

People and the planet

April 2012



#RSpopulation



THE ROYAL SOCIETY

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Presentation

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Why now?

The 21st century is a critical period for people and the planet:

- Continued growth and widespread changes in the world's human population.
- Unprecedented and increasing levels of consumption, unequally distributed.
- Profound challenges to human health and wellbeing, and to the natural environment.

The Royal Society's involvement

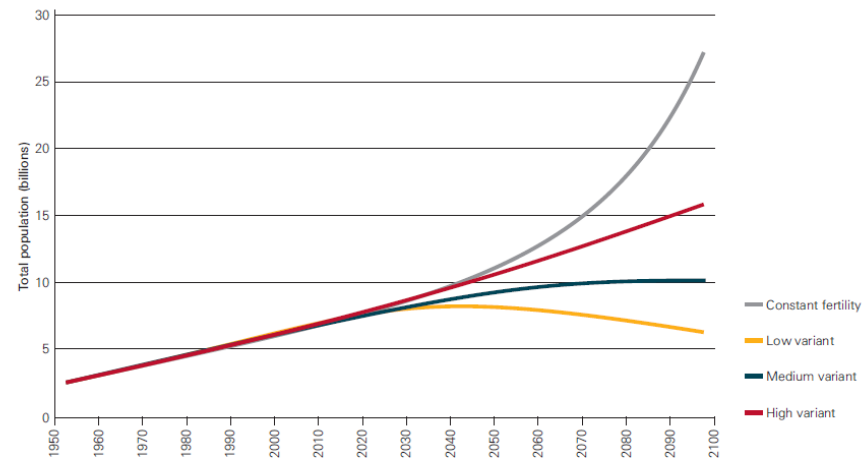
- International working group of 22 experts covering natural and social science.
- Result of a 21 month study, which has included a wide consultation process.
- Broad look at population, consumption and the environment.
- Nine high-level recommendations

A diverse world

Population is about much more than total numbers of people...

- Density (urbanisation)
- Distribution (migration)
- Composition (ageing)

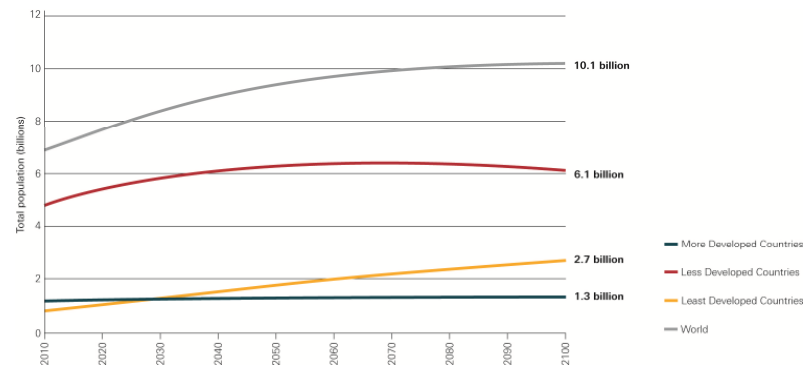
The global picture



Source: UNPD 2011

Demographic diversity

Below the picture of global population there is huge demographic diversity between regions of the world.



Demographic diversity

Least Developed Countries:

High but declining total fertility rates, high population growth rates, high youth dependency ratio, high rates of urbanisation.

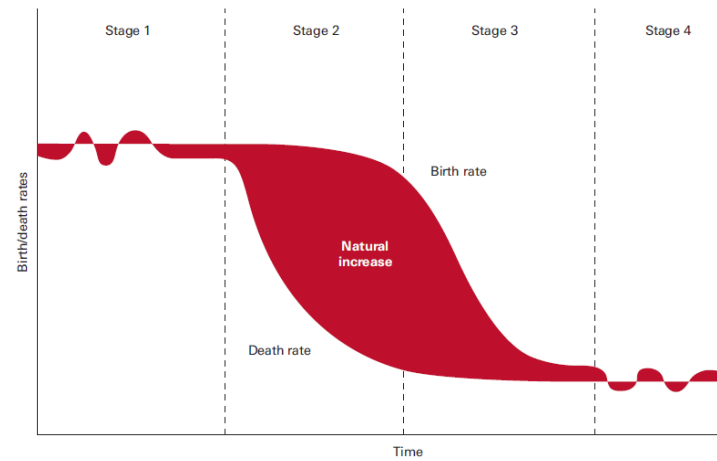
Less Developed Countries:

Declining total fertility rates but continued population growth, and the potential for a demographic dividend

More Developed Countries:

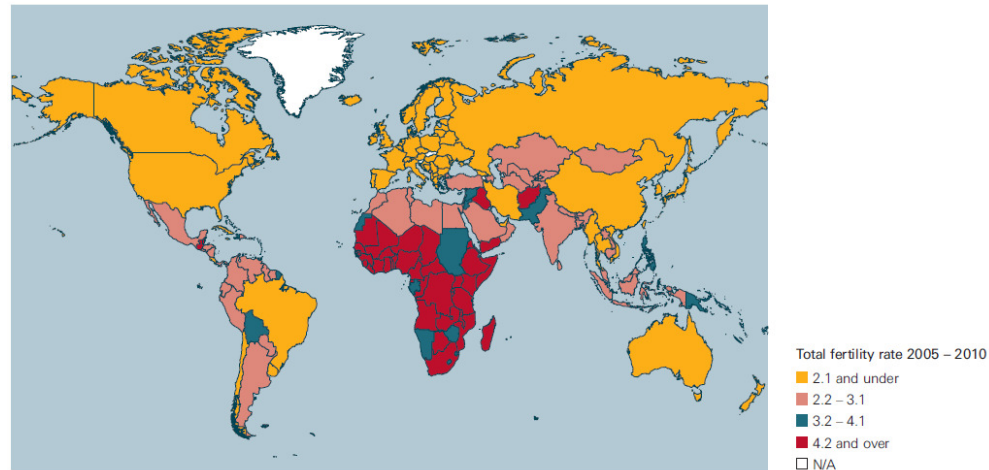
Low total fertility rates, an ageing population, possible demographic deficit

The demographic transition



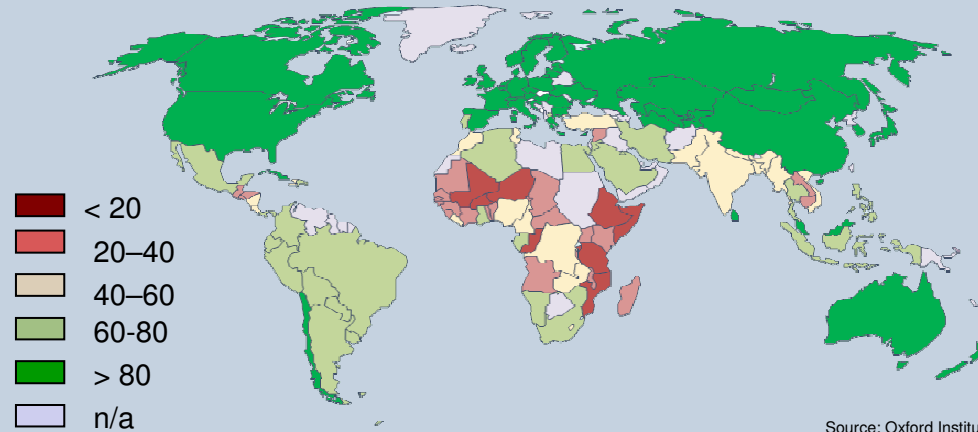
Data Source: Population Reference Bureau 2006

Global variation in total fertility rates



Source: Harper 2012; UNPD 2011a

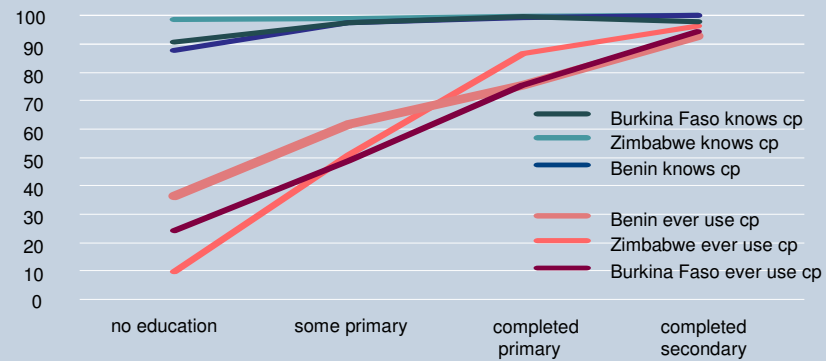
% of women aged 20-39 with at least junior secondary education



Source: Oxford Institute of Population Ageing

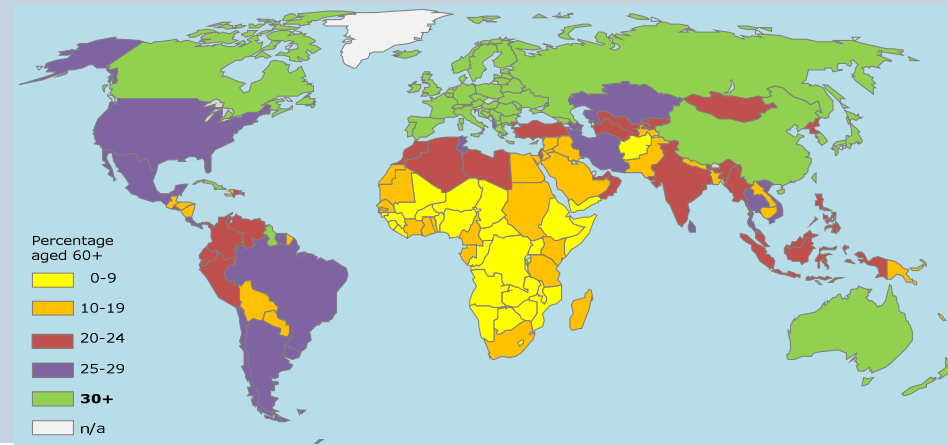
Knowledge versus use of contraception

Proportion of respondents reporting knowledge and ever use of contraception by educational attainment (%)



Source: Oxford Institute of Population Ageing

Percentage of total population aged 60 years or over in 2050



Why so much variation?

Drivers of and barriers to demographic change:

- **Mortality rate change:** social and economic development – improved nutrition, sanitation, public health, education, and medical care.
- **Fertility rate change:** improved health, education and empowerment of women, and increased use of modern family planning methods.

Economic development, cultural change and the spread of new ideas and technologies are important here.

- **Migration:** driven by a combination of economic, demographic, political, social, technological and environmental factors.
- **Urbanisation:** urban areas are rapidly increasing in size both through natural population increase, and through steady in-migration from rural areas.

Consumption – an unequal world

- Consumption of **material resources** (often of natural resources) or the consumption of **goods and services** (also known as economic consumption).
- Both necessary for meeting human needs and **delivering human wellbeing**, but they have different implications for the environment.
- Huge variations in consumption.

Consumption – key issues

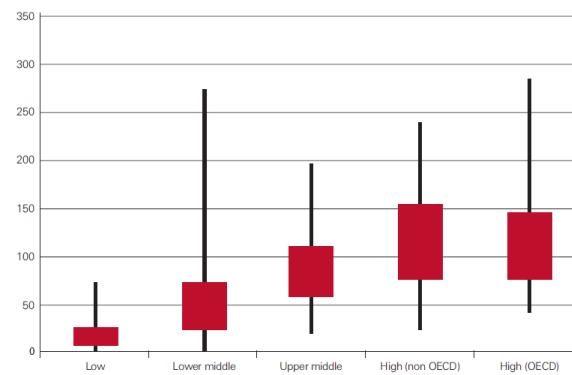
- The most developed and emerging economies are consuming too much.
- The least and some less developed countries are not consuming enough.
- Convergence of aspirations – towards high consumption patterns
- Yet with a finite planet:
Sustainability = economic activities that benefit the planet

Measures of consumption

- Main current measure of consumption is GDP
- Yet this misses much **and** counts damage to the planet as success
- **Five key capital assets**
 - Natural Capital
 - Manufactured or reproducible capital
 - Human capital
 - Knowledge capital
 - Institutional or social capital

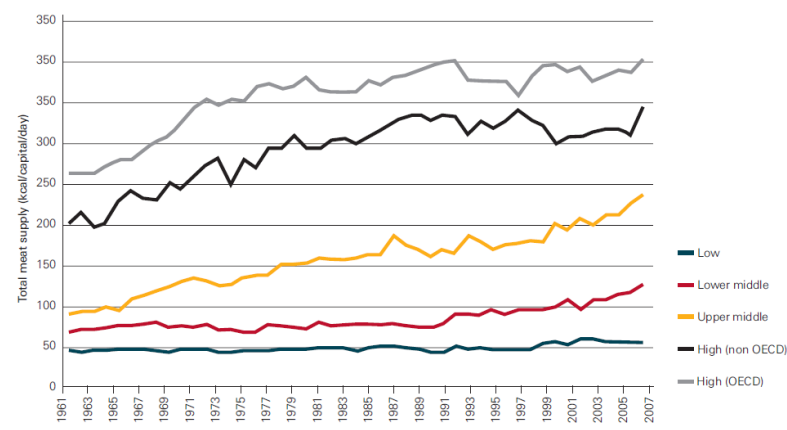
Water

Municipal water withdrawal per capita
(total population) per year (m³).



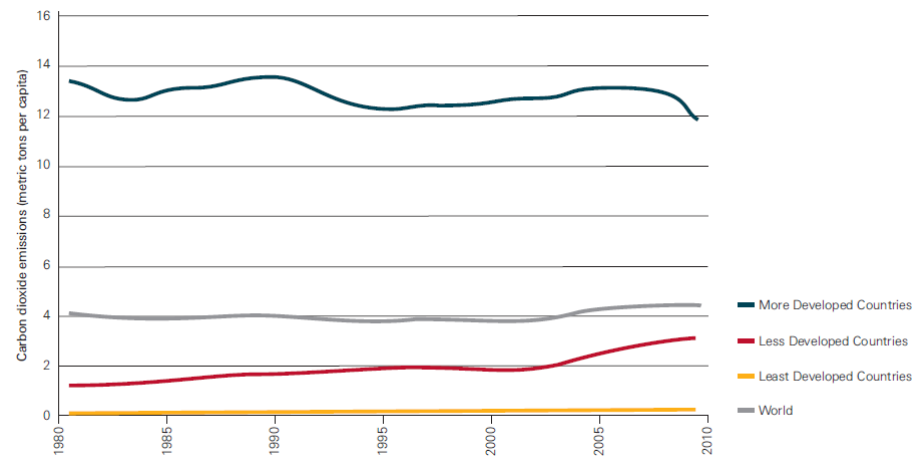
Source: Aquastat (2008 data where available)¹

Food: meat supply



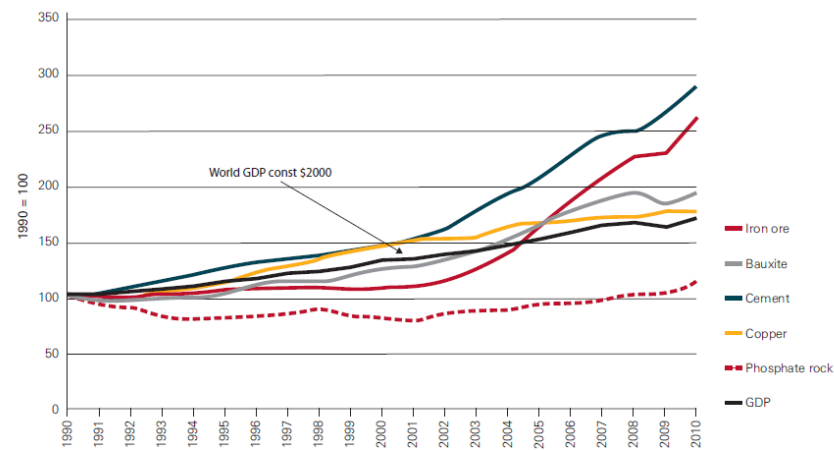
Source: FAOstat 'Food supply' database (see <http://faostat.fao.org/default.aspx>)

Energy – as CO₂ emissions

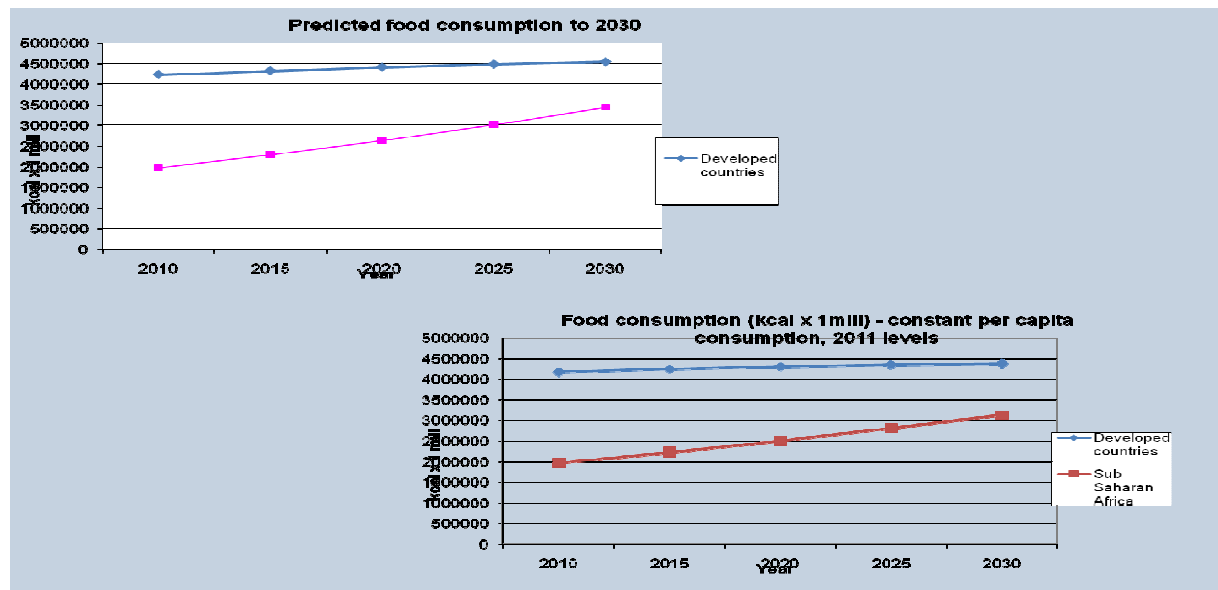


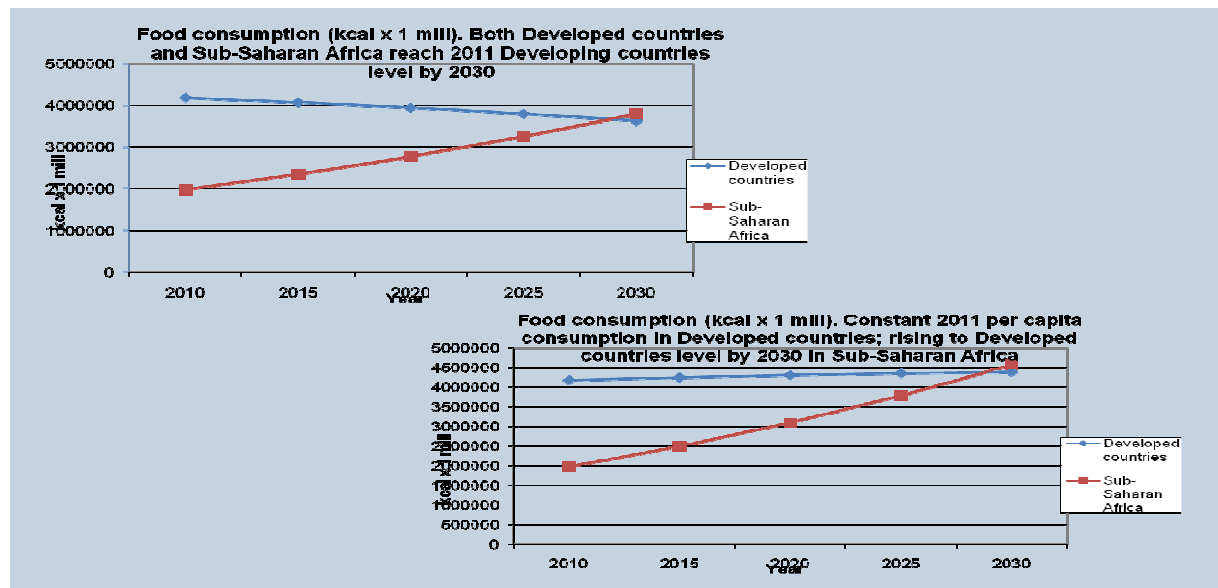
Source: Adapted from EIA data (2011)

Minerals: world mineral extractions



Source: Jackson 2009

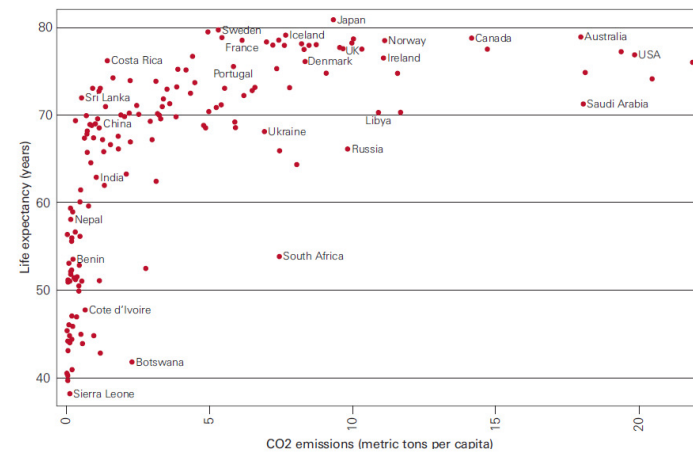




Drivers of consumption

- Adequate living standards
- Increase in the population size
- Preferences and cultural factors
- Demographic changes, such as population ageing and changes in household structure, population movement.
- Resulting in aspirations and consumption patterns converging on levels that are unsustainable for a finite planet

Changing consumption patterns



Source: The Spirit Level, Wilkinson and Pickett, 2009

A finite planet

- **Population** and **consumption** should be considered together, as it is the combination of the two that determines the **impact on the planet** and **wellbeing of people**
- On a planet with **finite resources** there are absolute limits to current growth patterns
- Need for consumption that benefits the planet
- How the limits of a finite planet are approached depends on **lifestyles, decisions on consumption** and **incentives to develop green economies.**

Wellbeing of people and the planet

- Reduce material consumption of those that consume the most.
- Measure what matters to people's lives, in addition to GDP
- Demography for wellbeing

Changing consumption patterns

- Economic models
- Technology and resource efficiency
- Incentives
- Behaviour change
- Measuring what matters

Demography for wellbeing

- Education
- Healthcare
- Voluntary family planning

Planning for change

- Planning for population decline and ageing
- Planning for urbanisation
- Planning for migration
- Planning for flourishing

Recommendations

1. The international community must **bring the 1.3 billion people living on less than \$1.25 per day out of absolute poverty.**
2. The most developed and emerging economies must **stabilise and then reduce material consumption.**
3. **Reproductive health and voluntary family planning programmes** urgently require political leadership and financial commitment.

Recommendations

4. **Population and the environment** should not be considered as two separate issues.
5. Governments should realise the **potential of urbanisation** to reduce material consumption and environmental impact.
6. Financial and non-financial barriers must be overcome to **achieve primary and secondary education for all**.

Recommendations

7. Natural and social scientists should increase research efforts on the **interactions between consumption, demographic change and environmental impact.**
8. National Governments should **accelerate the development of comprehensive wealth measures.**
9. Collaboration between National Governments is needed to develop **socio-economic systems and institutions** that are not dependent on continued material consumption.

What next?

- Rio negotiations in New York. Side-event on 1 May.
- Rio+20 conference

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