: IFPRI, Rosegrant et. al. preliminary

Prices

	2000	CC w/CF	NRM/IMM (3)	INC AG RES(1)	INC AG RES w/EFF (2)	INC AG RES w/EFF & IRR EXP (4)	COMP POL_IN V (5)
	US\$/mt	US\$/mt					
			Percent change, 2050				
Beef	1,925	3,352	-0.6	-13.6	-38.0	-37.7	-38.1
Pork	911	1,474	-0.9	-16.9	-40.0	-39.7	-40.3
Poultry	1,203	2,010	-0.6	-17.0	-41.5	-41.1	-41.4
Rice	190	347	0.2	-18.7	-40.3	-41.9	-41.7
Wheat	113	297	-3.7	-28.2	-53.3	-50.9	-53.1
Maize	95	210	-2.0	-37.9	-64.0	-62.7	-62.6

Source: IFPRI, Rosegrant et. al. preliminary

Child malnutrition

	2000	CC w/CF	NRM/I MM (3)	INC AG RES(1)	INC AG RES w/EFF (2)	INC AG RES w/EFF & IRR EXP (4)	COMP POL_I NV (5)
	million children	million children	Percent change, 2050				
SA	75.6	52.6	-2.6	-9.1	-19.5	-19.1	-21.8
SSA	32.7	34.2	-6.9	-25.3	-55.8	-54.2	-60.1
Dev. ing	147.8	106.4	-4.8	-18.0	-36.2	-35.4	-39.2

Source: IFPRI, Rosegrant et. al. preliminary

Integrate growth, energy, and climate policies and add insurance

- **Need full integration of policies aimed at agricultural growth, biofuels and energy, climate change and carbon sequestration**
- **Innovative insurance systems for farmers and the poor**

Calm markets and facilitate open trade

1. Keep trade open even at times of global and regional food shortage
2. Establish grain reserves policy at global level as a risk management tool to prevent spikes
 - shared physical reserves, and
 - virtual reserve (a new institution at global level)

Invest in social protection and child nutrition action

Protective actions e.g.:

- **Cash transfers**
- **Employment-based food security programs**

Preventive actions e.g.:

- **School feeding (new insights)**
- **Early childhood nutrition programs**

Focus on children, women, and poorest

The Agenda: a new pro-poor risk prevention, reduction, and management strategy

1. **Promote agriculture growth with technology and institutional innovations to prevent risks**
2. **Innovate in insurance systems**
3. **Facilitate open trade and reduce market volatility**
4. **Expand social protection and child nutrition action**