



Global Health-challenges and opportunities for Universities

A.HAINES



LONDON
SCHOOL *of*
HYGIENE
& TROPICAL
MEDICINE

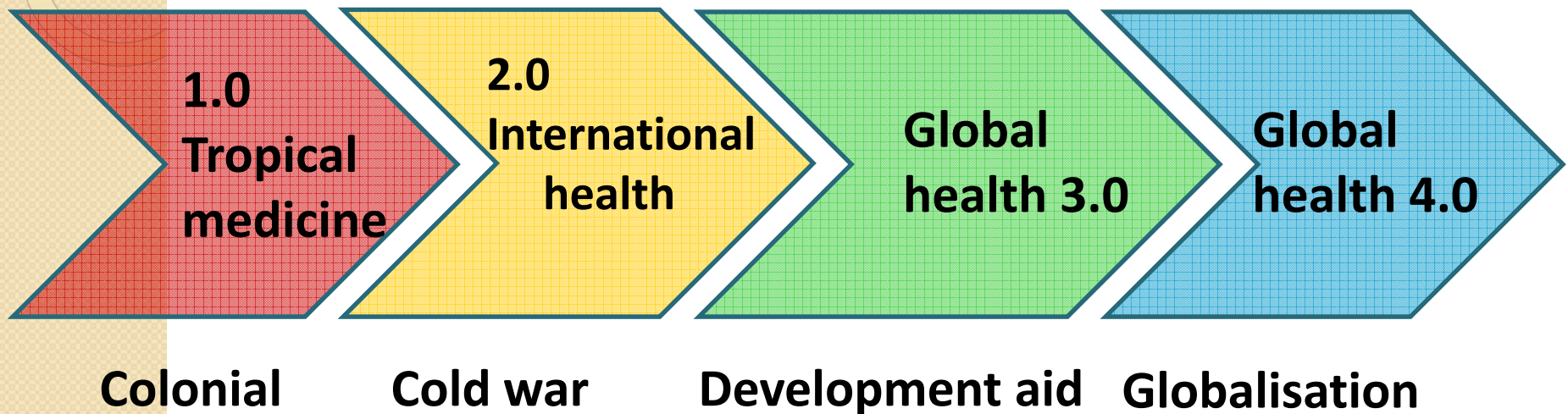


What is global health?

- Global health can be defined as ‘where the determinants of health or health outcomes circumvent, undermine or are oblivious to the territorial boundaries of states and thus beyond the capacity of individual countries alone to address through domestic institutions.’

Lee K, Collin J Global eds. (2005) Global Change and Health

Global health.... A concept in evolution



Source: Peter Piot Global Health 4.0 CUGH Seattle 2010

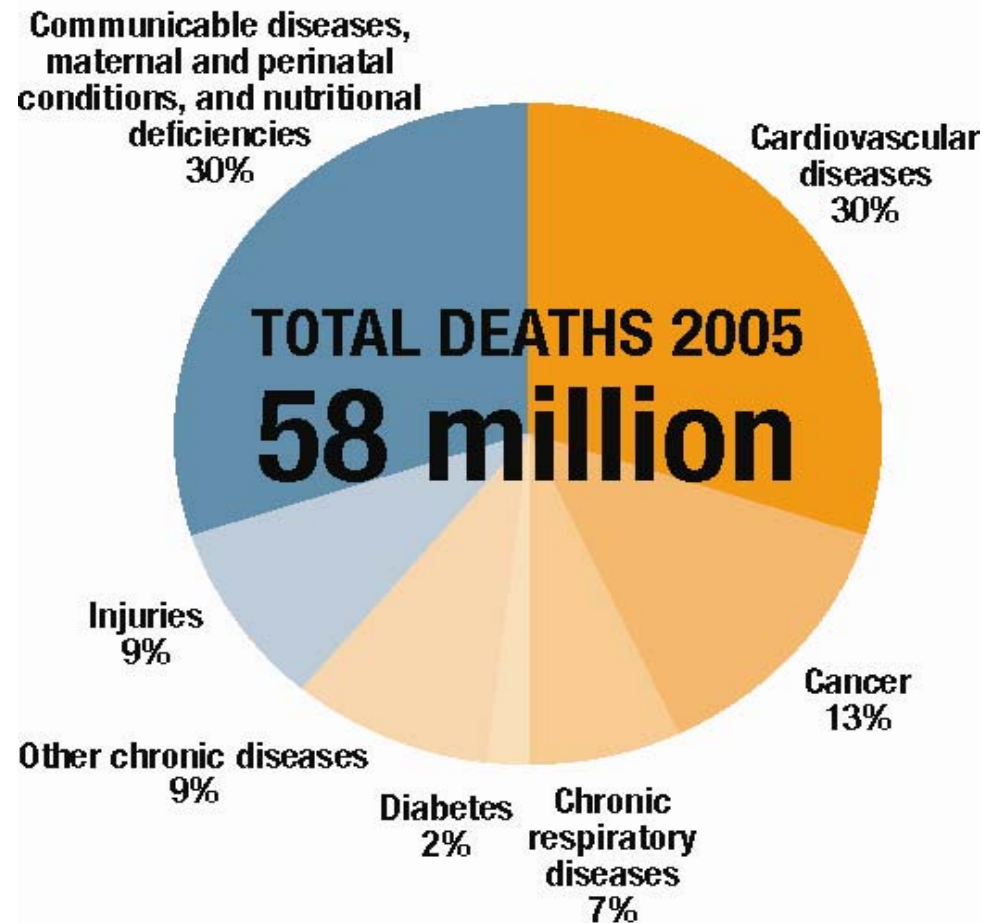
3.0

- High income countries
- PI = North Am/Europe
- Study sites
- Largely biomedical
- Infectious diseases
- Vaccine research, Clinical trials, epidemiology, implementation

4.0

- Worldwide
- PI = diverse
- Centres of excellence
- Multi-disciplinary
- Broad health issues and disparities
- Full spectrum from discovery to health systems research and on global influences on health

Projected main causes of death, worldwide, all ages, 2005



Source: WHO Global Report: Preventing Chronic Diseases: a vital investment, 2005.
http://www.who.int/chp/chronic_disease_report/en/index.html

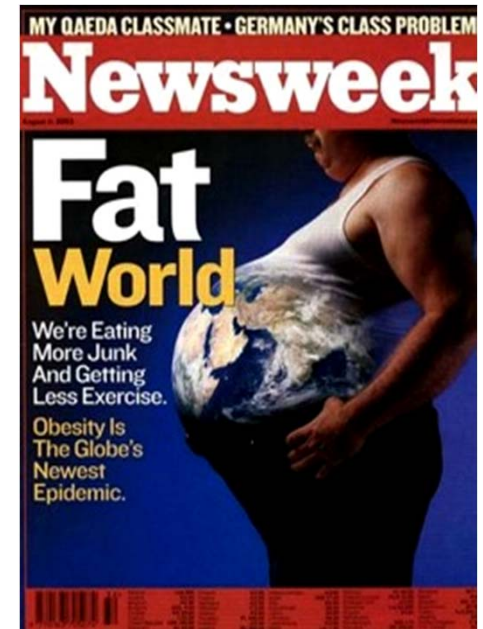
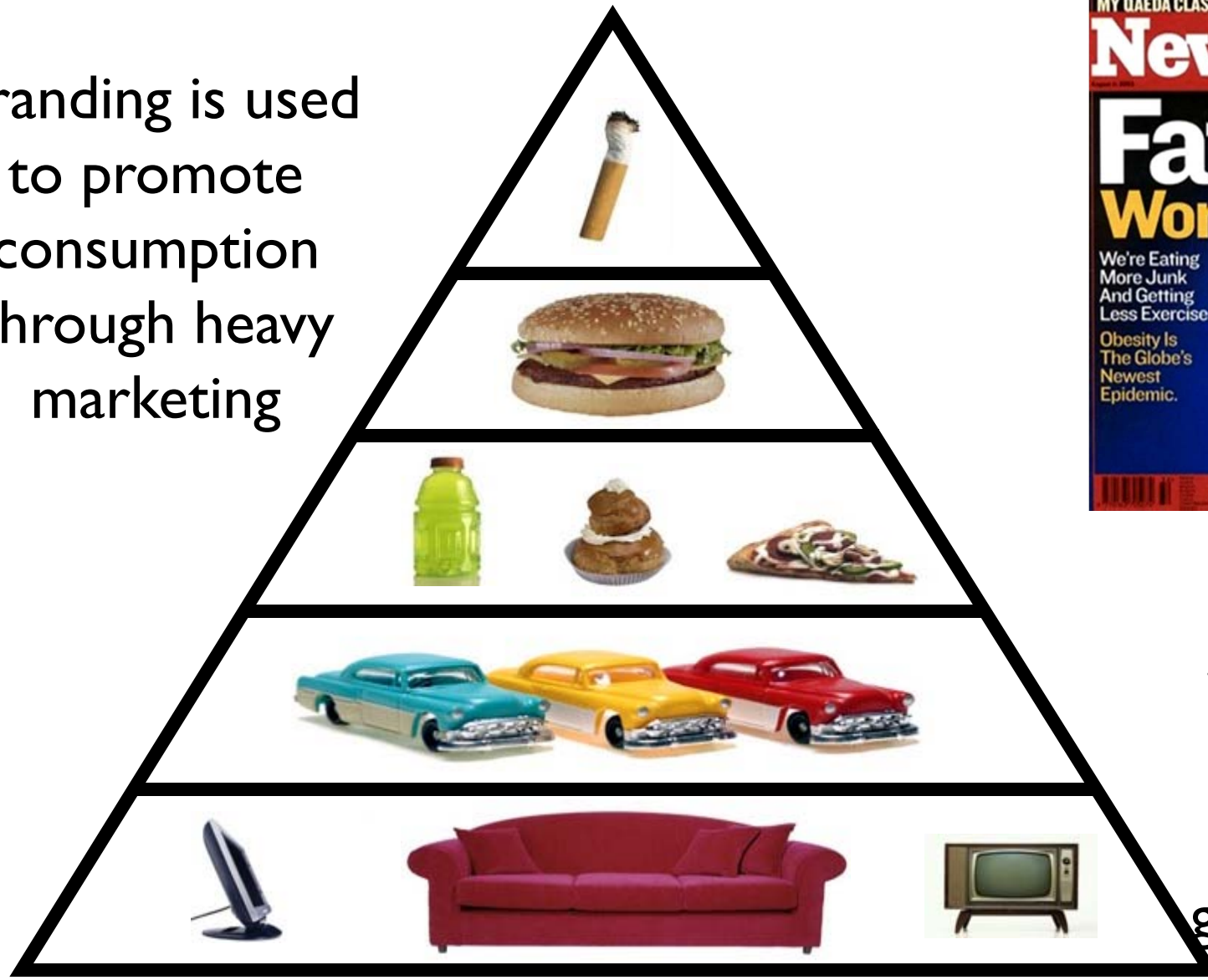


Global factors affecting the determinants of health

- *Energy, food, and water security,*
- *Global environmental change*
- *Global trade*
- *Global population growth, changing demography*
- *Urbanisation, Migration and social movements*
- *Acceleration of new communication modalities*
- *New technologies*

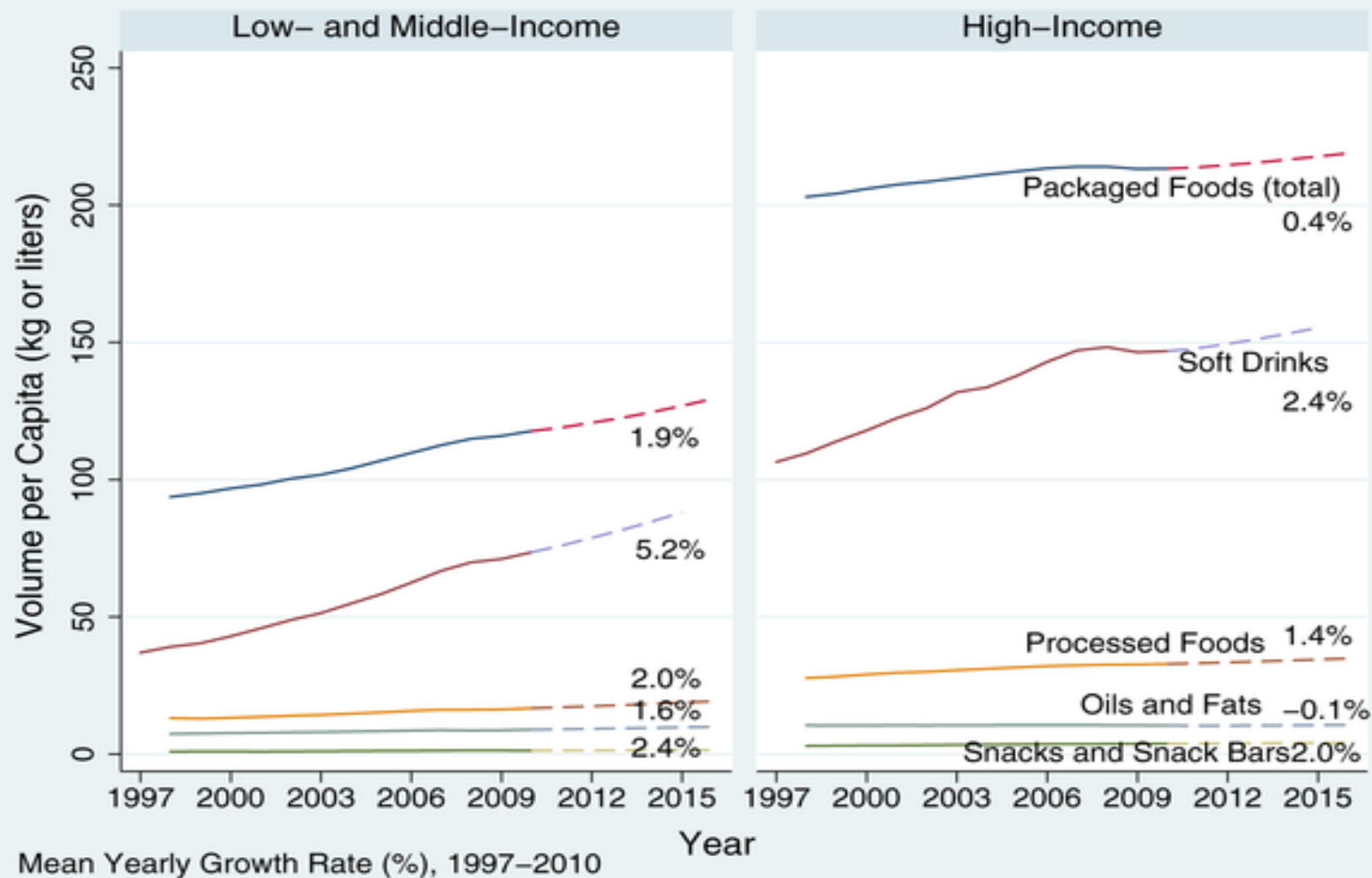
Globalization of Unhealthy Consumption

Branding is used
to promote
consumption
through heavy
marketing



Interest in
foreign
investment
is used to
preclude
government
regulation

Trends in per capita sales of unhealthy food and beverage commodities, 1997–2010 and projected to 2016.

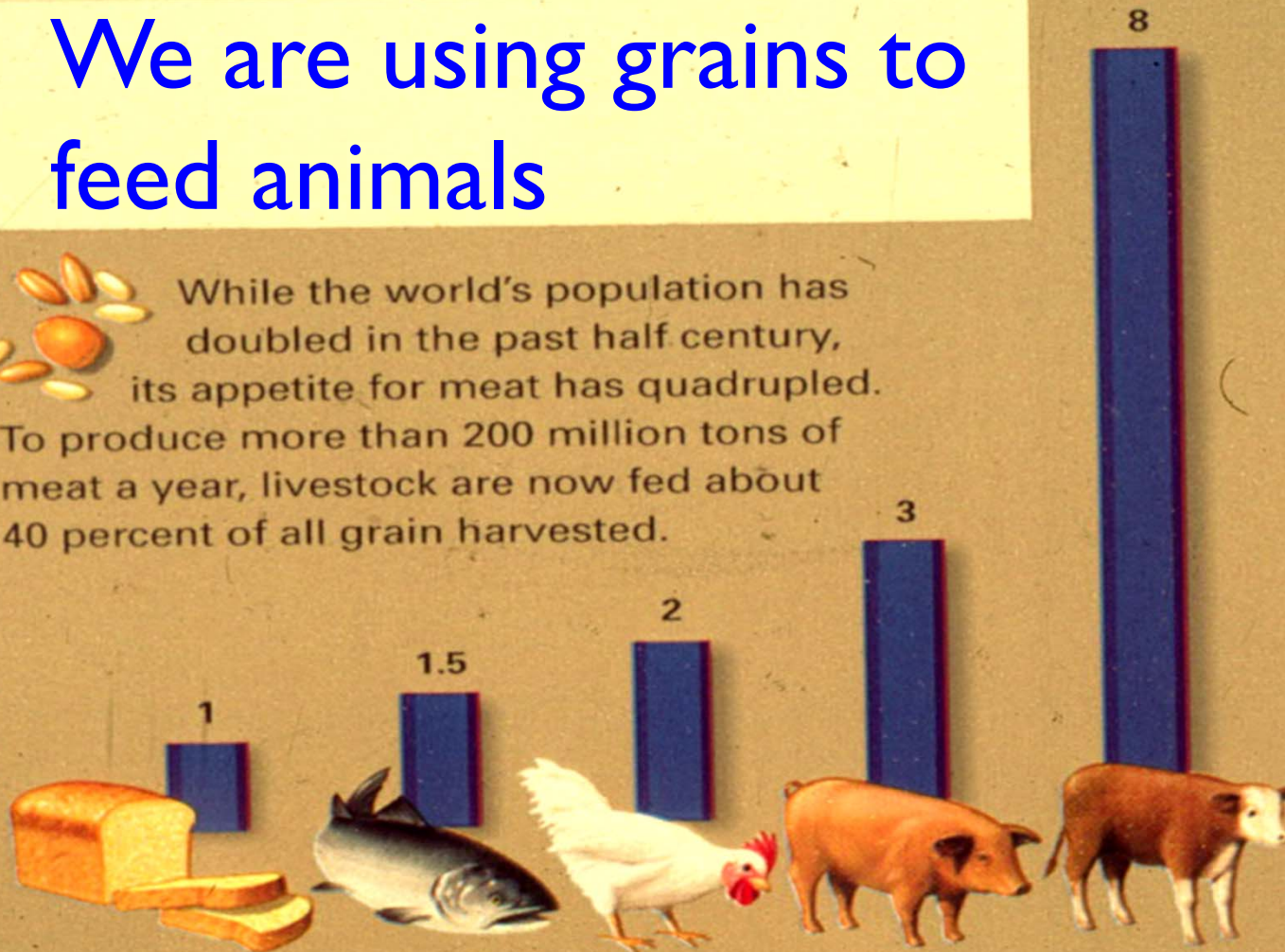


Stuckler D, McKee M, Ebrahim S, Basu S (2012) Manufacturing Epidemics: The Role of Global Producers in Increased Consumption of Unhealthy Commodities Including Processed Foods, Alcohol, and Tobacco. PLoS Med 9(6): e1001235. doi:10.1371/journal.pmed.1001235
<http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1001235>

We are using grains to feed animals

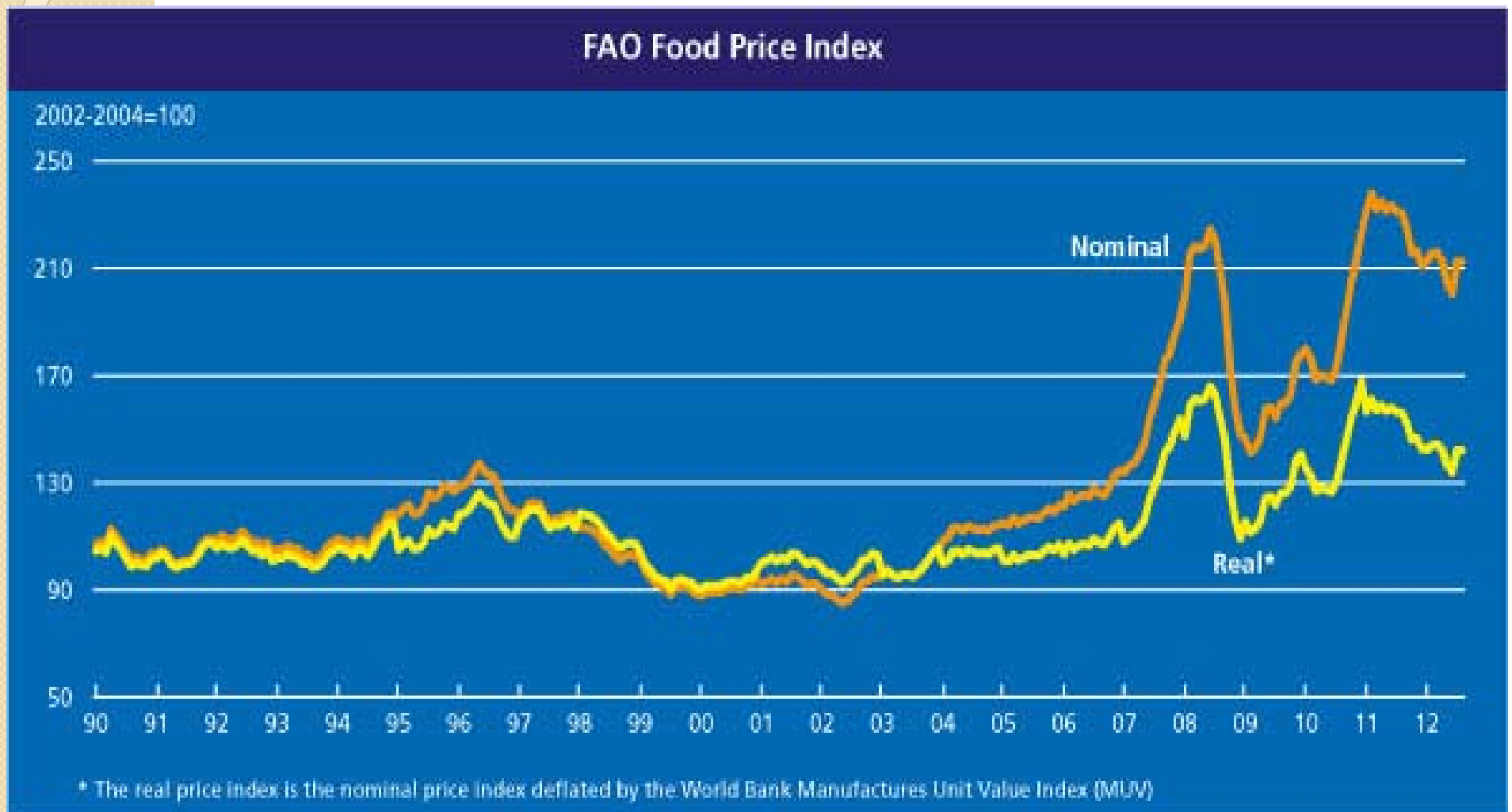


While the world's population has doubled in the past half century, its appetite for meat has quadrupled. To produce more than 200 million tons of meat a year, livestock are now fed about 40 percent of all grain harvested.



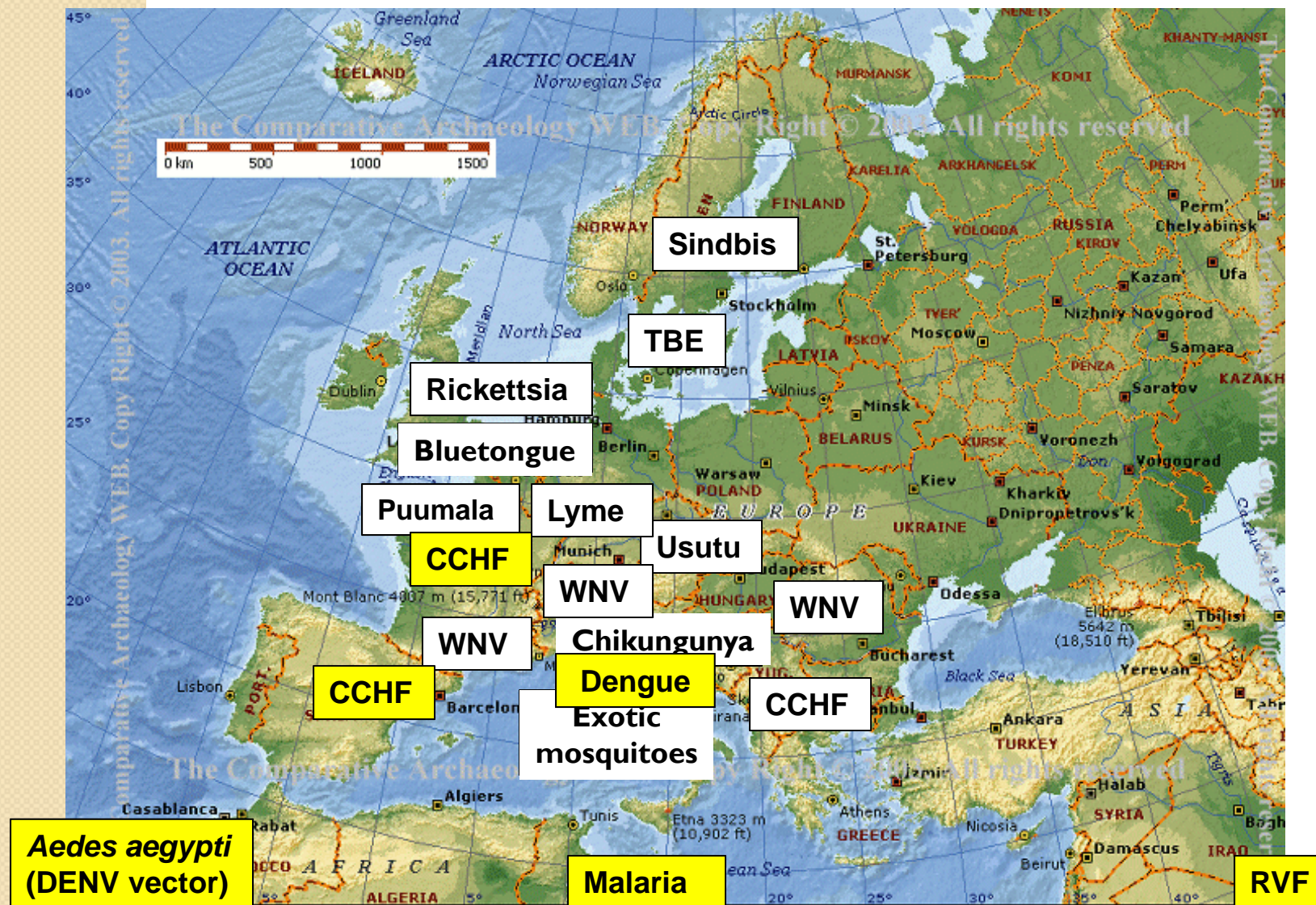
Pounds of grain needed to produce one pound of bread or one pound of live weight gain in each animal.

High food prices disadvantage the poor



Vector-borne issues in 21st century Europe

(Medlock J Health Protection Agency)



First decade

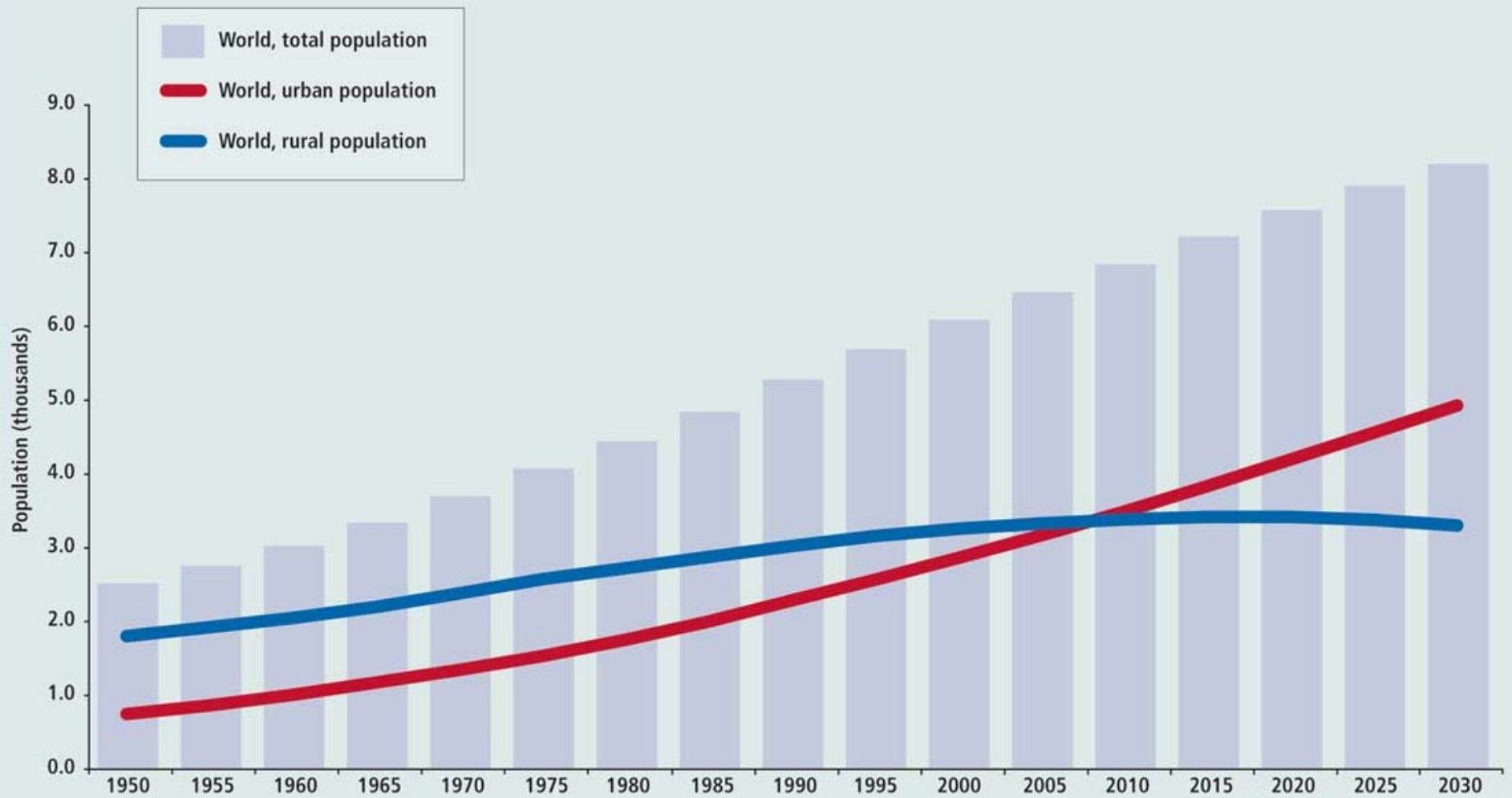
Second decade?

Global Migration patterns



urban > rural population

The urban and rural population of the world, 1950-2030



Growth in Urban Populations

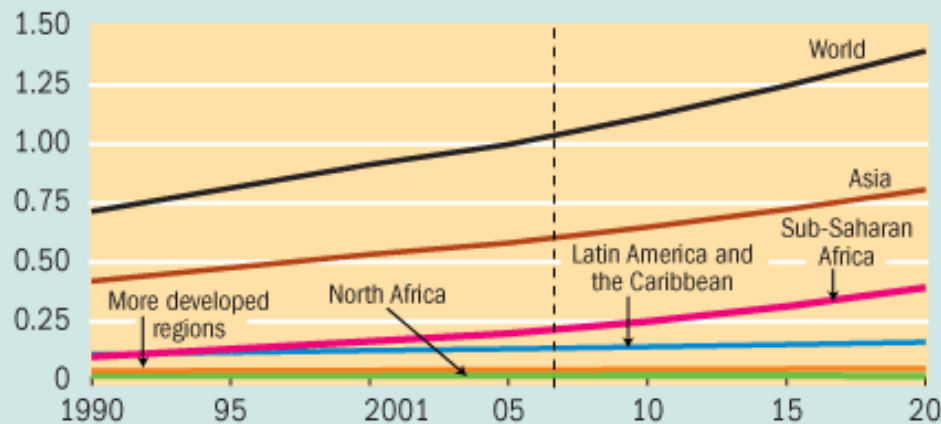
- Mostly due to increase in cities less than 1 million
- 60% of increase due to population growth in cities
- Less than 40 % due to migration from rural areas

Chart 5

The growth of slums

More than one in every seven human beings now lives in an urban slum.

(slum population, billions)



Source: UN-HABITAT, Global Urban Observatory database (2005).

Note: Figures for 1995 are interpolated using estimates for 1990 and 2001. Figures for 2005 are projections; Australia, New Zealand, and Japan are included in the more developed regions.

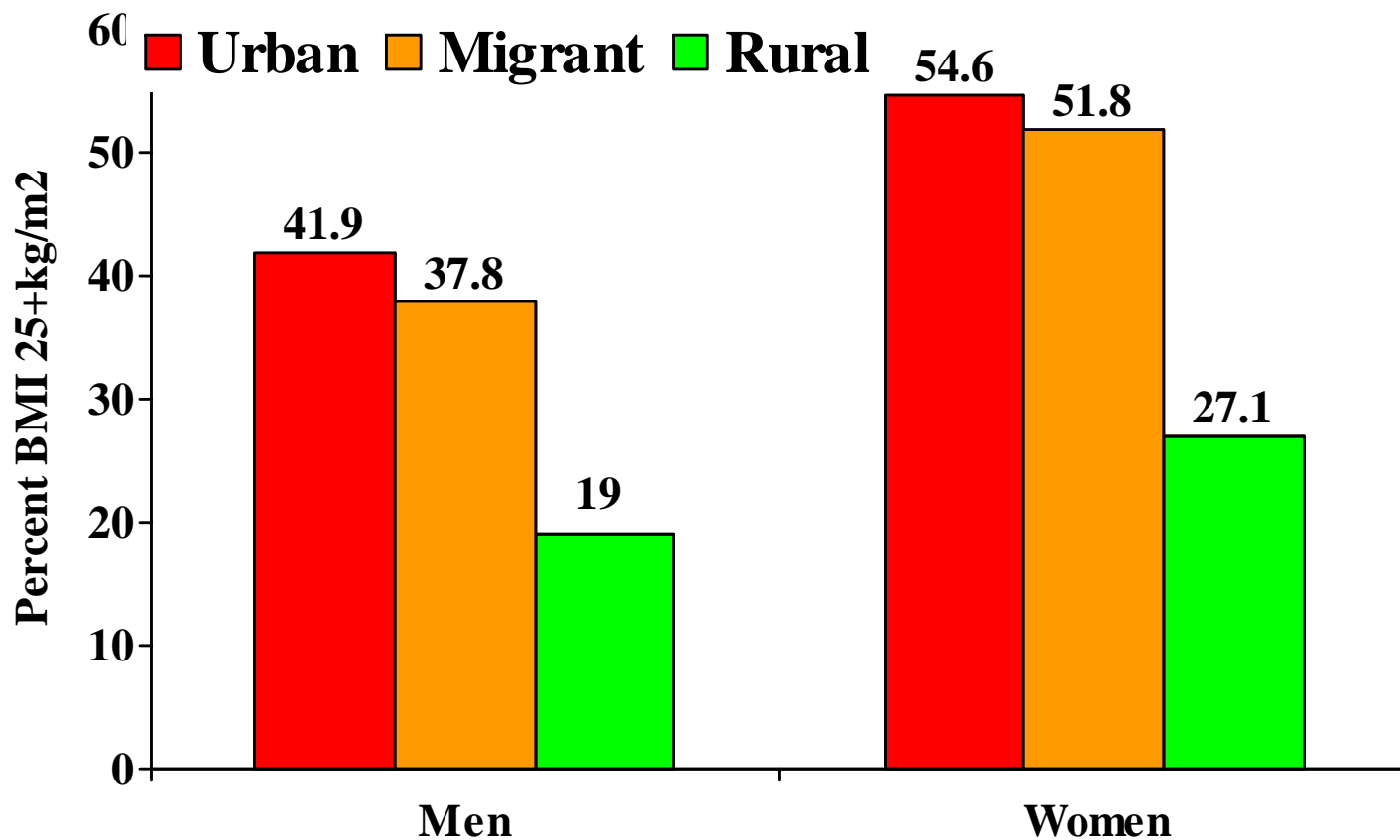


Many consequences including changes in:



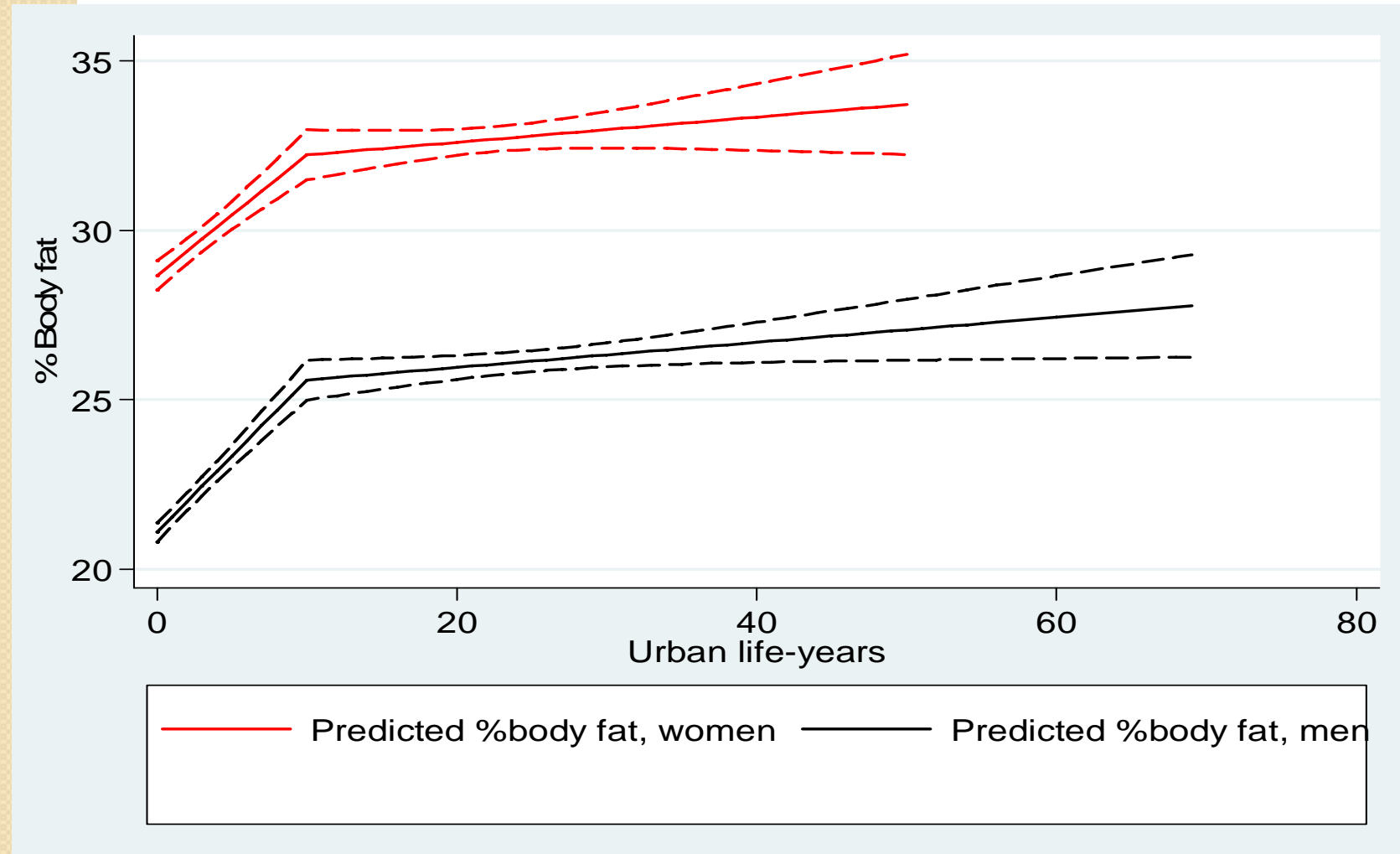
Indian Migration Study-

Migration and overweight/obesity

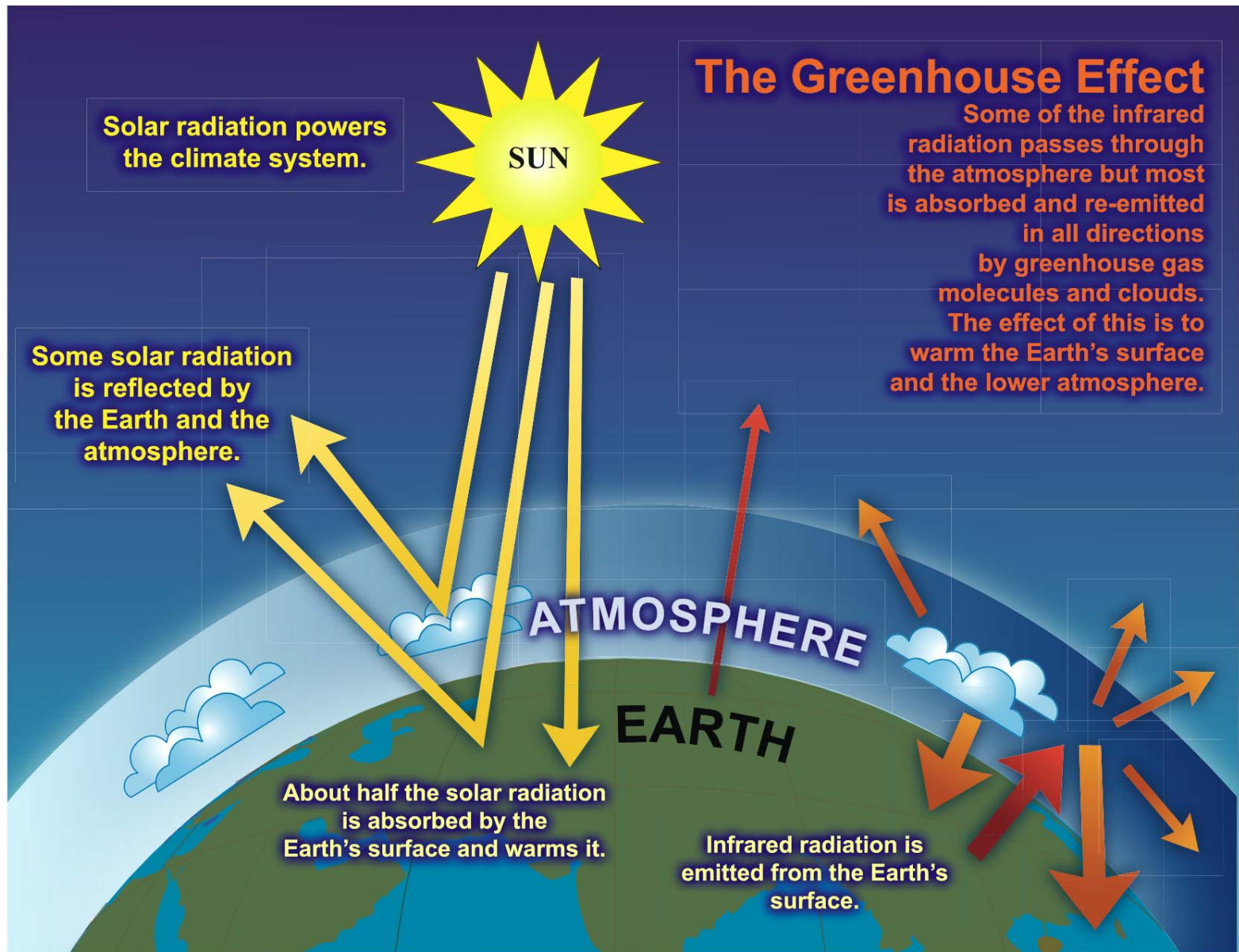


Lyngdoh T, Kinra S, Ben Shlomo Y, Reddy S, Prabhakaran D, Davey Smith G, Ebrahim S and the Indian migration study group. Emerging Themes in Epidemiology 2006

Effect of duration of migration on % body fat*

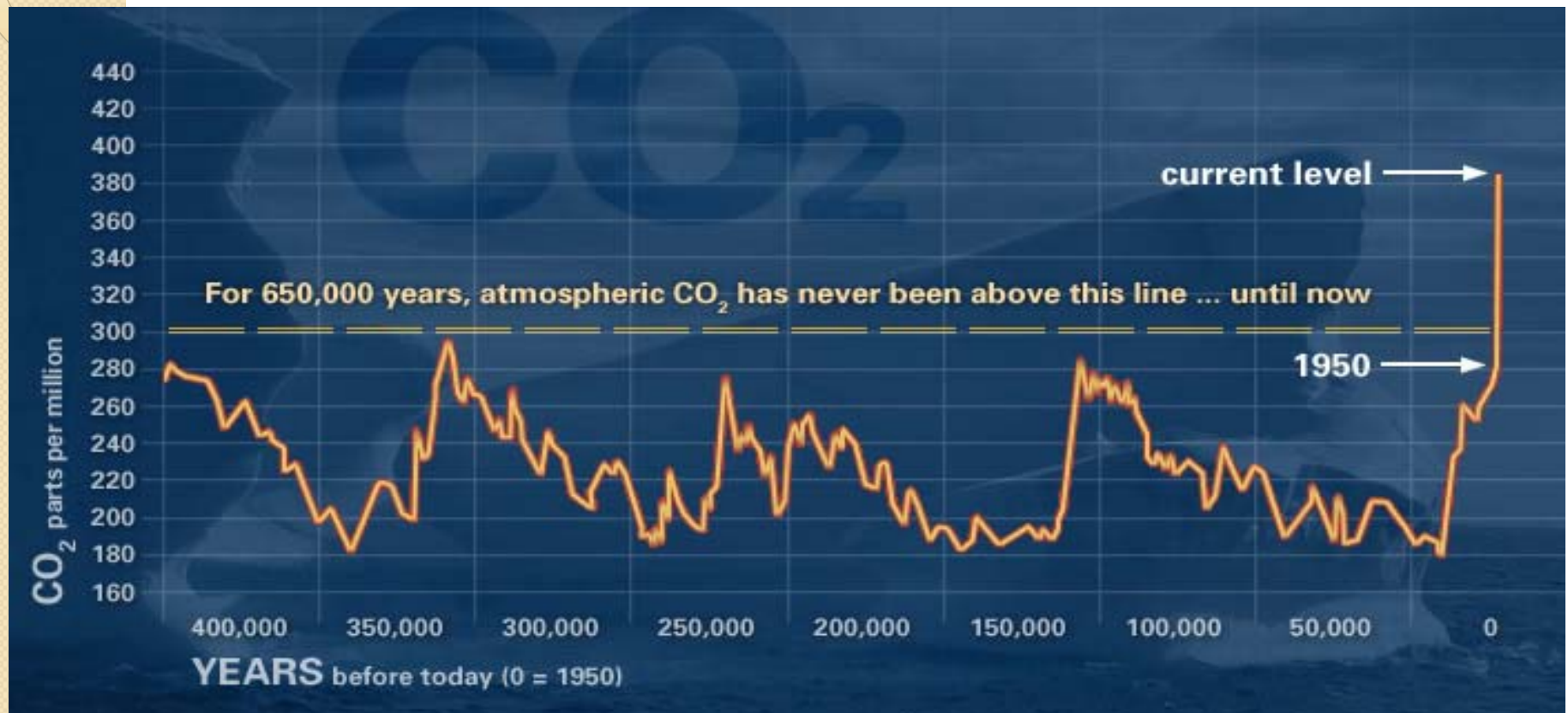


* Derived from skinfold thicknesses



FAQ 1.3, Figure 1

CO₂ over the last 650,000 years

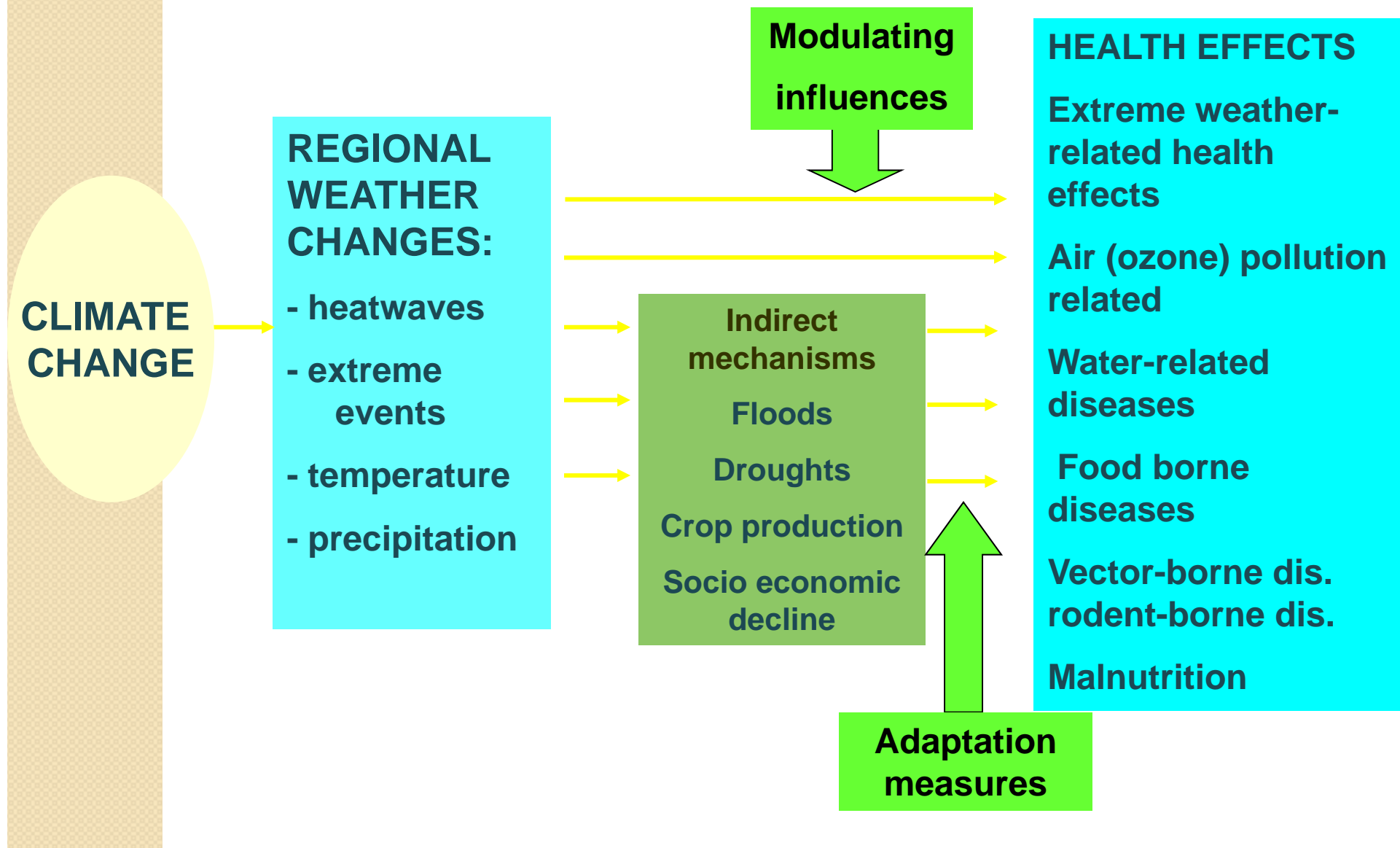


Climate Change occurring faster than expected?

- IPCC's *4th Assessment Report* **now looks conservative**
- Subsequent research shows increasing rates of:
 - Global Greenhouse Gas emissions
 - Ice melting (Arctic sea ice, Greenland/Antarctic ice-sheets, alpine glaciers)
 - Sea level rise
 - Increasing saturation of carbon 'sinks'
 - Carbon stored in permafrost = x2 atmospheric carbon

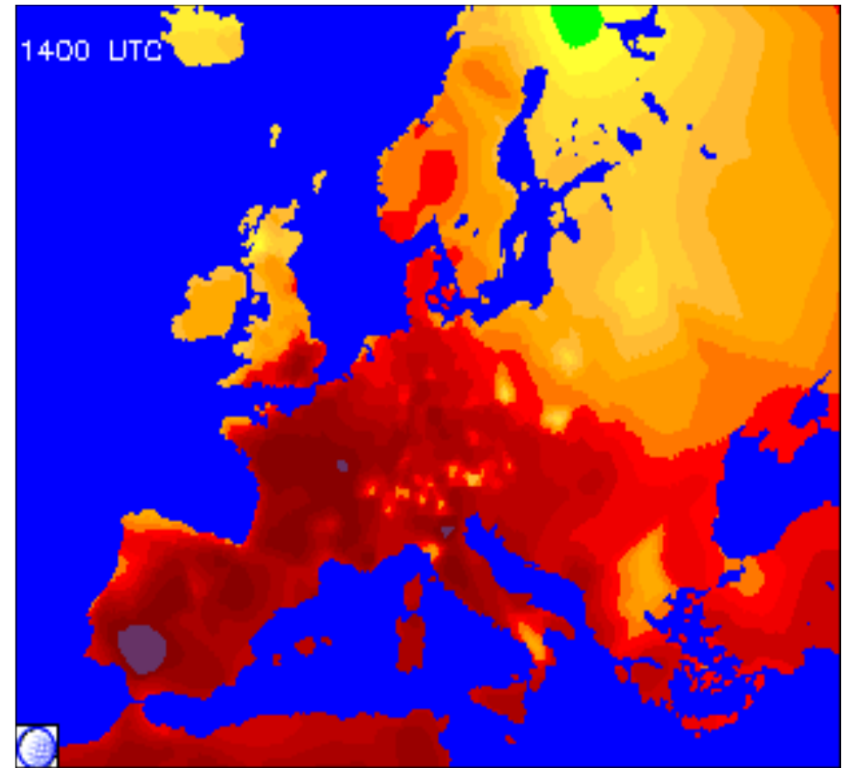


Pathways by which climate change may affect health outcomes (Haines and Patz 2003)



France, August 2003

~14800 deaths (30,000+ in Europe)



Temperature distribution across Europe on 10
August 2003 at 1500hrs

2010 – a warning for the future?

Pakistan floods ~ 20 m affected

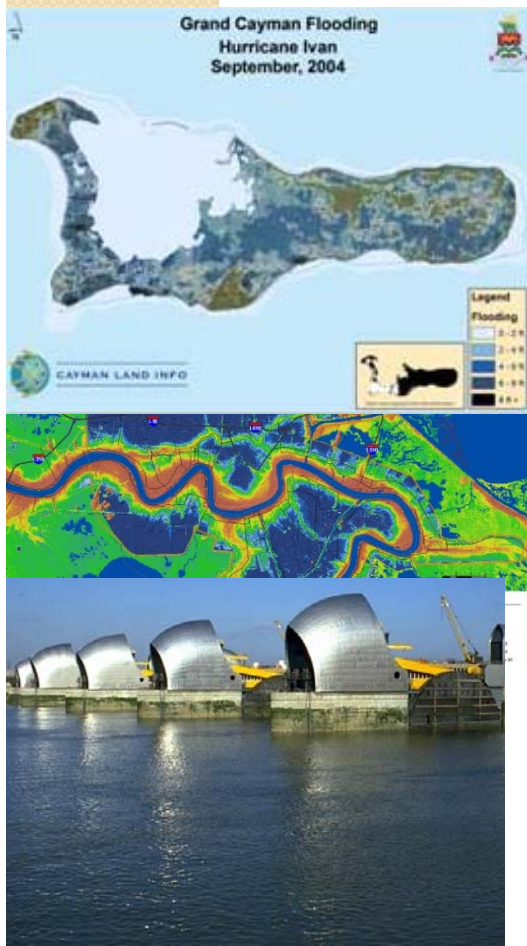
Chinese floods ~ 12m displaced

Russian drought and fires –wheat harvest down ~ 30%



Record temperatures in 17 countries.

Are there limits to how much we can adapt?...physical, behavioural and technological limits



- **Physical limits:** there are physical limits to potential adaptation on small low lying islands e.g. Cayman Islands
- **Behavioural limits:** there are behavioural constraints that influence where we live and why, e.g. New Orleans
- **Technological limits:** there are technological limits to the flood defences that can be constructed, e.g. Thames Barrier, London

Health co-benefits of the 'low-carbon' economy

Lancet 2009

Through policies in several sectors e.g.

- Housing
- Transport
- Food and agriculture
- Electricity generation



Urban Transport (Woodcock et al Lancet 2009)

- 70% of London car trips are <8 km
- Only 2% trips by bicycle

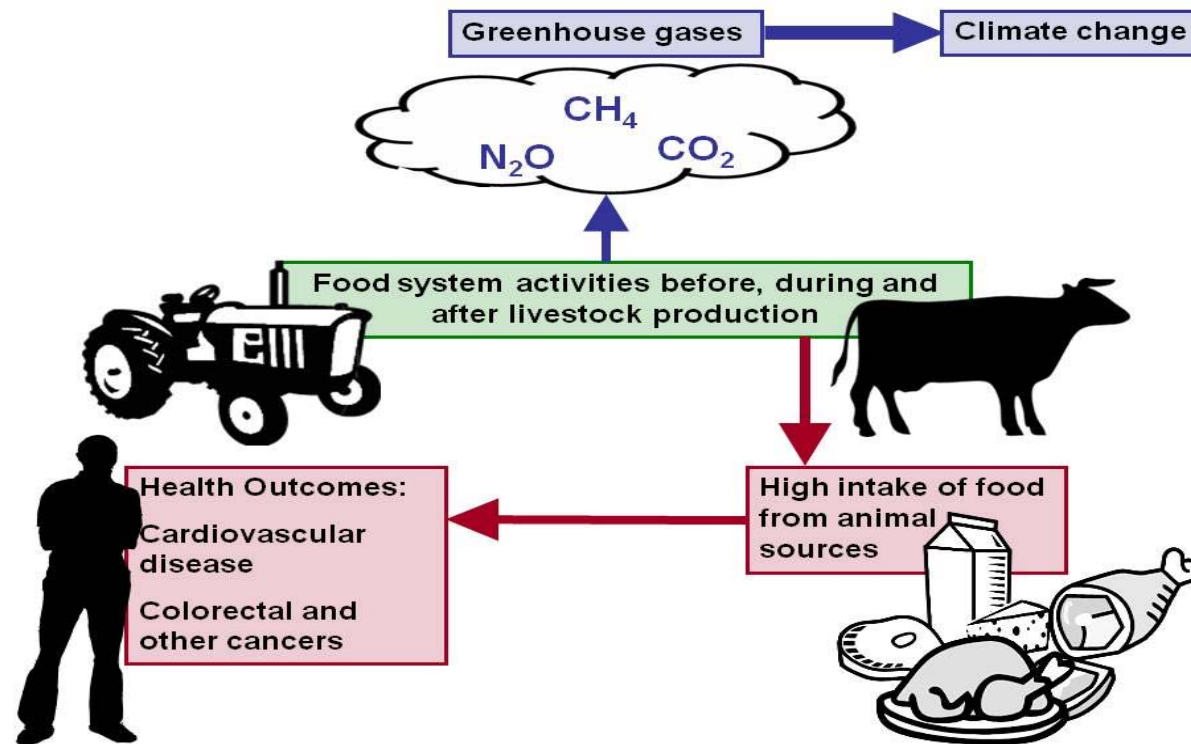


Increased active travel in London--- Health effects

(and diabetes, depression, bowel cancer) **similar benefits in Delhi**

	Change in disease burden	Change in premature deaths
Ischaemic heart disease	10-19%	1443-2207
Cerebrovascular disease	10-18%	866-1271
Dementia	7-8%	195-250
Breast cancer	12-13%	203-211
Road traffic crashes	19-39%	47-86

Food and Agriculture Sector (Friel, Dangour et al Lancet 2009)



- 80% of total emissions in sector from livestock production
- Reducing animal source saturated fat by 30 % in the UK could reduce heart disease deaths by ~ 15% (~ 18,000 premature deaths) and a similar % in São Paulo, Brazil

New technologies for clean energy



New organisations to address global health issues

GLOBAL HEALTH

**INNOVATION
IMPLEMENTATION
IMPACT**

Consortium of
Universities
for Global Health



FOURTH ANNUAL MEETING
MARCH 14-16, 2013 | WASHINGTON, DC







WWW.CUGH.ORG



European Academic

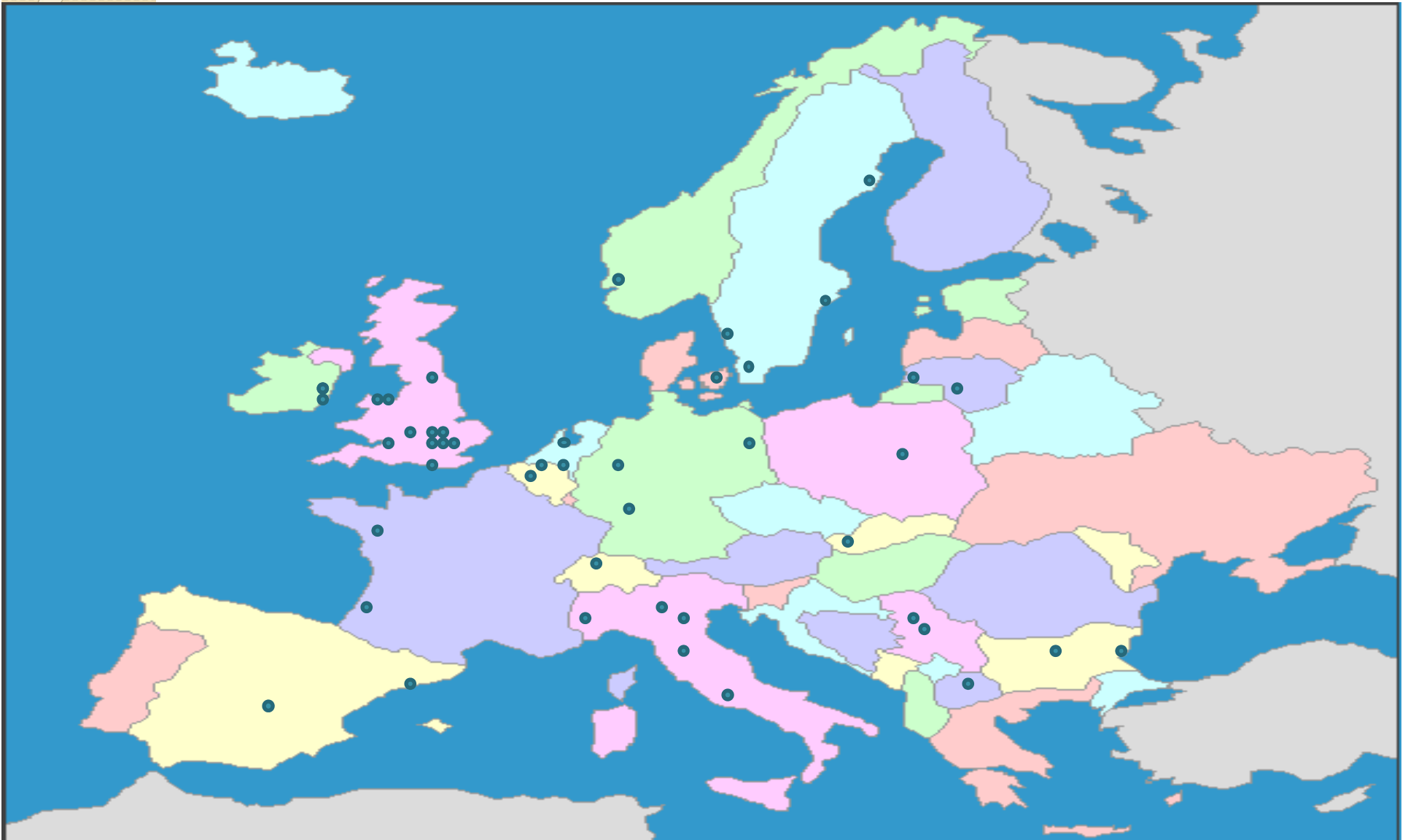
Global Health Alliance

Why was the Alliance founded?

- To create a single forum for interested academic institutions with involvement in Global Health to exchange views and ideas, so as to develop a European voice on Global Health issues and influence relevant policies.
- www.eagha.org



EAGHA member institutions



Conclusions

Although health is improving overall unsustainable trends threaten health on a global scale

Increasing convergence between 'developed' and 'developing' countries in NCDs

Universities need to create interdisciplinary/intersectoral centres/ networks to address complex global problems

Global Health is everybody's business!

