



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

Investing in Agriculture and Social Protection for Halving Hunger and Poverty

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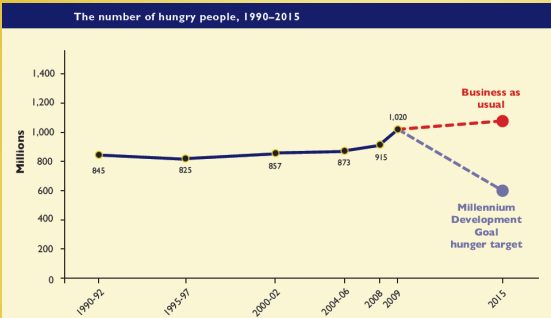
Symposium on the Future of Agriculture - Scenarios, Concepts, Visions,
GTZ, Königstein, August 25-26, 2010

Key messages

- **Agricultural growth is key for reducing hunger and poverty; and the type of growth matters** (e.g. staples, smallholders, poor/hungry regions)
- **But, agriculture is not sufficient to reach the most vulnerable**
- **Other factors are also important** (e.g. access to healthcare, education, employment)
- **Investment in both agriculture and social protection and is needed and their synergies should be fully explored.**

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The goal of halving hunger is off-track



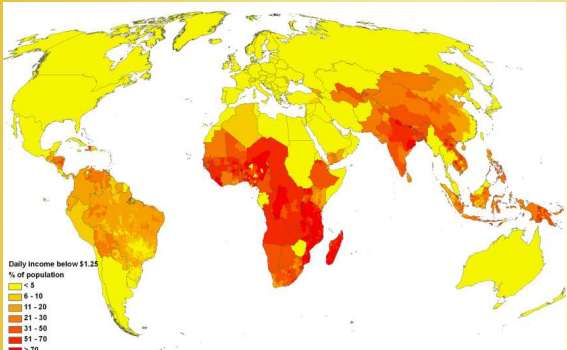
Source: Fan 2010

Source: FAO 2009 and author's calculations.
Note: The red dashed line is a linear extrapolation of the trend in the number of hungry people between 1990 and 2009. The purple dashed line shows the trend in the number of hungry that would be required to reach the Millennium Development Goal of halving the proportion of hungry people.

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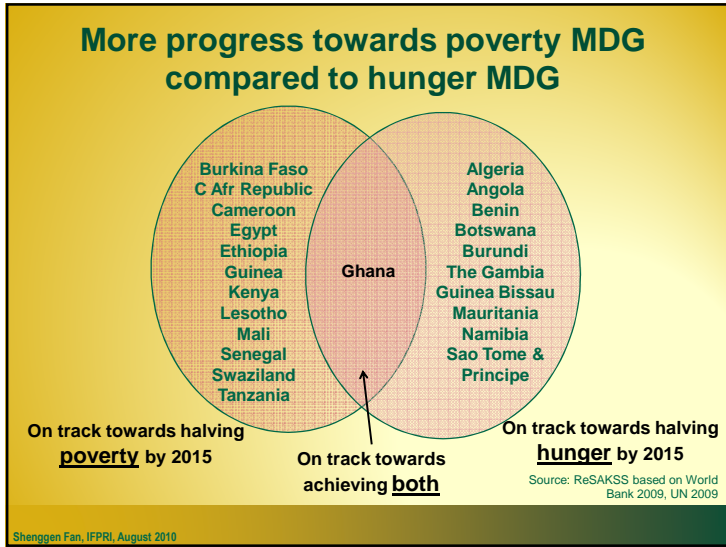
Poverty is high in many parts of the world

Poverty prevalence ca. 2005 (\$1.25/day)



Source: Wood et al. 2009

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- ### Agriculture enhances poverty reduction by:
- Raising farm incomes
 - Creating farm employment
 - Stimulating the rural nonfarm economy through production and consumption linkages
 - Pushing down the prices of staple foods to the benefit of poor net food buyers
- Source: OECD 2006

Agric-led growth is more pro-poor than non-agric-led growth

Poverty-growth elasticities

	Agric-led growth scenario	Non-agric-led growth scenario
Ethiopia (2003-15)	-1.7	-0.7
Ghana (2003-15)	-1.8	-1.3
Kenya (2003-15)	-1.3	-0.6
Rwanda (2003-15)	-1.4	-0.8
Uganda (1999-2015)	-1.6	-1.1
Zambia (2001-15)	-0.6	-0.4

Source: Diao et al. 2010

Structure of agric. growth is important for hunger and poverty reduction

Poverty-growth and calorie-growth elasticities, Tanzania (2000-07)

	Calorie-growth elasticity	Poverty-growth elasticity
Maize	-1.9	-1.5
Sorghum & millet	-1.5	-1.5
Pulses & oilseeds	-1.8	-1.4
Roots	-1.1	-1.5
Horticulture	-1.0	-1.4
Livestock	-0.7	-1.3
Export crops	-0.8	-1.4

Source: Pauw and Thurlow 2010

Income policies are more effective than price policies for reducing malnutrition

Type of deficiency	Prevalence of deficiency in Malawi (%)		
	2004/05	Income +20% scenario	Maize price -20% scenario
Calorie	35	23	30
Protein	12	7	11
Iron	47	34	42
Zinc	55	41	50
Vit. A	66	60	66
Folate	37	28	36
Vit. B12	84	82	84

Source: Ecker and Qaim 2010

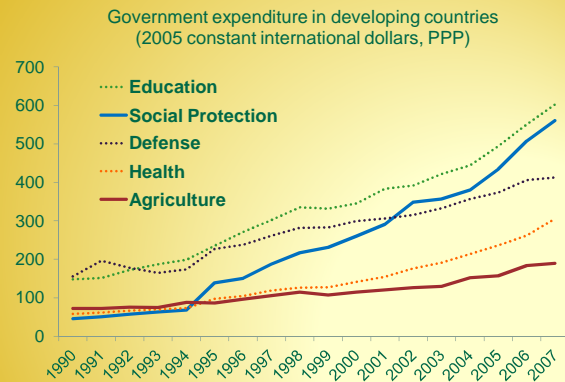
Public investment in agriculture matters

	Ghana	Uganda	Tanzania	Ethiopia	China	India	Thailand
Returns to agriculture or rural income (local currency/local currency spending)							
Sector							
Agriculture	16.8	12.4	12.5	0.14	6.8	13.5	12.6
Education	-0.2	7.2	9.0	0.56	2.2	1.4	2.1
Health	1.3	0.9	n.e.	-0.03	n.e.	0.8	n.e.
Roads	8.8	2.7	9.1	4.22	1.7	5.3	0.9
Ranking in returns to poverty reduction							
Agriculture	n.e.	1	2	n.e.	2	2	1
Education	n.e.	3	1	n.e.	1	3	3
Health	n.e.	4	n.e.	n.e.	n.e.	4	n.e.
Roads	n.e.	2	3	n.e.	3	1	2

Source: Fan, Mogues, and Benin 2009
Note: "n.e." indicates not estimated

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Spending on agriculture remains low



Source: Data from IFPRI SPEED database 2010

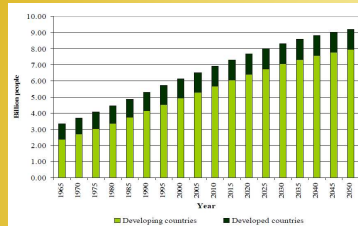
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Future stress factors for agriculture

- Population growth
- Land and water constraints
- Climate change
- Biofuels

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Rapidly growing population and demographic change



World population reaches 9 billion by 2050

- All growth to come from urban areas
- Most growth to come from developing countries

Source: FAO 2009

Larger and more urban population will demand more and better food

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Feeding a growing population

	World	Developing	Developed
2005/07 to 2050 (%)			
Crop	66	82	30
Livestock	76	117	17
Total	70	97	23

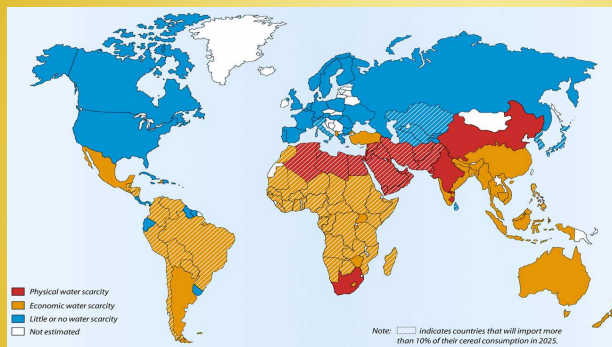
Production needs to almost double in developing countries

Source: Bruinsma 2009

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Natural resource constraints are high

Projected water scarcity in 2025

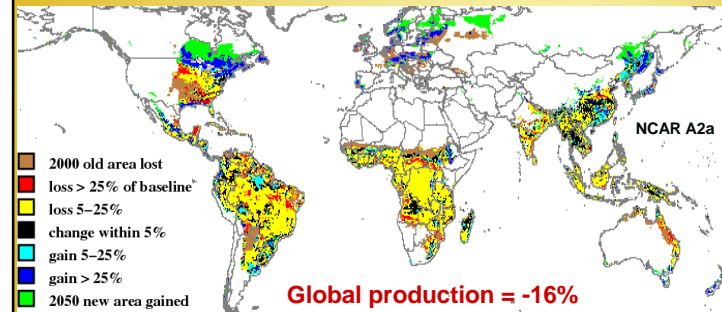


Source: IWMI 2000

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Climate change pressure on agriculture

Climate change impact on production: Rainfed maize, 2050

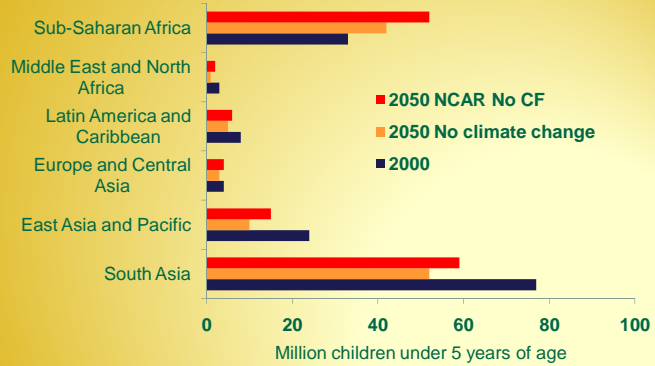


Global production = -16%

Source: M. Rosegrant 2009

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Climate change impact on child malnutrition



Source: Nelson et al. 2009

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Competition between agriculture and energy will persist

With biofuel expansion:

- production of maize and sugarcane will be 5% and 1% higher by 2020
- prices of maize and sugarcane will be 16% and 3% higher by 2020

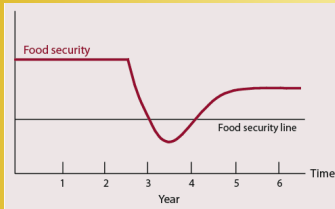


Source: Zhang et al. 2009

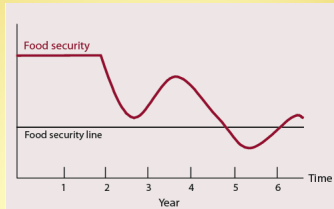
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Shocks can severely impact food security

Transitory shock with severe and permanent consequences



Cascading series of shocks



Source: Hoddinott 2009

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Social protection enhances growth by:

- Creating assets
- Protecting assets
- Allowing for more effective use of resources
- Facilitating structural reforms
- Reducing inequality

Source: Alderman and Hoddinott 2009

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Safety net challenges and opportunities

Challenges in design and delivery

- poor targeting
- large administrative costs and corruption
- uncoordinated and duplicated elements

Opportunities for reducing poverty and hunger

- Mexico's PROGRESA: poverty fell by 45% (Skoufias 2005)
- Nicaragua's Red de Protección Social: # of stunted children declined by 5.5% pts (Maluccio and Flores 2005)

Conditionality can strengthen targeting, delivery, and links to asset formation

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Combining agriculture and social protection pays off

Ethiopia's Productive Safety Nets Program (PSNP)

With access to both safety nets and agric. support, beneficiaries are more food secure and productive (Gilligan, Hoddinott, and Taffesse 2009)

Thailand's 2nd National Health and Nutrition policy

Halved child malnutrition between 1982 and 1986 (von Braun, Ruel, and Gulati 2008)

Brazil's econ. growth equity-oriented policies

Decreased child stunting from 37% to 7% from 1974 to 2007 (Monteiro et al. 2010)

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Ethiopia's PSNP: joint impact of public works and agric support

- Improved daily/capita caloric acquisition in last 7 days by **10%**
- Enhanced food security in 2004-06 by **0.36 months**
- Rise in credit use by **12% points**
- Increased use of fertilizer by **11% points**
- Increased use of improved seeds by **5% points**

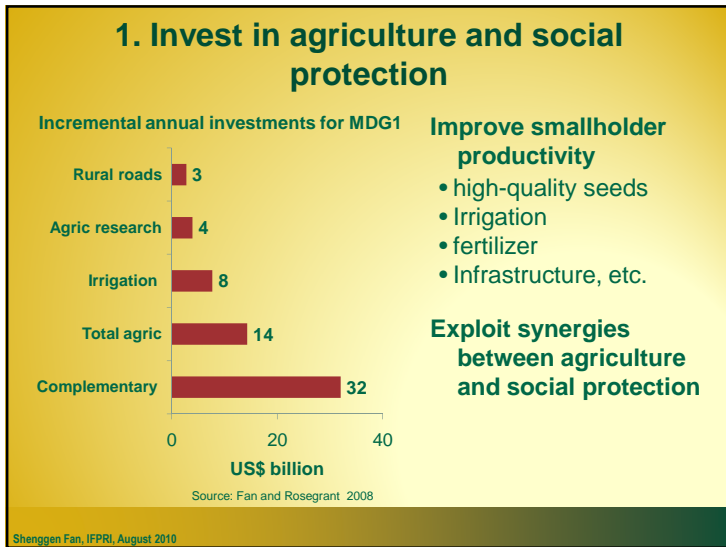
Source: Gilligan, Hoddinott, and Taffesse 2009

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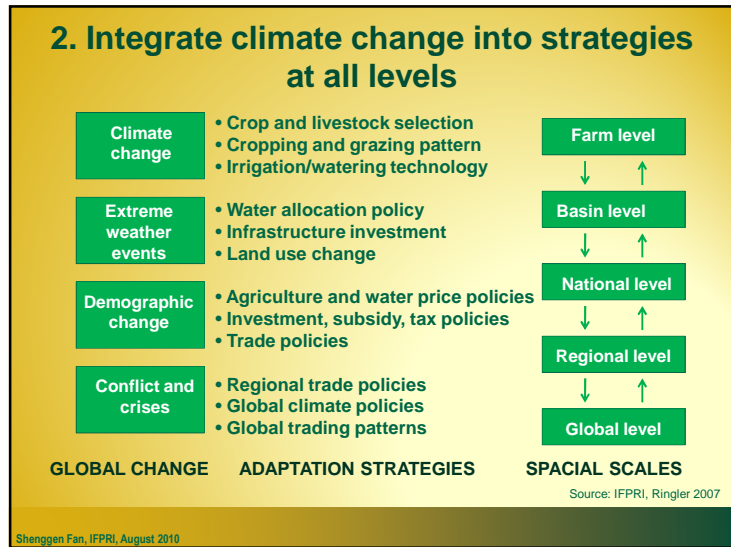
Policy implications

1. Invest in a combination of agriculture and social protection
2. Integrate climate change into strategies at all levels
3. Harmonize food security and sustainability policy
4. Strengthen institutions and capacity

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- Improve smallholder productivity**
- high-quality seeds
 - Irrigation
 - fertilizer
 - Infrastructure, etc.
- Exploit synergies between agriculture and social protection**



3. Harmonize food security and sustainability policy

Invest in innovative research and development in agricultural technologies

- stress tolerant materials to address water scarcity, salinization, and groundwater contamination
- water harvesting, minimum tillage, and integrated soil fertility management

Create incentives for farmers to adopt new and sustainable technologies

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- ### 4. Improve institutions and capacities
- Build up existing institutions and improve evidence-based policy making
 - Increase *gradual* implementation after careful *experimentation* as in Asian reform process (esp. China)
 - Increase investment in information gathering, monitoring, and evaluation
 - Strengthen capacities through increased investment in agricultural education and training
 - Explore new institutional arrangements
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LEVERAGING AGRICULTURE FOR IMPROVING NUTRITION & HEALTH

International Conference | 10–12 February 2011 | New Delhi, India

The conference will:

- bring together information on how to strengthen linkages among agriculture, nutrition, and health
- identify “best practices” in policies and programs
- further knowledge and build consensus on priorities for appropriate action
- facilitate networks amongst stakeholders