

# ***Food Security:***

## ***Local to Global Perspectives on Sustainable Food Systems, Food and Nutrition Policy, and Cultural Politics***

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# GOAL 2

END HUNGER, ACHIEVE FOOD SECURITY AND  
IMPROVED NUTRITION AND PROMOTE  
SUSTAINABLE AGRICULTURE

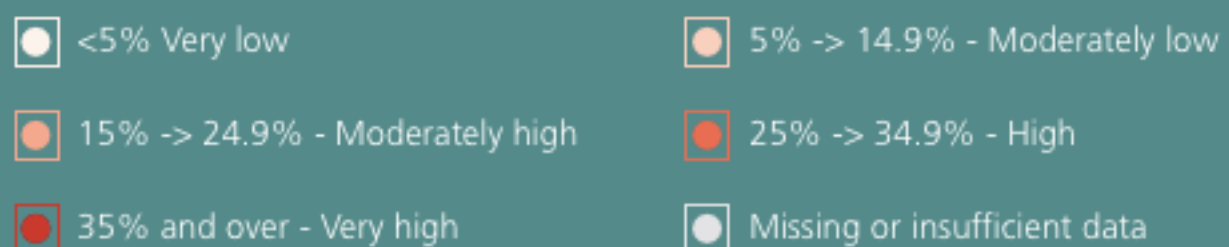
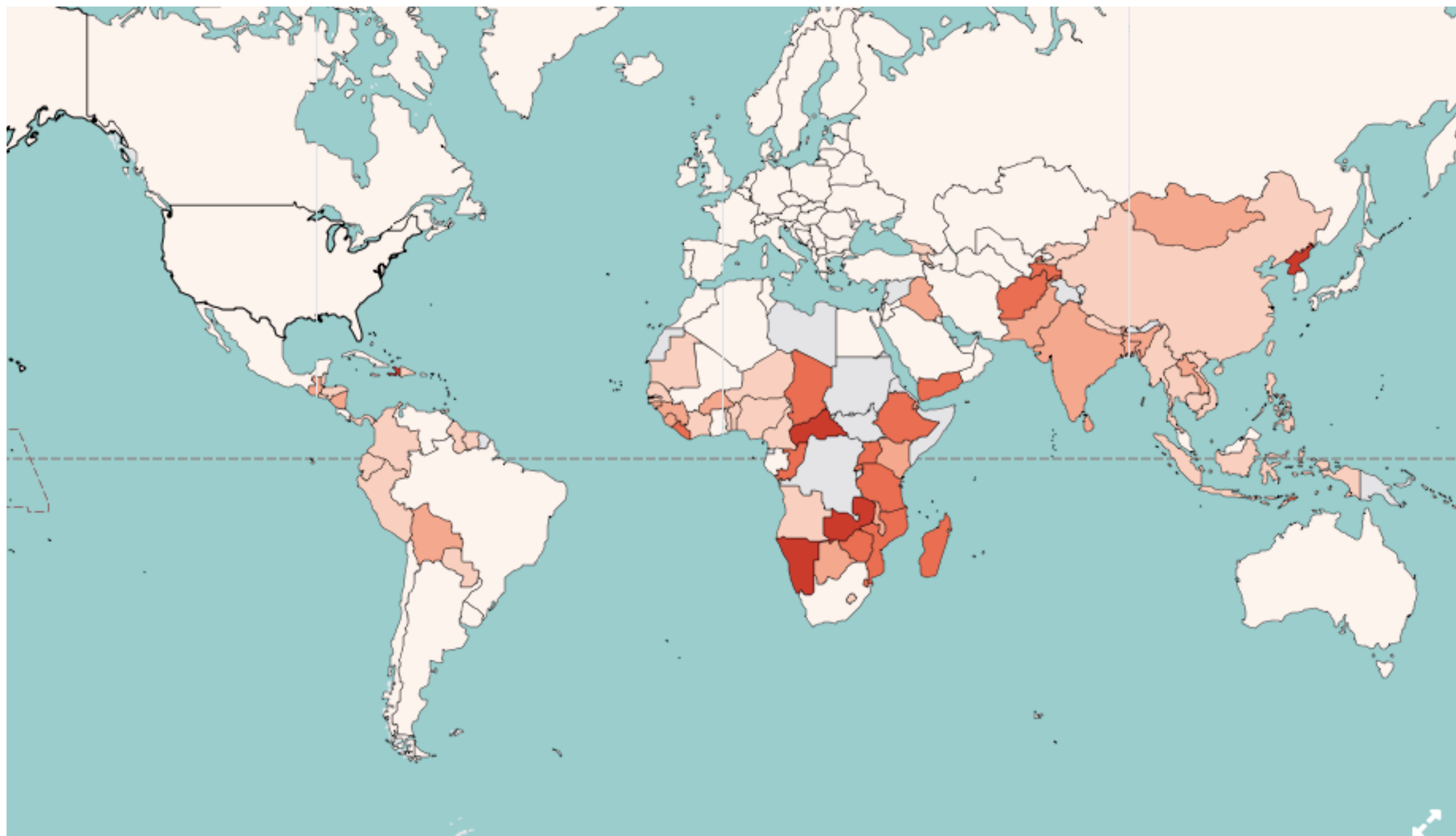
4 Targets by 2030

3 Targets by 2020

**SUSTAINABLE DEVELOPMENT GOALS**

More at [sustainabledevelopment.un.org/sdgsproposal](https://sustainabledevelopment.un.org/sdgsproposal)





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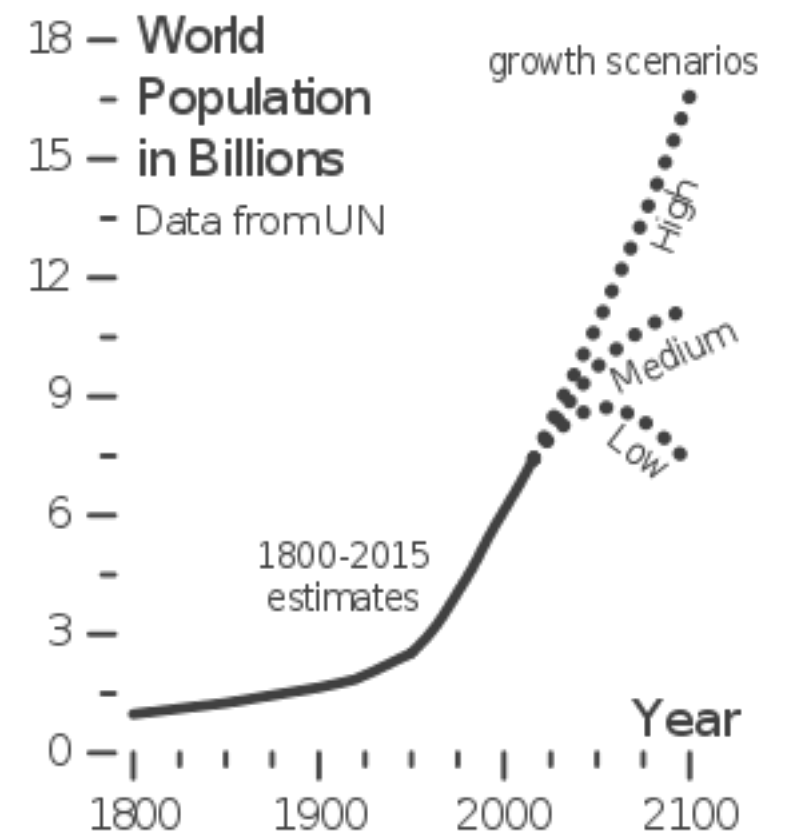
# OPENING QUESTIONS

- How many people can the earth support?
- Who's hungry: how many? where? when? why?
- Ecological, economic, political causes/solutions—associated food policy
  - what should be done?
  - who should do it?
  - how to know if food policies & interventions are doing any good?
  - at what scale (scaling up or scaling down)?
- How can a human rights approach help?

# How many people the earth can support

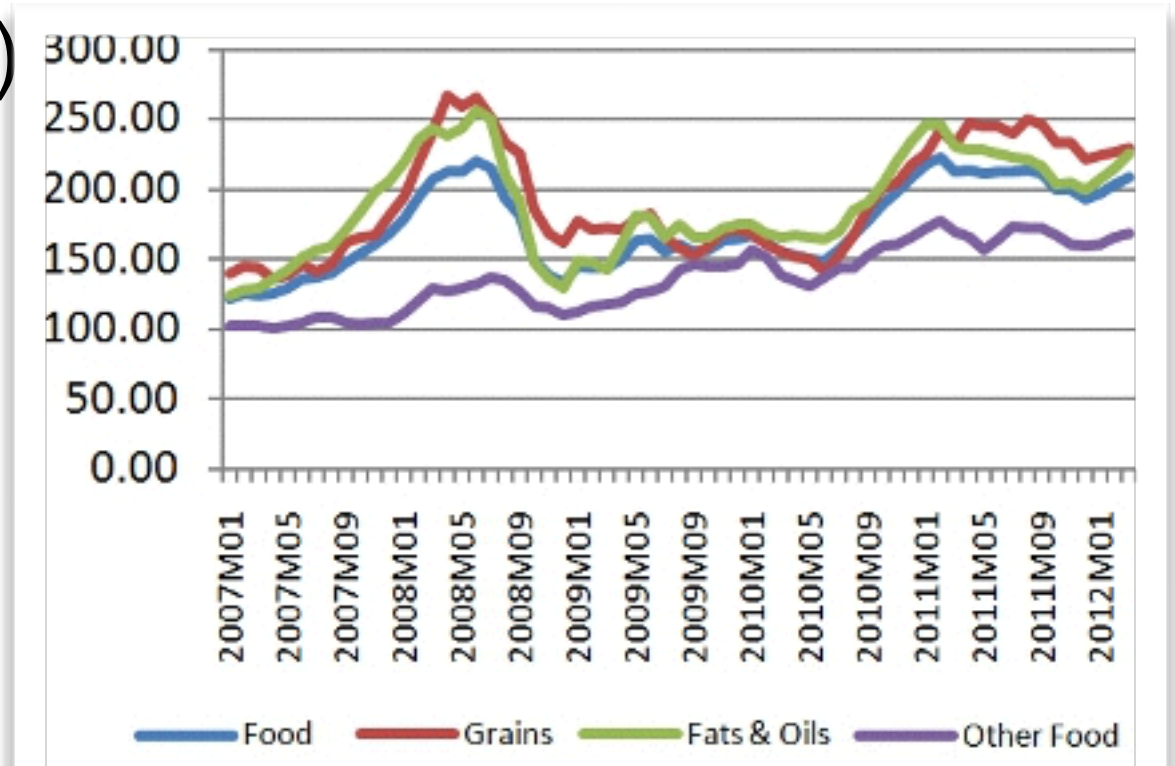
*Wide estimates: “too many people now!” to world of x billion*

- Malthusian (demographic limits)
- Environmental determinism
- Cultural and human ecology



*Wrong (then revised) question: at what standard of living?*

- More than enough basic food produced to feed everyone an adequate diet
- *How many people the earth can support depends on what people are eating & growing, food vs. non-food end-uses*
- Nutritional well-being tied also to local to global food prices (terms of exchange) all along the food chain (since 2007 higher & more volatile food prices)
- Conflict (past, active, potential)



# Who's Hungry?

## Concepts & Definitions

- **Under-nourishment**/basic food-energy (calories)
- **Food Insecurity**/(adequate nourishment)

*“access of all people at all times to enough food for an active, healthy life”*

*“culturally appropriate”*

*“accessible in socially acceptable ways”*

*“Stability”*

*“Sustainability”*

# Hunger: Food Shortage, Poverty, Deprivation

Aggregate availability (*shortage* or famine)

Household food security (insecure *access* (poverty))

Individual nutrition (biological *utilization* or social *deprivation*))

gender

age

occupation

political-geographic locality, rural/urban

diet



## PANEL 1.1 THE SCALE OF MALNUTRITION IN 2016

Although the numbers of people affected by different types of malnutrition cannot simply be summed (because a person can suffer from more than one type), the scale of malnutrition is staggering.

OUT OF A WORLD POPULATION OF  
**7 BILLION**



About **2 billion** people suffer from micronutrient malnutrition



Nearly **800 million** people suffer from calorie deficiency

OUT OF **5 BILLION**  
ADULTS WORLDWIDE



Nearly **2 billion** are overweight or obese



**One in 12** has type 2 diabetes

OUT OF **667 MILLION** CHILDREN UNDER AGE 5 WORLDWIDE



**159 million** under age 5 are too short for their age (stunted)



**50 million** do not weigh enough for their height (wasted)



**41 million** are overweight

OUT OF 129 COUNTRIES WITH DATA, **57 COUNTRIES**

have serious levels of both undernutrition and adult overweight (including obesity)

Sources: Micronutrient malnutrition: WHO (2009); overweight and obesity: WHO (2016j); child stunting, wasting, and overweight: UNICEF, WHO, and World Bank (2015); calorie deficiency: FAO (2015b); diabetes: WHO (2016c). Multiple burdens: The cutoffs for placing countries in each indicator category are as follows: under-age-5 stunting  $\geq 20$  percent, women of reproductive age anemia  $\geq 20$  percent, and adult overweight and obesity (BMI  $> 25$ )  $\geq 35$  percent. Full results appear in Appendix Table A1.1.



# Takeaways

- How many people can the earth support? (depends on what people are eating & what standards of living and inequalities are acceptable)
- Who's hungry: how many? where? when? & why? (at minimum, 800 million undernourished, but many more food insecure, especially in SSA, South and East Asia, & conflict & post-conflict countries; Millions malnourished)
- Ecological, economic, political causes & solutions: Agricultural & nutritional investments required to build local capacities & motivations for sustainable diets. Financial & health, gender- and conflict-sensitive approaches also necessary for economic growth, disaster-preparedness, & resilience
- How can a human rights approach help? Understand & act on political-cultural processes & pathways that favor or constrain local nutritional outcomes

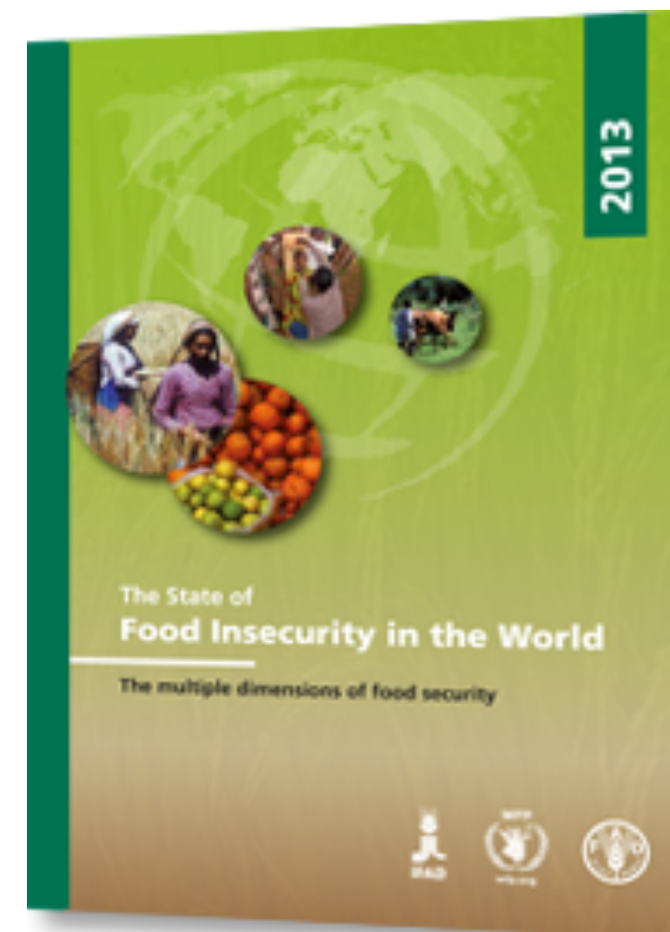
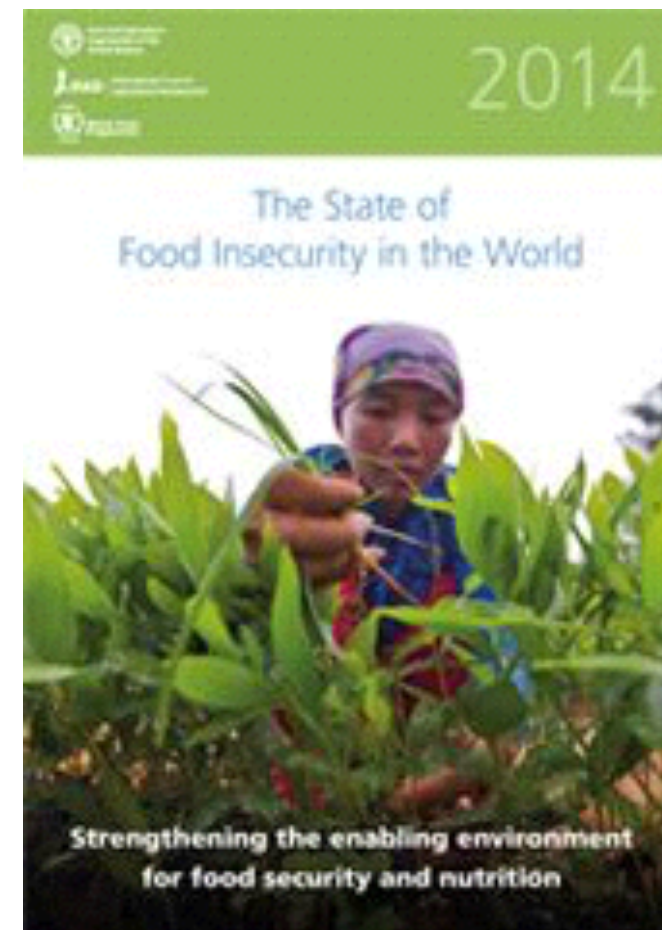
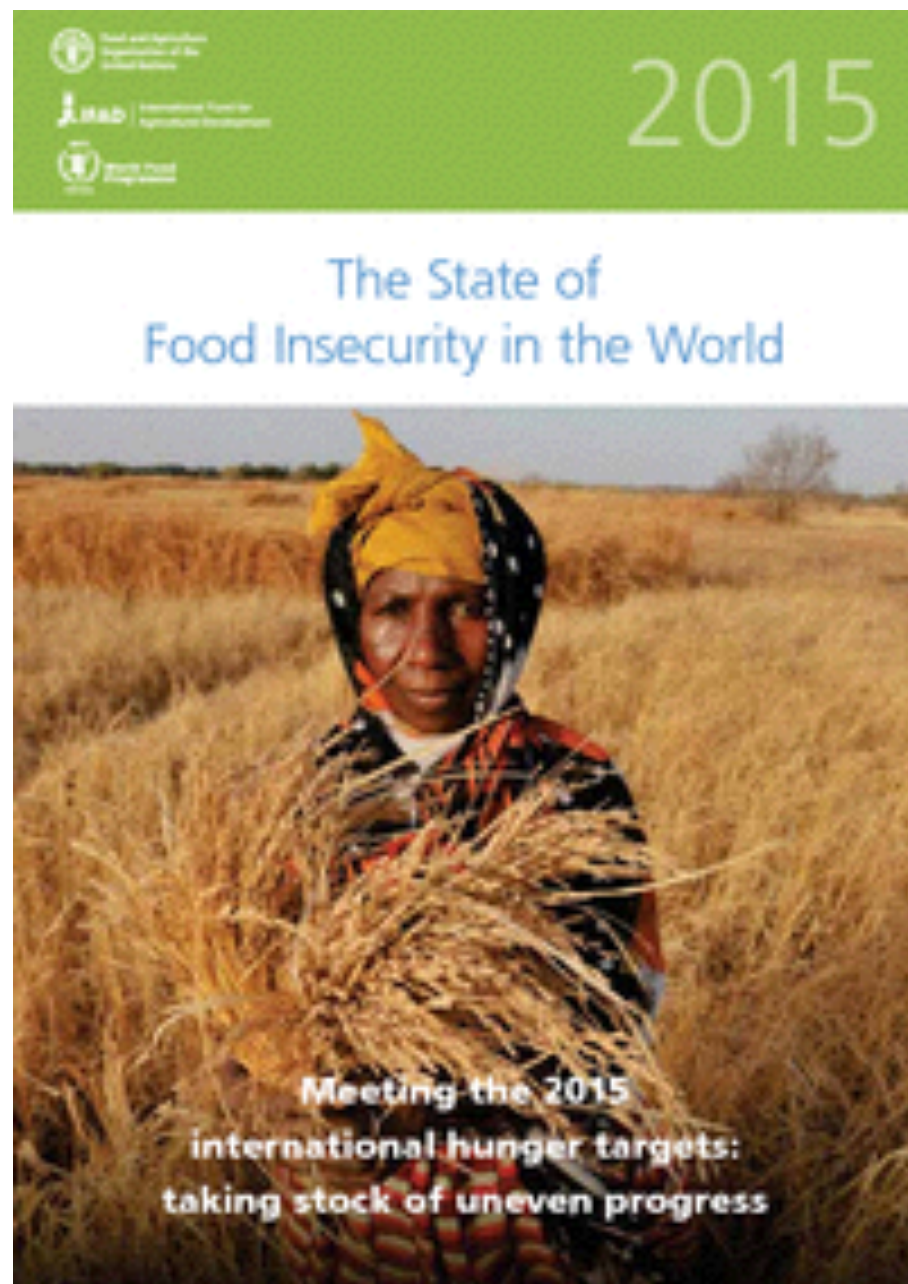
# Agents & Agencies Governing Food, Nutrition, & Agricultural Change.

Ellen Messer, Ph.D.



# Overview

- Chronologies (Framings): Development, Nutrition, Human Rights
- Official Institutions: UN Rome Food Agencies, additional UN Agencies, IFIs, CGIAR (especially IFPRI), country-level programs
- Non-governmental Institutions: INGOs, National NGOs, CBOs
- Private (non-profit) philanthropies: Ford, RF, BMGF
- Private (for-profit) sector
- Public-private partnerships



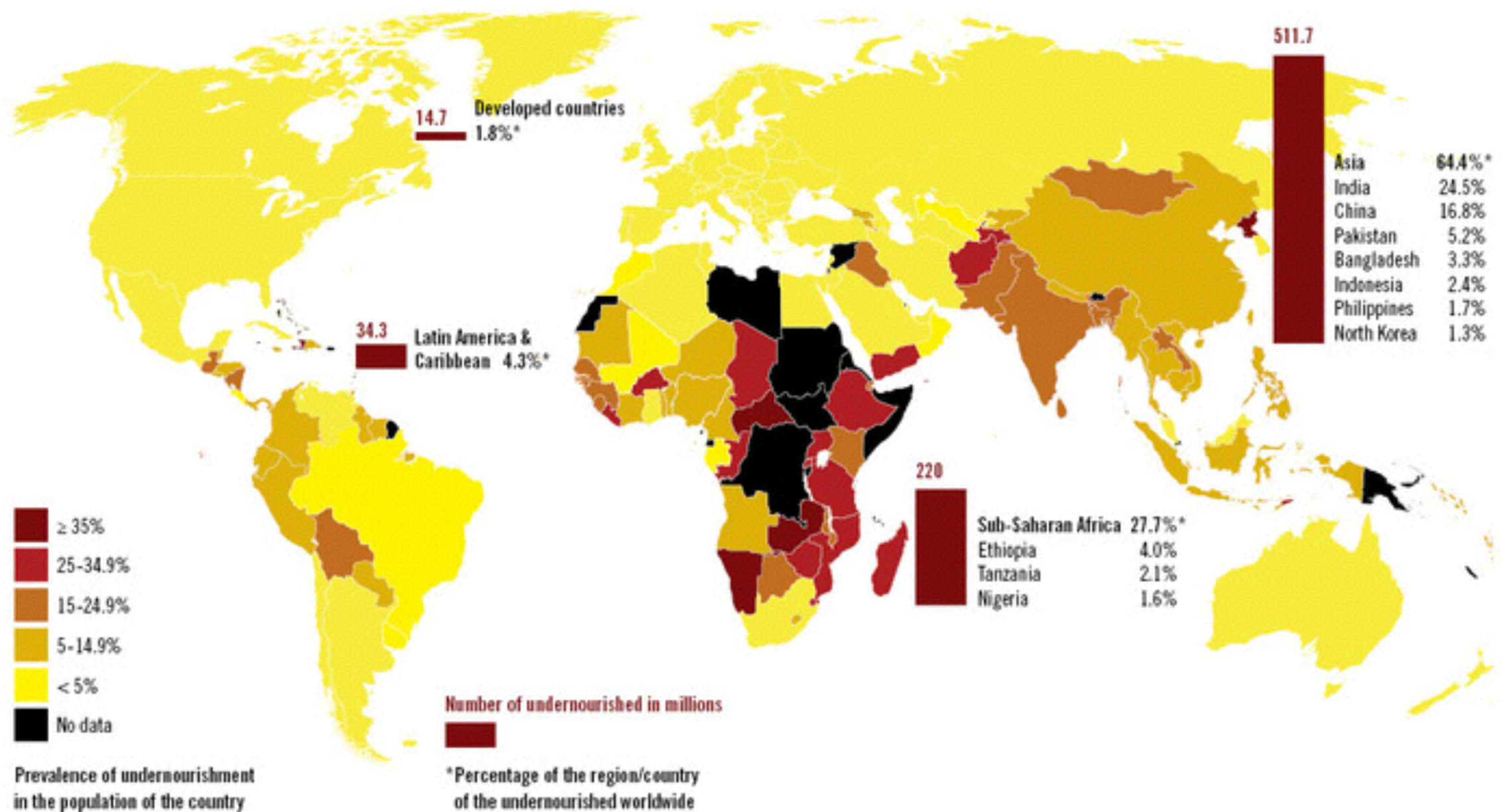
fao undernutrition map 2016



FOOD SECURITY INDICATORS	DIMENSION
Average dietary energy supply adequacy Average value of food production Share of dietary energy supply derived from cereals, roots and tubers Average protein supply Average supply of protein of animal origin	AVAILABILITY
Percentage of paved roads over total roads Road density Rail lines density	PHYSICAL ACCESS
Domestic food price index	ECONOMIC ACCESS
Access to improved water sources Access to improved sanitation facilities	UTILIZATION
Cereal import dependency ratio Percentage of arable land equipped for irrigation Value of food imports over total merchandise exports	VULNERABILITY
Political stability and absence of violence/terrorism Domestic food price volatility Per capita food production variability Per capita food supply variability	SHOCKS
Prevalence of undernourishment Share of food expenditure of the poor Depth of the food deficit Prevalence of food inadequacy	ACCESS
Percentage of children under 5 years of age affected by wasting Percentage of children under 5 years of age who are stunted Percentage of children under 5 years of age who are underweight Percentage of adults who are underweight Prevalence of anaemia among pregnant women Prevalence of anaemia among children under 5 years of age Prevalence of vitamin A deficiency (forthcoming) Prevalence of iodine deficiency (forthcoming)	UTILIZATION



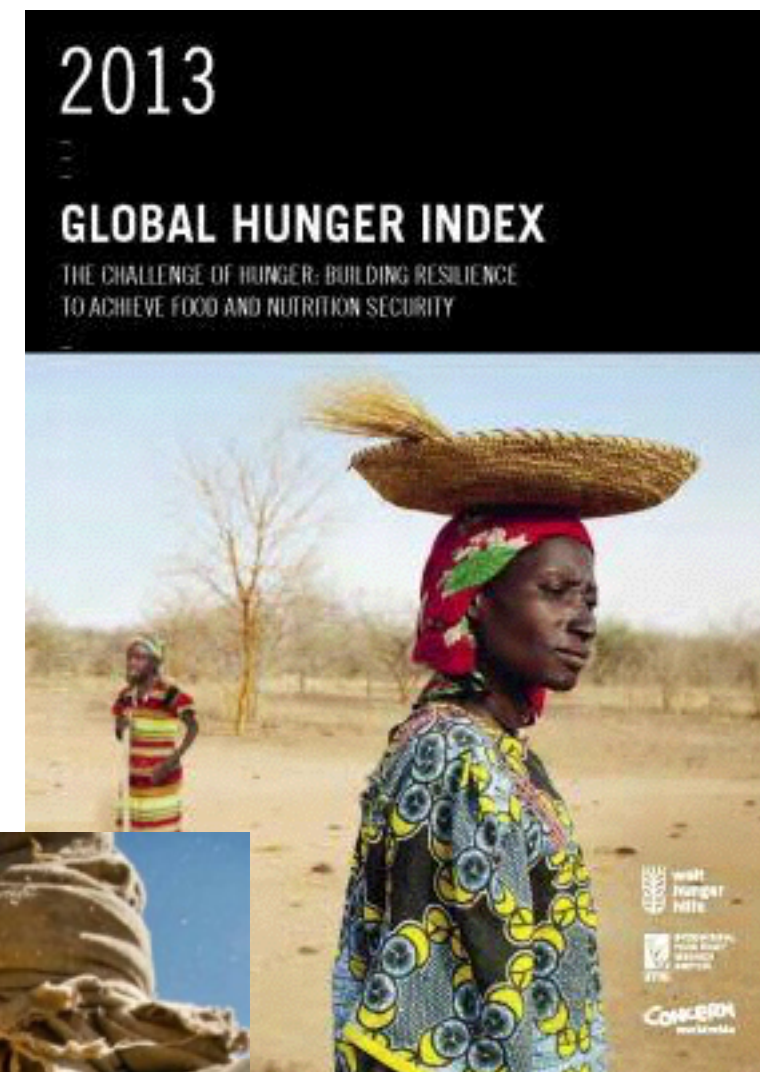
## The world map of undernourishment



Source: FAO (2015), data for the period 2014-2016







2016 ghi map



Global/International Agencies  
UN (FAO, WFP, UNDP, UNHCHR)

CGIAR

World Bank & IFI

(I)NGOs

Foundations

National Agencies

Agriculture, Development, Health, Food & Nutrition

USAID, USDA, FDA

ODI (UK)

National Nodes of NGOs, Think Tanks

National or regional foundations



# Food First & Spinoffs







# Takeaways:

## Food Security & Sustainability

- Four pillars: Food availability, access, utilization, stability — add sustainability
- Intersecting volatilities: environmental and climate change; fluctuating food and commodity prices (especially since 2007-2008; also financial markets and terms of trade); politics (violent civil wars and conflicts but connected to all of the above)
- Expanding & narrowing technology choices (conventional, advanced genetic, vs. organic or agro-ecological agriculture; ever more precisely formulated vs. “whole” or minimally processed foods)
- “Food First” (“Food Sovereignty”) vs. “comparative advantage” (trade) approaches target production, food-access, nutrition plus sustainability and social-equity

Local initiatives  
Sustainability