

Food security and environmental change

2-4 April 2008



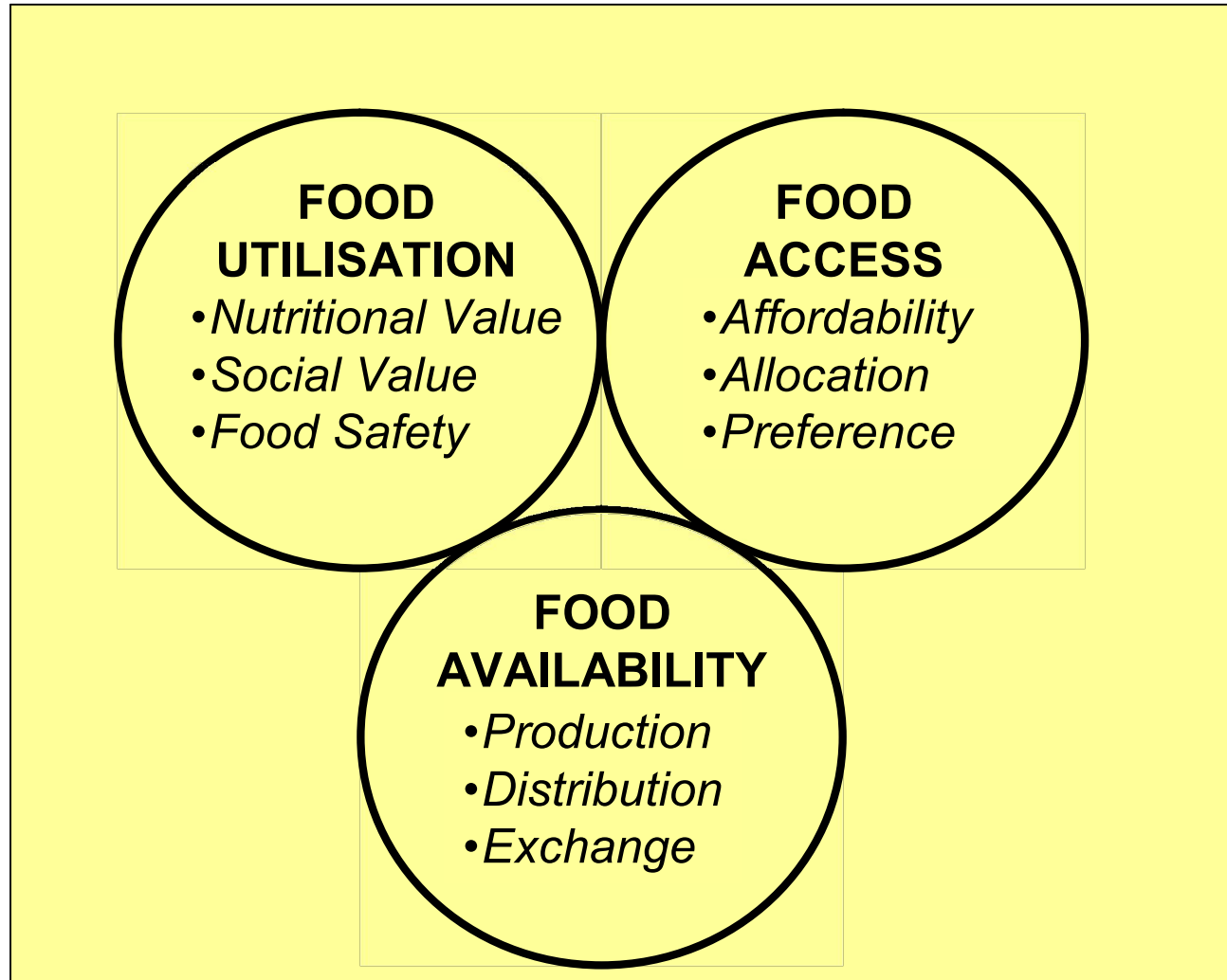
Food security

... exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

(World Food Summit 1996)



Elements of food security



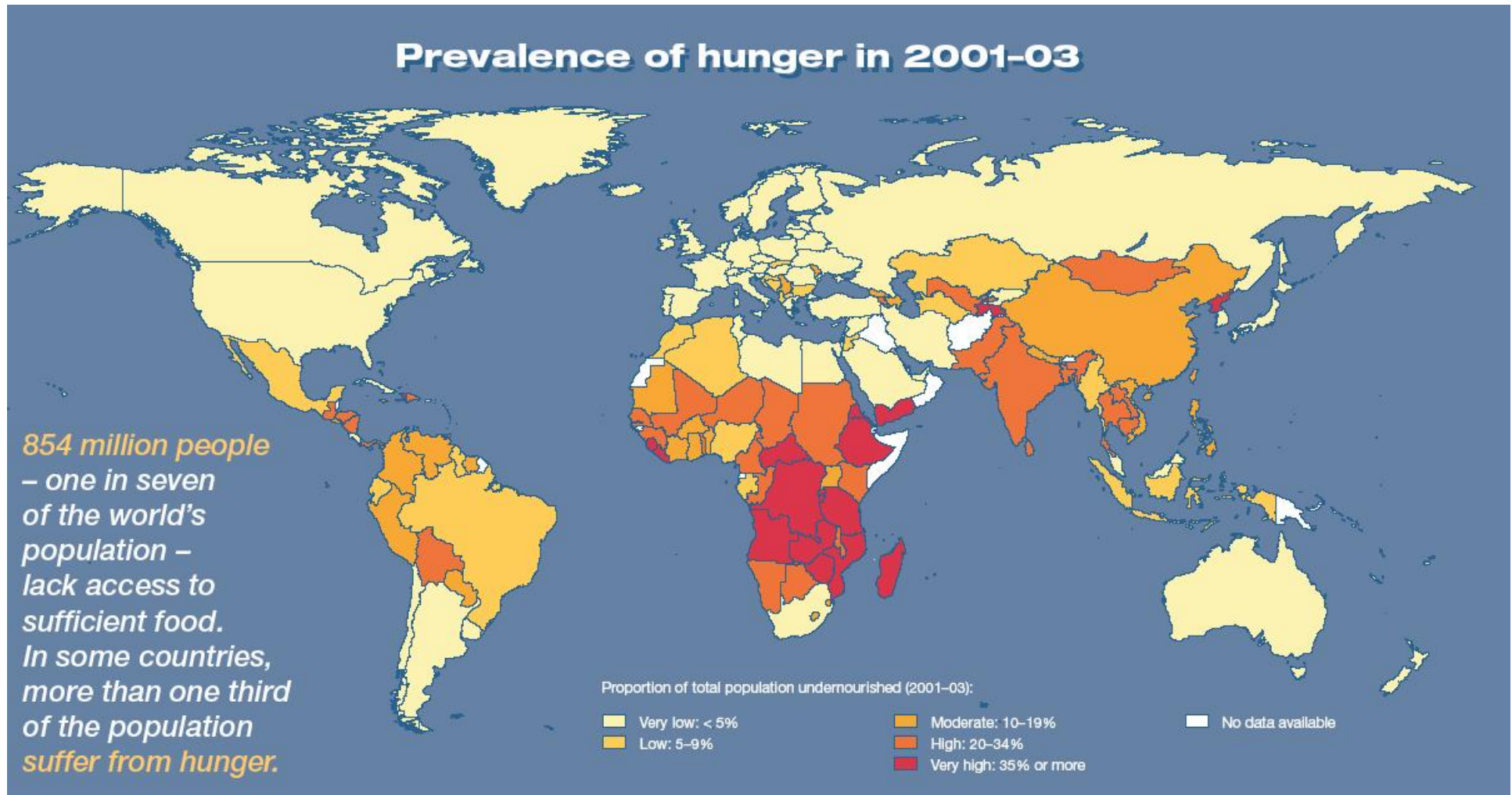
Global environmental change

- Dominated by (but not only) climate change
- Global change threatens food systems
 - production, processing, distribution, consumption
 - access, safety, value
- Food systems cause environmental changes
- Responses (adaptation, biofuels, carbon labels) can benefit from management of food systems but can feed back to cause food insecurity and environmental degradation

Some benefits of a food systems approach

- Identifies interactions of global change with food system,
 - Focus on multiple vulnerabilities within the food system
 - Highlights underemphasised aspects of the food system such as diverse food types and their sensitivity to climate change
 - Analyses feedbacks to the earth system from the food system (GHG, biodiversity)
 - Highlights embodied water and carbon in food
- Allows analysis of a multiple food system outcomes
 - food security
 - ecosystem services
 - social welfare

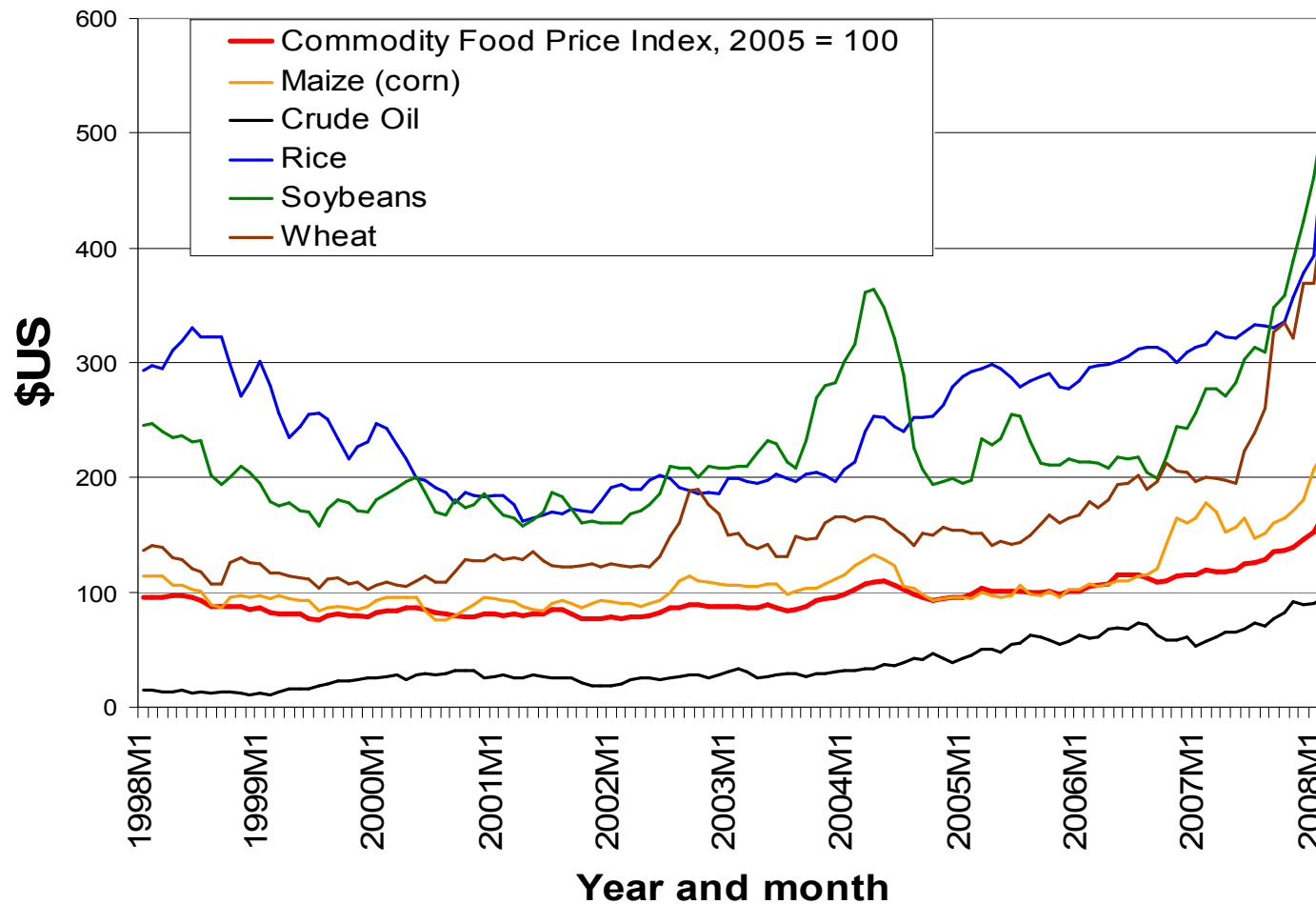
Millions are food insecure



Source: FAO State of Food Insecurity 2006

Food price increases and insecurity

Commodity Prices



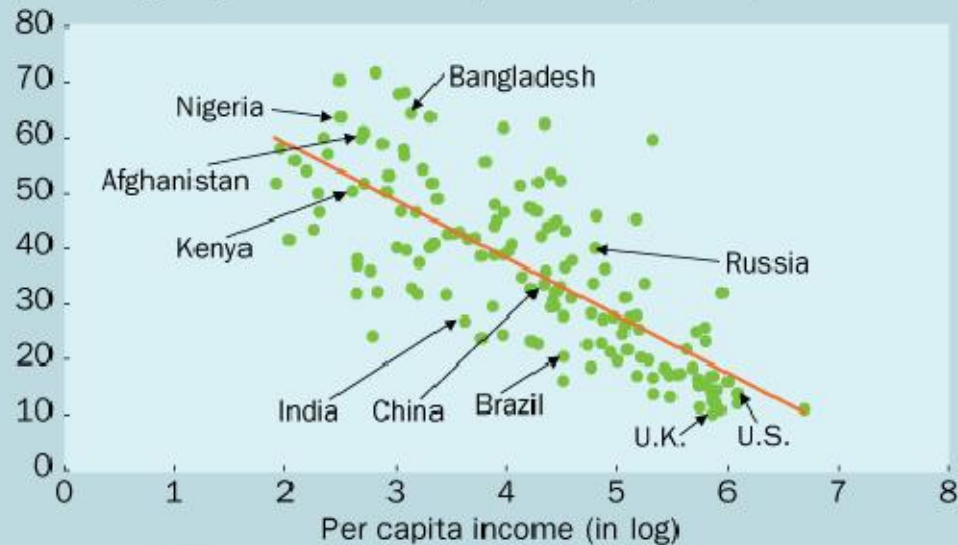
Poverty and food insecurity

Chart 2

Paying more

Poor people tend to spend relatively more of their income on food, and therefore suffer more when food prices go up.

(food weighting within consumer price index, percent)

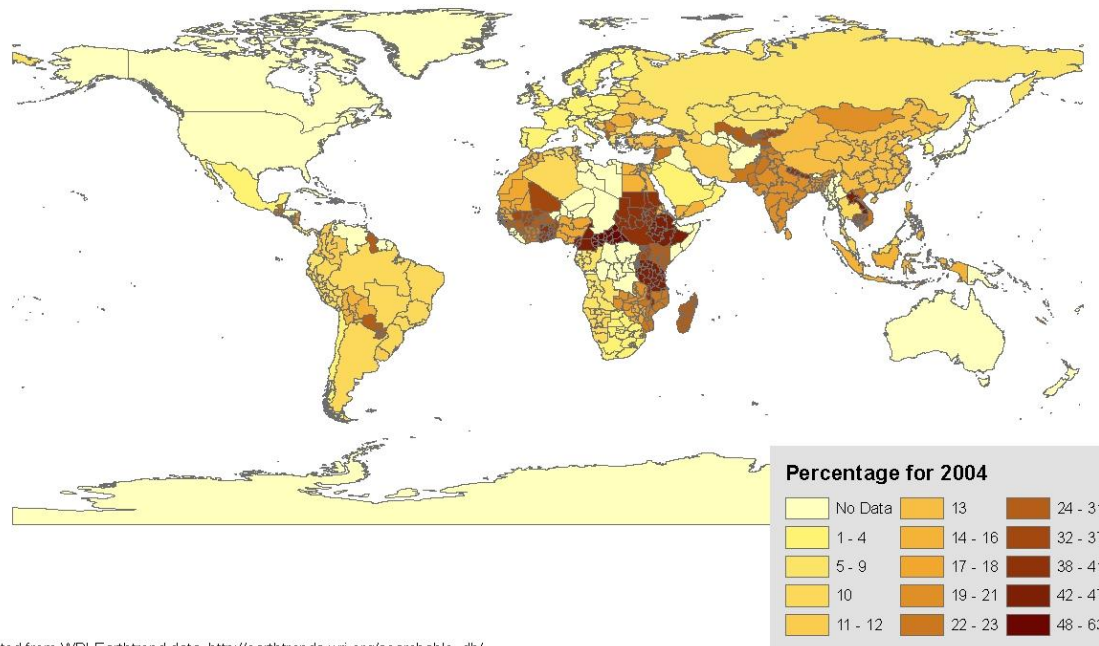


Source: IMF staff calculations.



Many economies and households rely on agricultural and food system incomes

Percentage of GDP from Agriculture (2004)



Adapted from WRI Earthtrend data, http://earthtrends.wri.org/searchable_db/



Food system governance

- Markets shifts from
 - shorter to longer supply chains
 - local to regional and international trade
 - smaller to larger retailers
 - more processed food
- Control moves from public/state to private initiatives
 - Government funded to private funded research and investment
 - From regulation to voluntary standards (e.g. fair trade, sustainably produced, carbon labels)

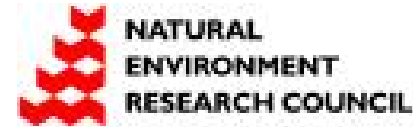




GLOBAL
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CHANGE



WCRP



GECAFS

*(Global Environmental Change and Food Systems)
An ESSP international research project*

www.gecafs.org

GECAFS Goal

To determine strategies to cope with the impacts of Global Environmental Change (GEC) on food systems and to assess the environmental and socioeconomic consequences of adaptive responses aimed at improving food security.



GECAFS questions and approaches

- How will GEC affect the vulnerability of food systems in different regions?
- How might food systems be adapted to cope with GEC so as to enhance food security?
- What would be the consequences of adaptation options for environmental and socioeconomic conditions?
- **Conceptual research on food systems, vulnerability, scenarios and decision support**
- **Regional analysis in Indo-Gangetic Plain, Caribbean, Southern Africa, Europe**
- **Partnerships with international and regional stakeholders and research organizations**

