



FOODSECURE
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FOODSECURE

Interdisciplinary Research Project to Explore the Future of Global Food and Nutrition Security

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LEI Wageningen UR

CTA synthesis workshop, 24 September 2013



The 2050 world food equation is risk prone

Supply

Land (degradation)

Water (scarcity)

Productivity & technology

Labor & farm structure

Climate change

=

Demand

Population (growth)

Income (growth, urbanization)

Poverty and inequality

Consumer behavior, waste

Bio-energy

Trade and Markets

Supermarkets

Protection

Financial markets

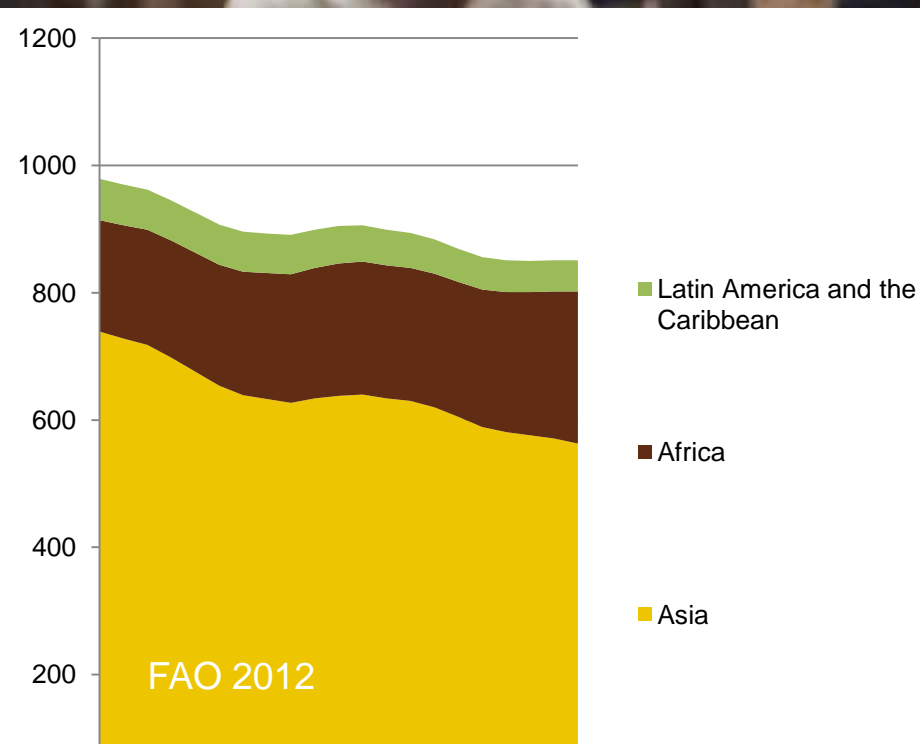
Food stocks

We want to end hunger by 2030

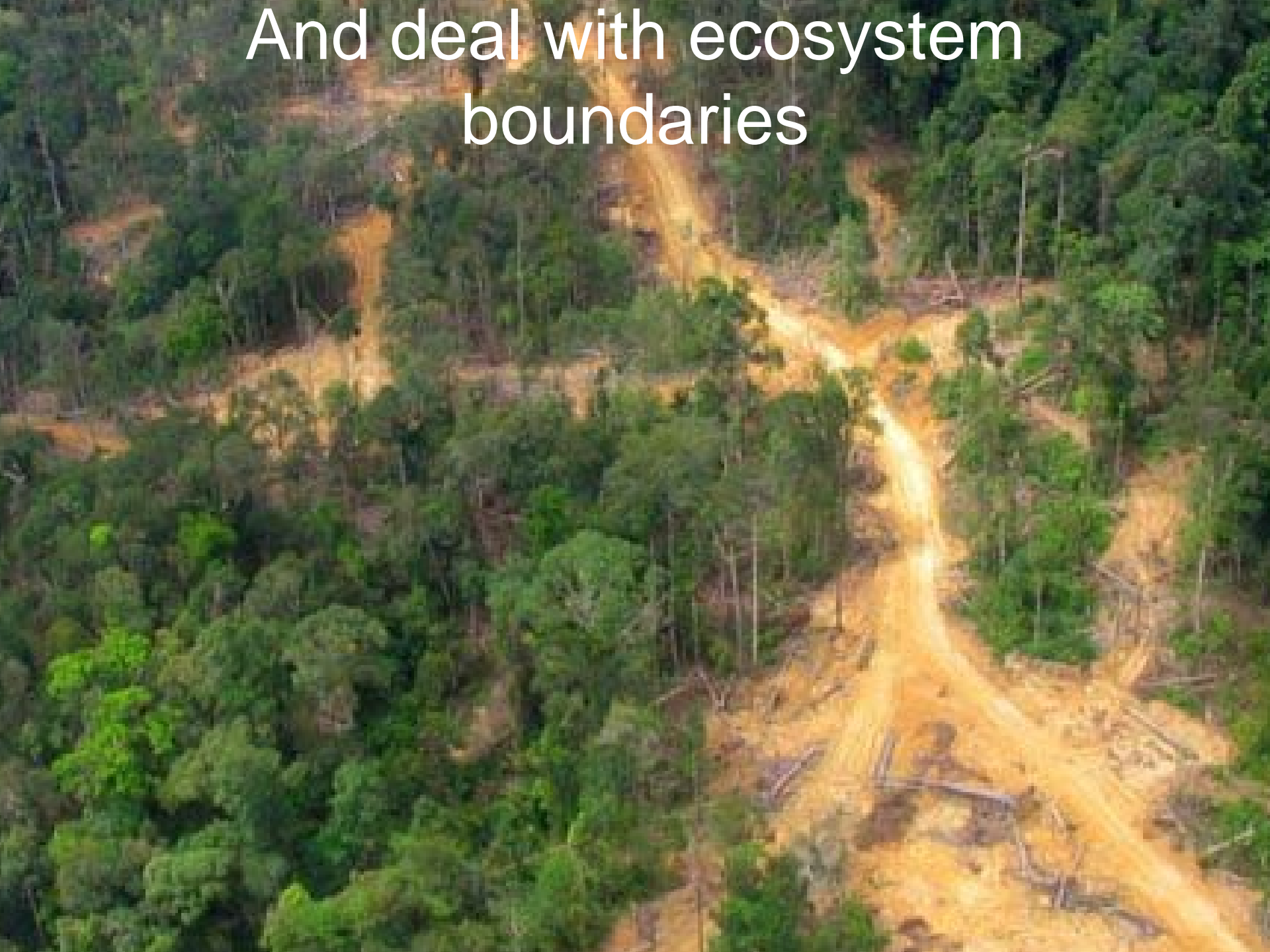
Estimated no. of
Undernourished 1991-2011

Rising undernutrition in
Africa in past years due
to population growth,
poverty, food price
inflation

(Or was there no food
security crisis?)



And deal with ecosystem
boundaries



Which „ t “ is relevant for which food security problem?

- Decade/year: nutritional status (stunting)
 - Months: nutrient deficiencies (calories & micro-nutrients);
 - Weeks, days: nutrition shocks in early childhood
- balance between short- and long-term actions:**
- Water & land-use; climate, technology; political change; investments
 - Weather risks, grain stocks
 - Trade shocks (export bans), shocks in commodity and financial markets

FOODSECURE objectives

The objective is to design effective and sustainable strategies for **assessing** and **addressing** the challenges of food and nutrition security.

FOODSECURE provides a set of analytical instruments to experiment, analyse, and coordinate the effects of short and long term policies related to achieving food and nutrition security (FNS).



The purpose is to support EU policy makers and other stakeholders in the design of consistent, coherent, long-term FNS strategies.



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Key features

- Interdisciplinary: social & environmental sciences
- Work load 960 person-months, 19 teams
- EU contribution €8 million
- Planned duration: 5 years, 2012-17
- Targeted stakeholders for impact
 - European Commission
 - European Parliament
 - Regional organizations in developing countries

Impact: two distinct user orientations



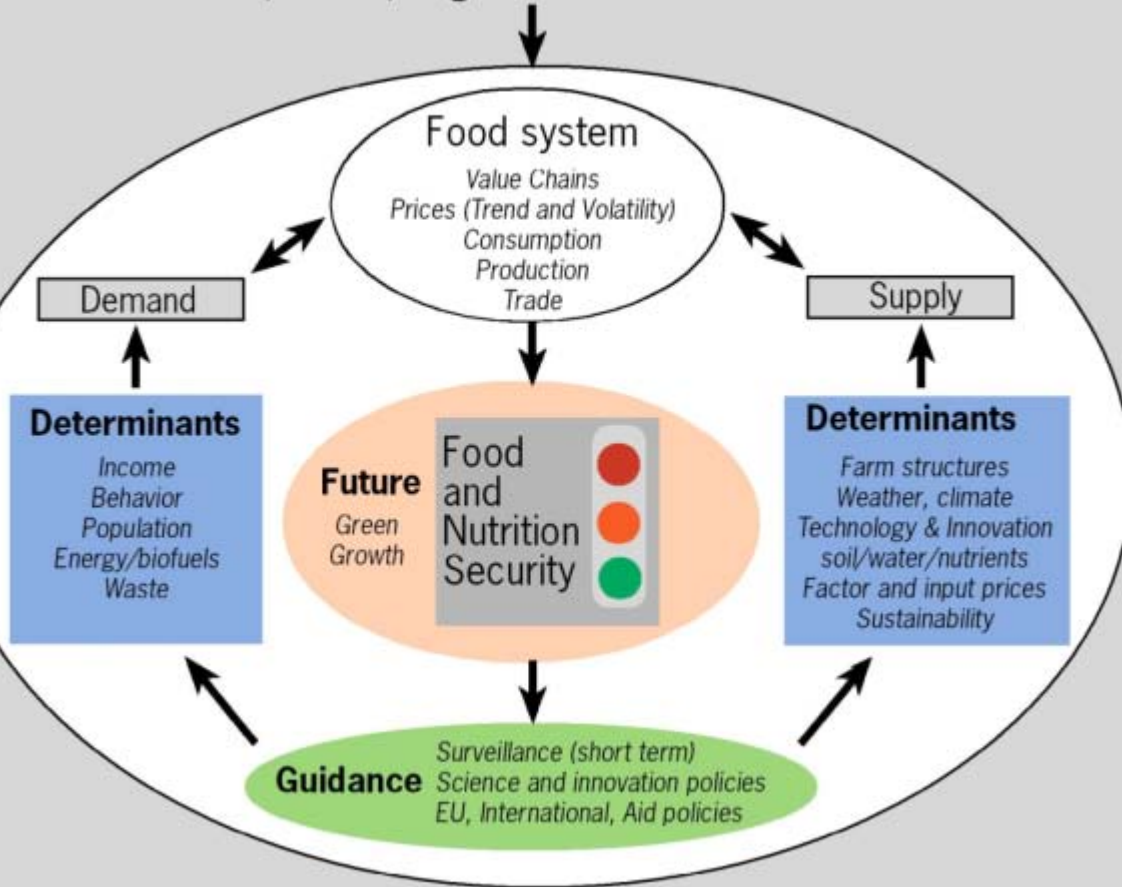
- Food and nutrition security assessment framework to support policy evaluation
 - Ex ante evaluation of EU policies
- Inform policy makers on a policy mix that prevents food crises and ensures long-term solutions
 - EU policies
 - Other countries
- Capacity strengthening

Team of 19 research institutes: Europe, Ethiopia, Brazil, China and CGIAR

Institute	Institute
LEI Wageningen UR (coordinator)	Ethiopian Economic Policy Research Institute
Center for Development Research (ZEF) University of Bonn	PBL Netherlands Environmental Assessment Agency
International Food Policy Research Institute (IFPRI)	CCAP, Chinese Academy of Sciences
KU Leuven	Slovak Agricultural University Nitra
INRA and AgroParistech	CIRAD
Prospex bvba	University Roma Tre
Graduate Institute of International and Development Studies (IHEID)	Rumanian Institute of Agricultural Economics
IIASA	EMBRAPA
Joint Research Centre of the EC	IDDRI

FOODSECURE research components

Political, Social, Legal and Cultural environment



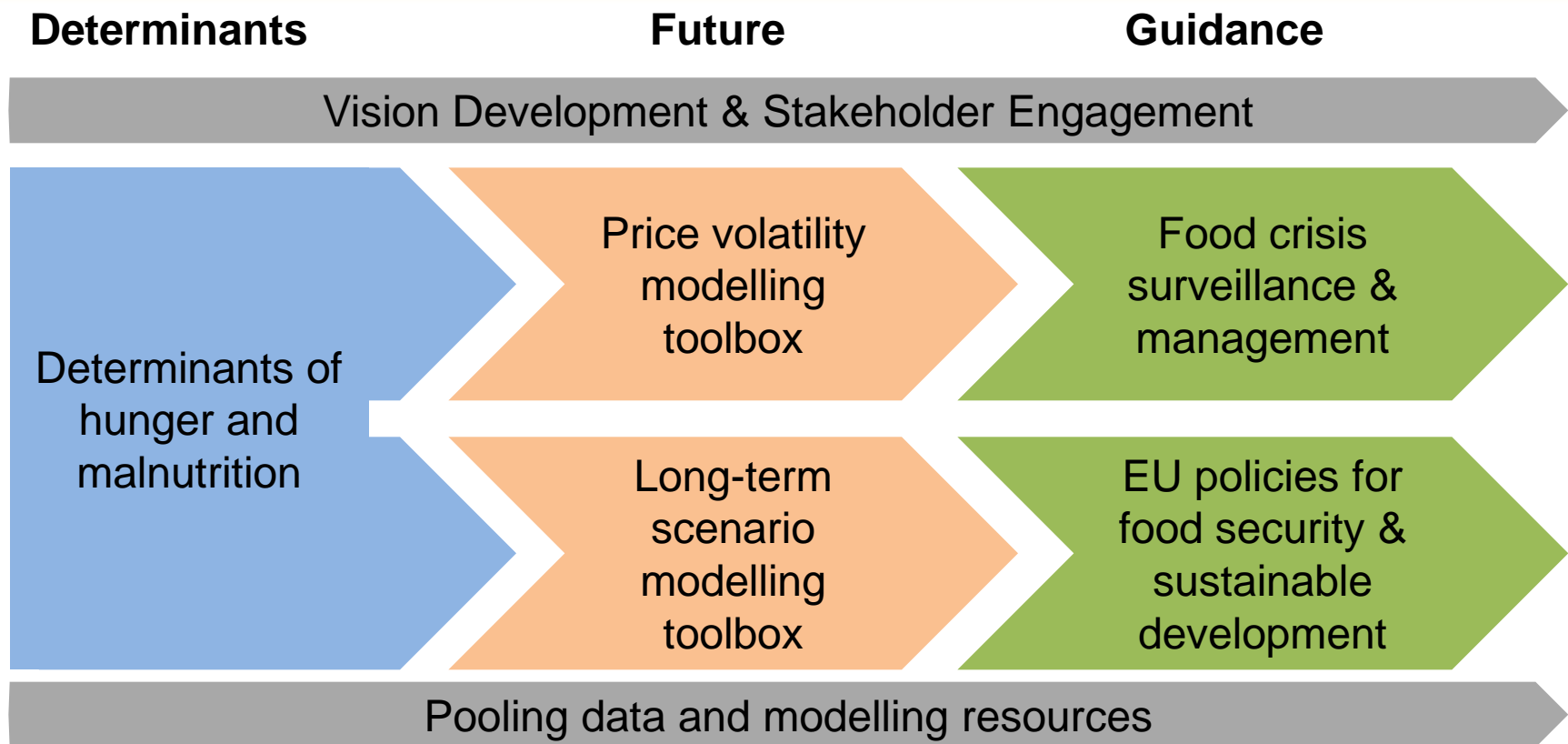
- **Determinants:** understanding the causes of hunger
- **Future:** tools for crisis surveillance and foresight
- **Guidance** on a policy framework to support food and nutrition security



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Organization of work



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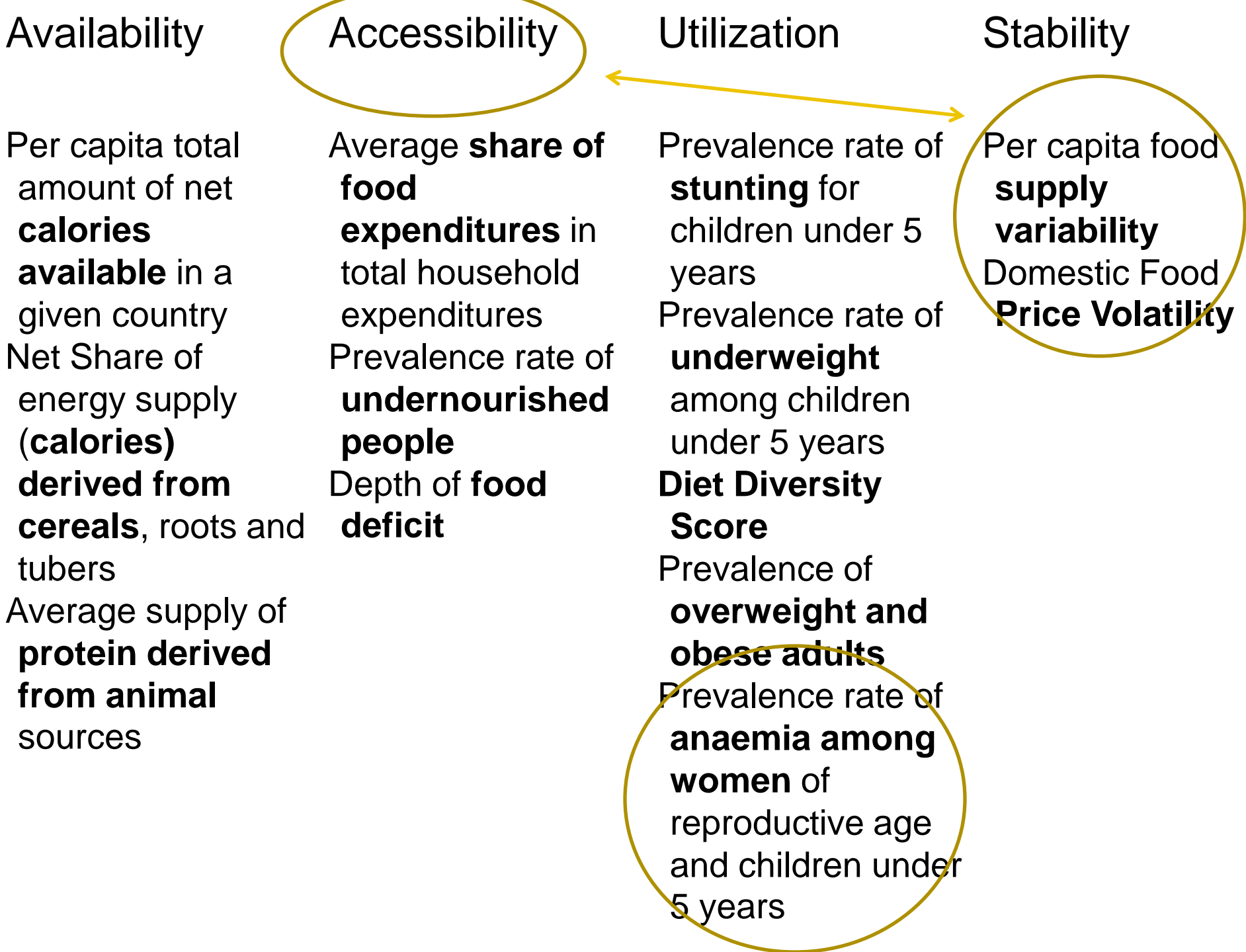


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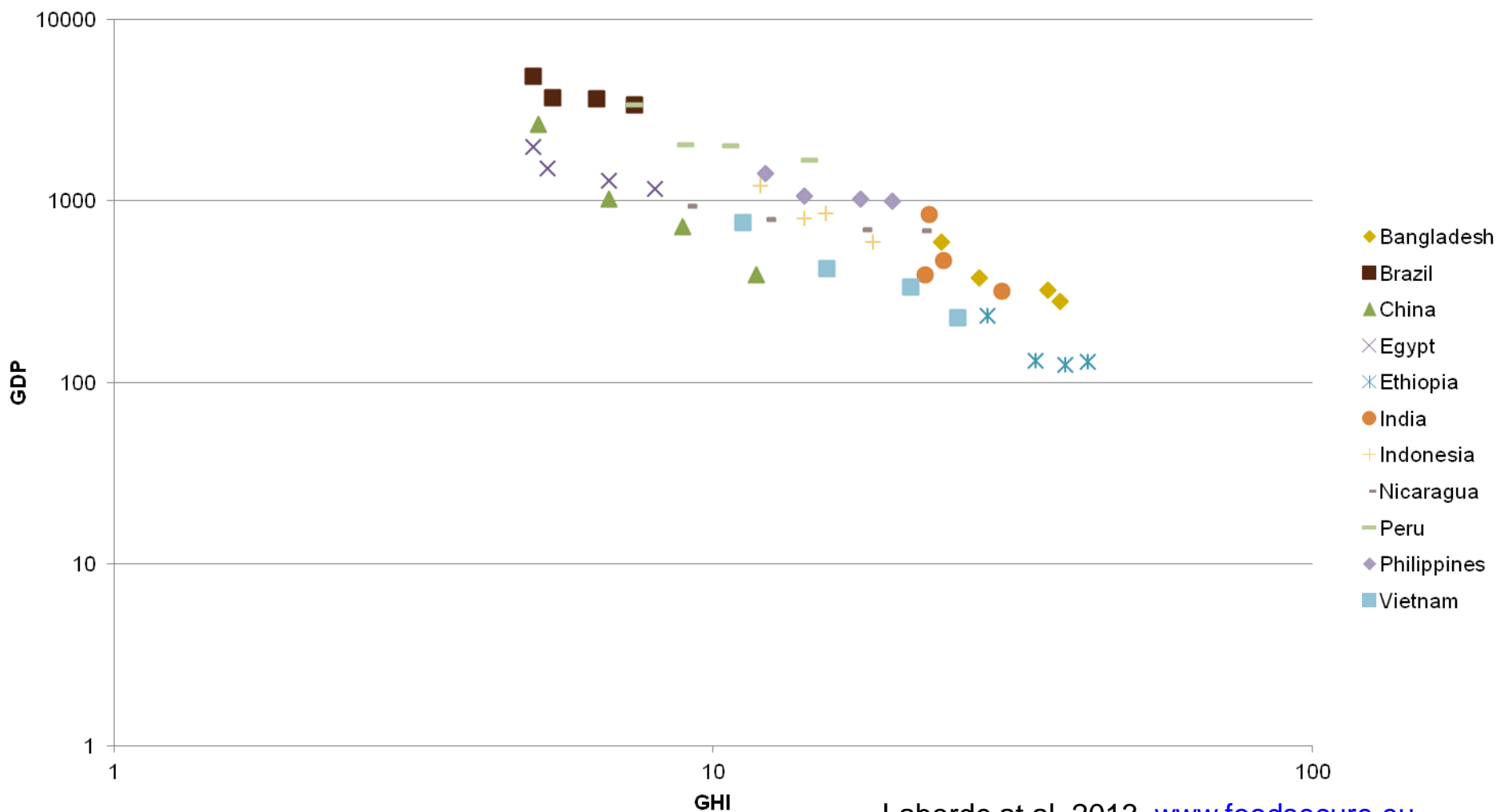
Current insights





Food security status in the long run: Income levels matter a great deal...

Relations between Global Hunger Index and GDP per capita (selected countries from 1990 to 2012)



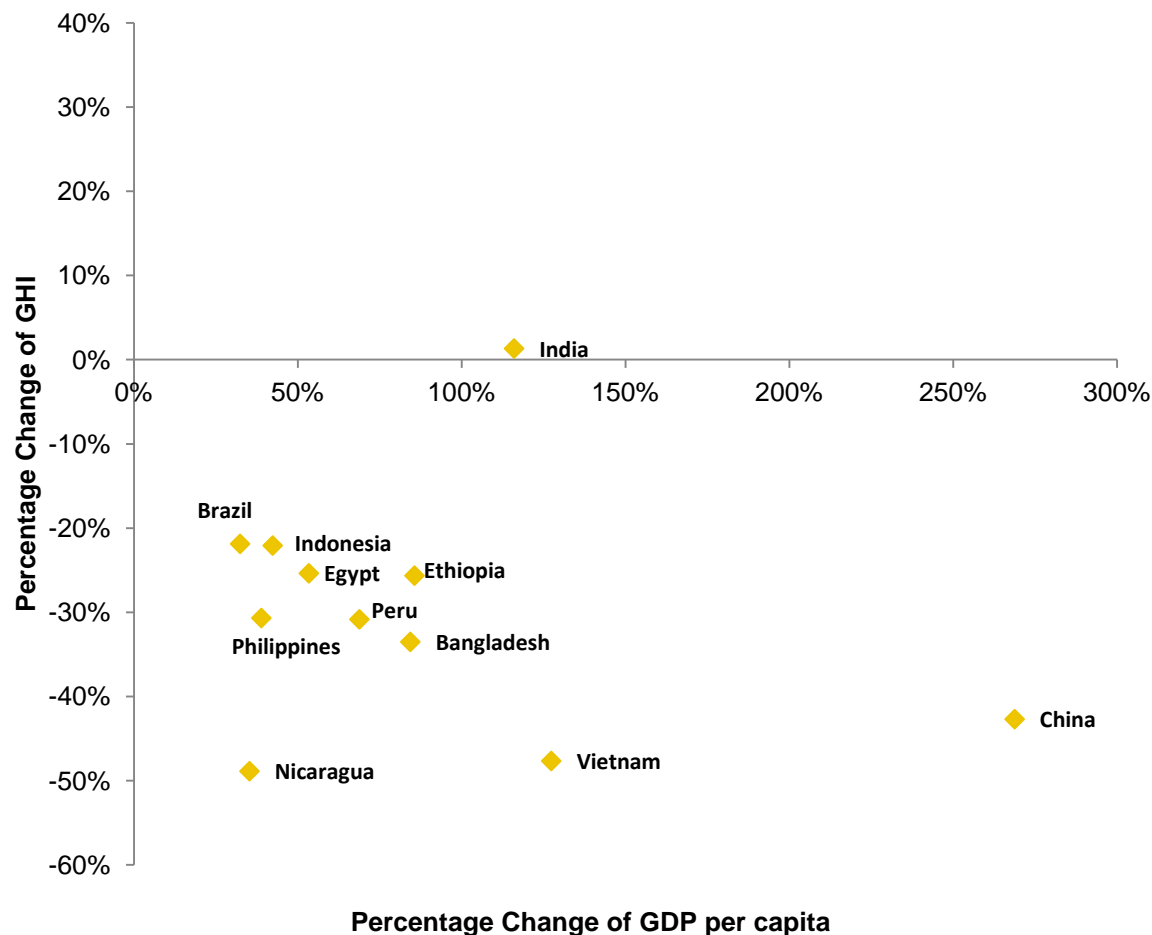
Household and individual level: inclusive growth a critical driver of FNS

Relations between Global Hunger Index and GDP per capita (selected countries from 1990 to 2012)

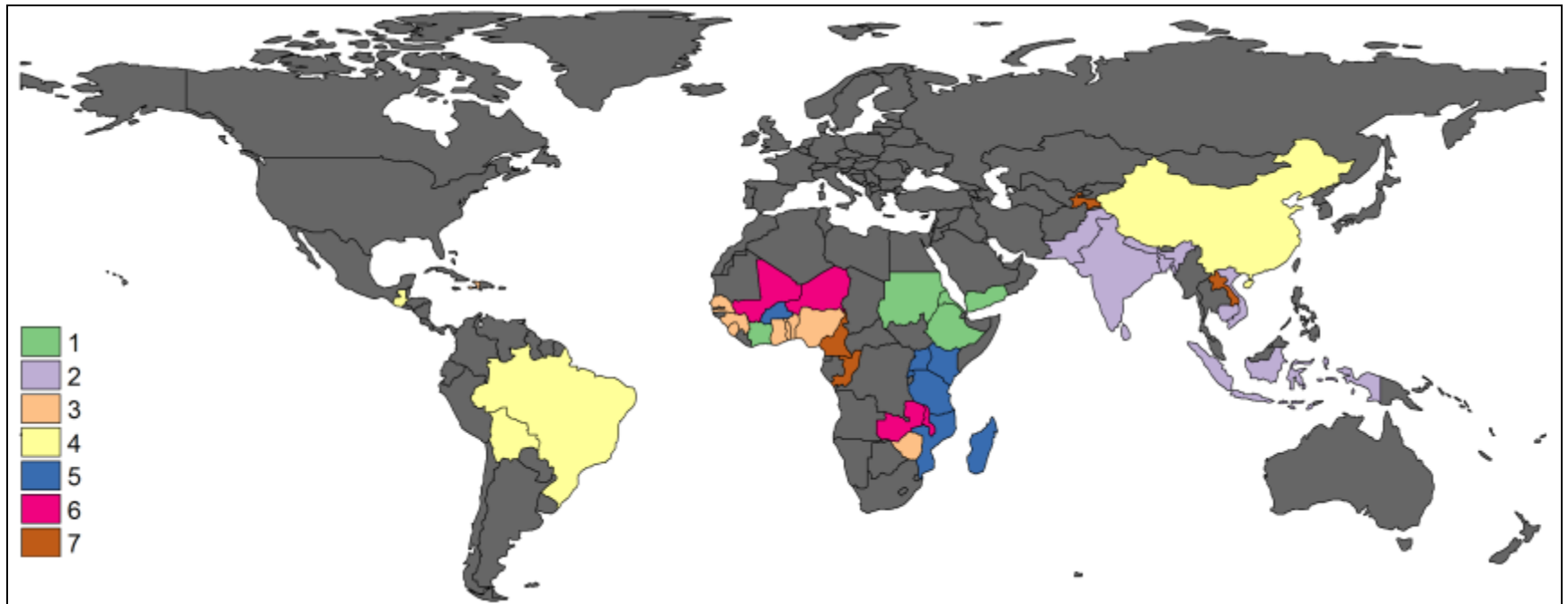
Change of GHI vs GDP per capita over Past 15 Years

Composition and distribution of GDP growth matters

Quality of governance, health and education services, market institutions



Countries with overlapping food security concerns



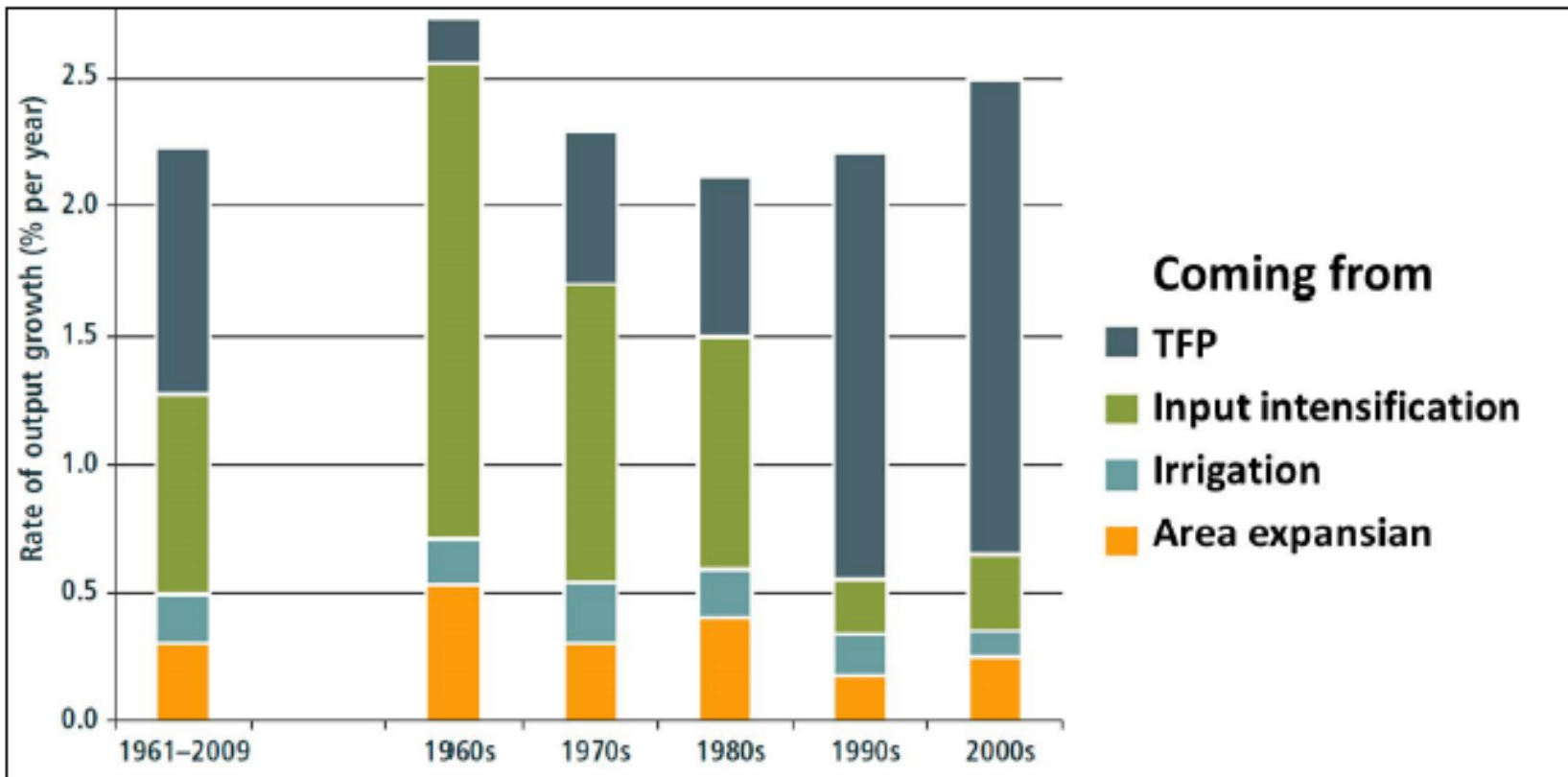
Source: Gerber et al. 2013

Country groups in FOODSECURE

group	country	FNS	AGRI	ECON	INFRA	POLIT	group	country	FNS	AGRI	ECON	INFRA	POLIT
1	Burundi						3	Togo					
1	Chad						3	Zimbabwe					
1	Cote d'Ivoire						4	Bolivia					
1	Eritrea						4	Brazil					
1	Ethiopia						4	China					
1	Sudan						4	Guatemala				N.A.	
1	Yemen						5	Burkina Faso					
2	India						5	Kenya					
2	Bangladesh						5	Madagascar					
2	Cambodia						5	Mozambique					
2	Indonesia						5	Rwanda					
2	Nepal						5	Tanzania					
2	Pakistan						5	Uganda					
2	Sri Lanka						6	Malawi					
2	Vietnam						6	Mali					
3	Benin						6	Niger					
3	Ghana						6	Zambia					
3	Guinea						7	Congo, Rep		N.A.	N.A.		
3	Haiti				N.A.		7	Cameroon					
3	Nigeria						7	Laos					
3	Senegal						7	Tajikistan					
3	Sierra Leone							Legend:		low		high	

most agricultural growth is driven by innovation

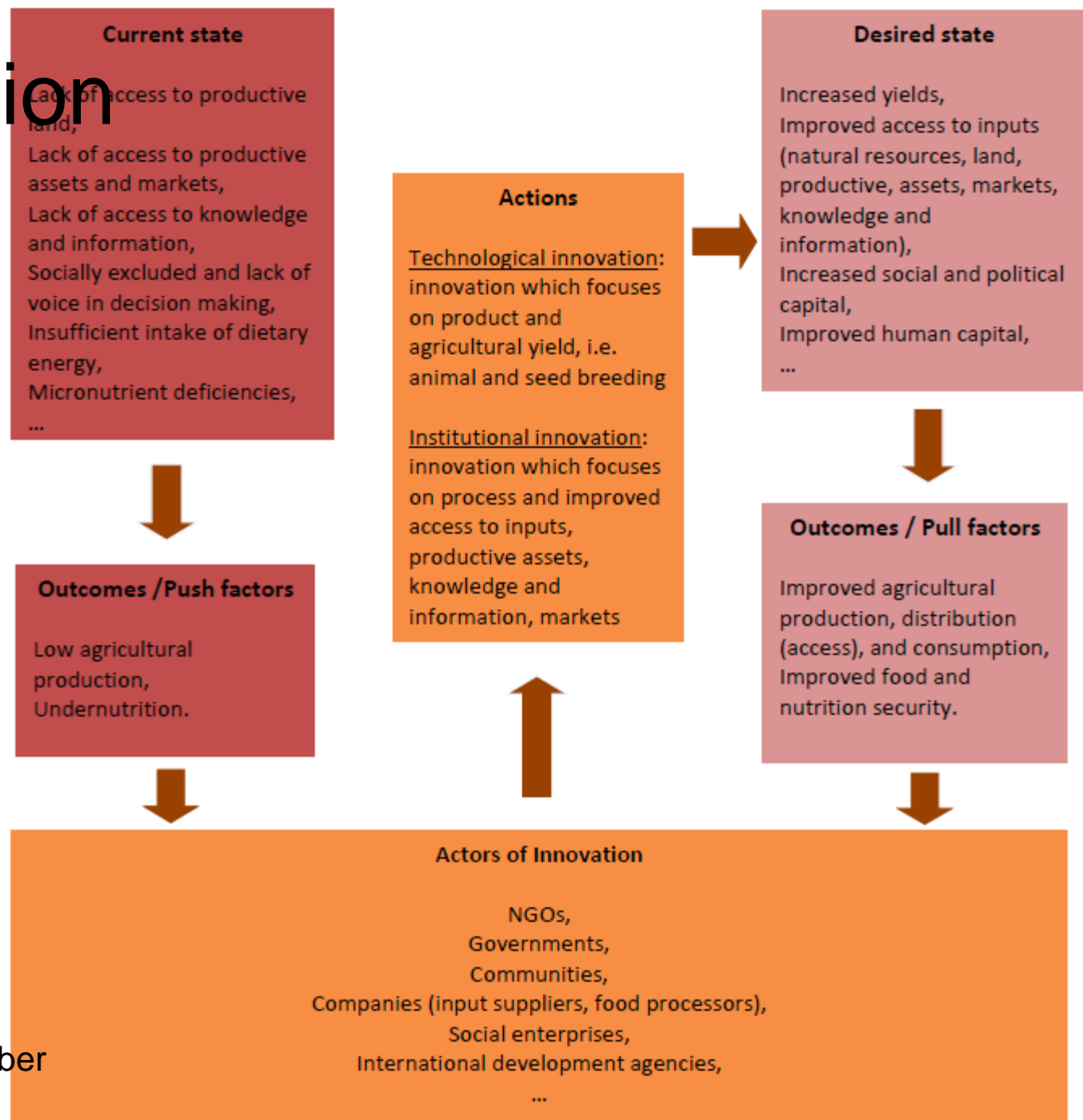
Sources of growth in global agricultural production



Source: Fuglie, 2012

Innovation & FNS

Multiple links



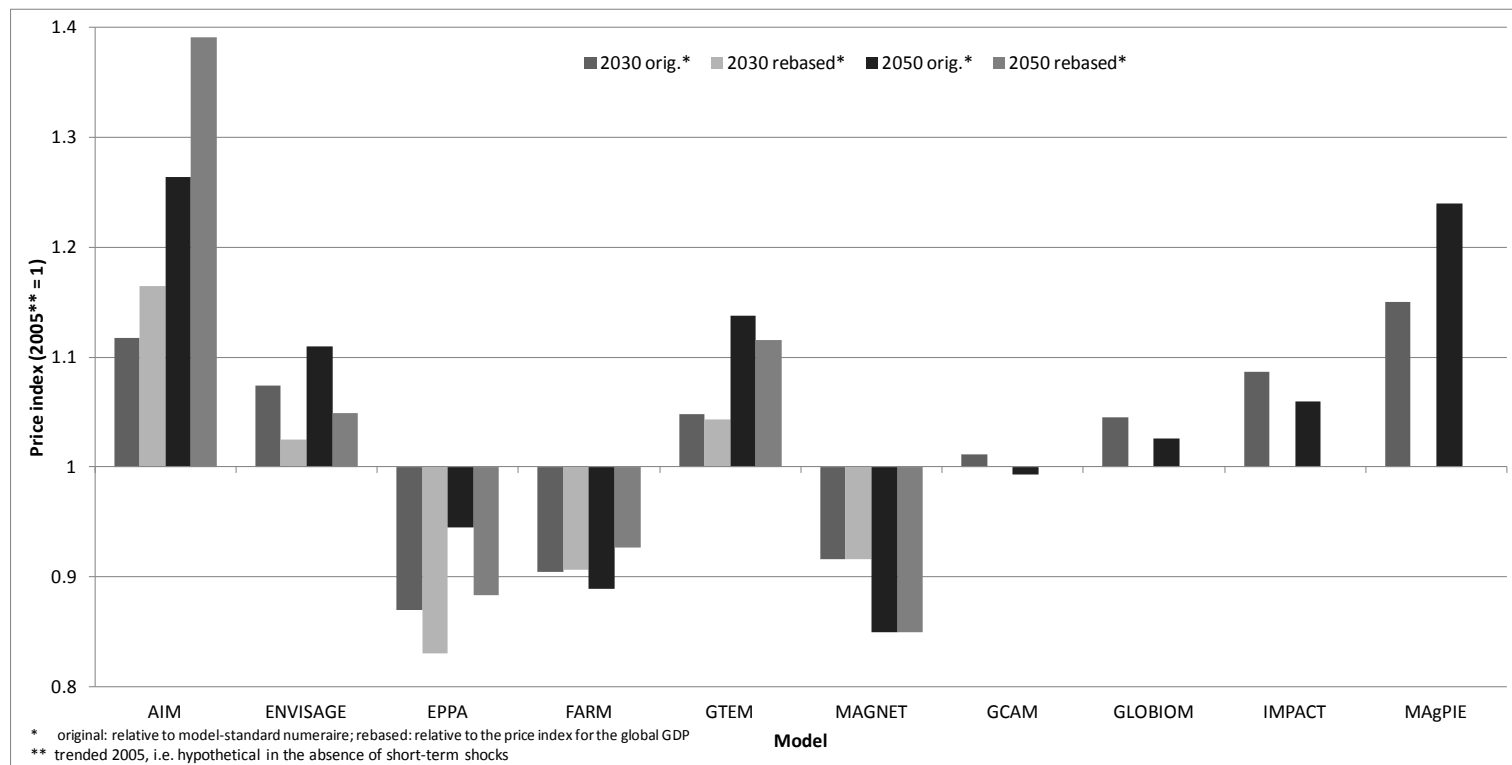
Pangaribowo, Gerber
and Tillie (2013)

Implications of Food Price Spikes

- Price spikes lead to increasing malnutrition
- Price volatility (risk) reduces price incentives, perpetuates supply and productivity problem
- **Macroeconomic Impacts** (e.g. high inflation requires increase in welfare spending; imbalances)

What about long term food prices?

- Experts seek consensus: agricultural price index up 40% to down 15% in 2050
- Range is narrower than earlier comparison



Upcoming events

- **FOODSECURE consortium meeting in Addis Ababa, Ethiopia**
 - 7-9 October 2013
- **Expert meeting for the European Commission and Parliament**
 - Early 2014
- **Further down the line**
 - February 2014 Second stakeholder scenario workshop
 - Early 2015 project conference in Nitra Slovakia The European challenge for global food security
 - Spring 2015 Geneva workshop "the right to food and ethical approaches to food security"

Partnerships and collaboration

- CTA facilitates participation of ACP experts in the Addis Ababa meetings
- Modelling agricultural markets: Ag model intercomparison (AgMIP), OECD long term scenarios
- JRC Foresight on food and nutrition security
- Farming First supported the e-consultation on innovations and food security
- ARD partners Ag4Impact, Montpellier panel, GCARD, etc.
- Regional organizations and policy platforms



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Thank you!

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