

Bath University

**“Global Food Security and
Developing World Agriculture”**

Lord Ewen Cameron

The Perfect Storm

- **World Population**

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2050	9.5 billion

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- **Growth in World GDP**

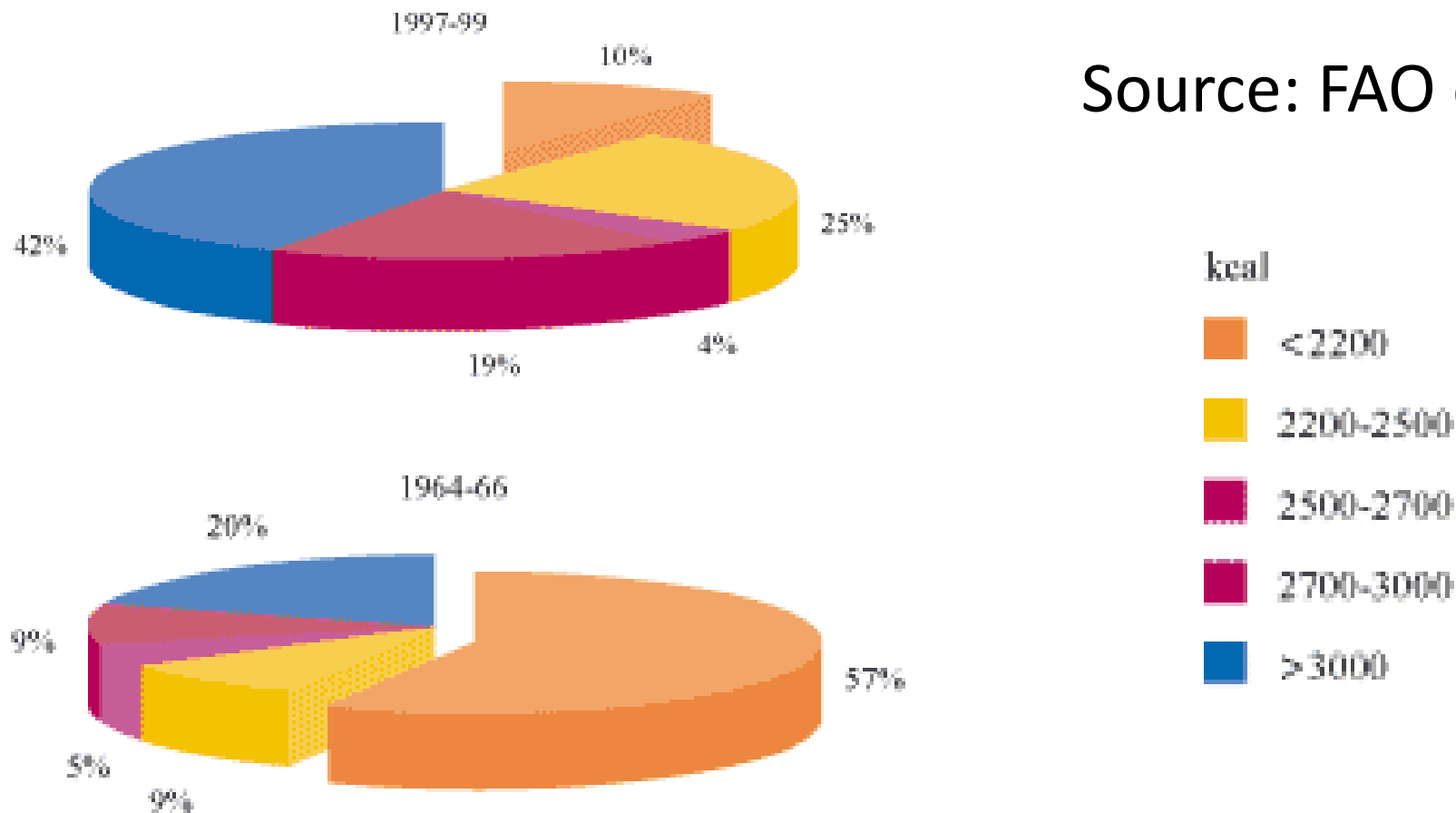
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- **World Food Demand Growth Rate**
- 1969-1989 2.4% pa
- 2010-2015 1.6% pa
- 2015-2030 1.4%pa

Global progress in nutrition: energy intake levels by percentage of the world's population, 1964-66 and 1997-99

Source: FAO data



The Perfect Storm

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- **Climate Change**

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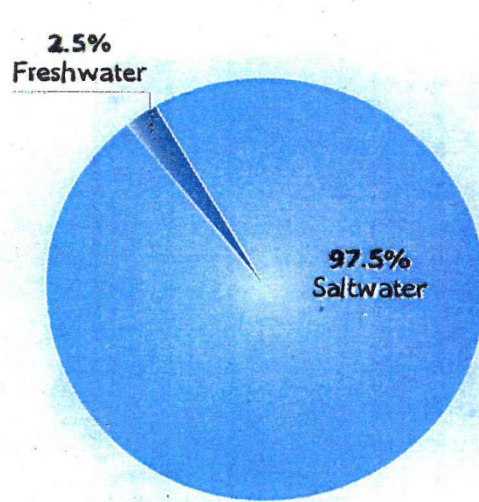
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- **Climate Change**

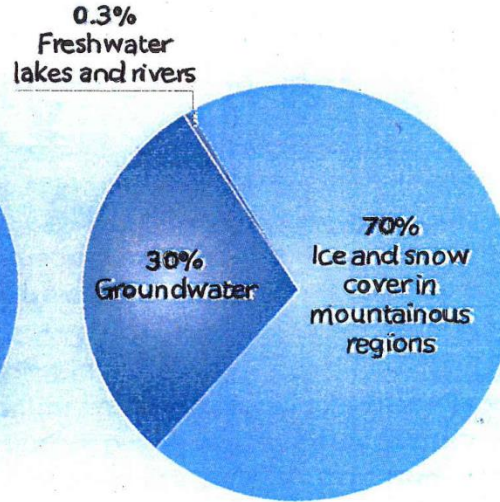
- **Water Problems**

GLOBAL RESOURCES

The total volume of water on Earth is about 1.4 billion cubic kilometres, around 2.5 per cent of which is fresh. However, only around 200,000 cubic kilometres is usable by ecosystems and humans – less than one per cent of all freshwater resources.



Total water resources

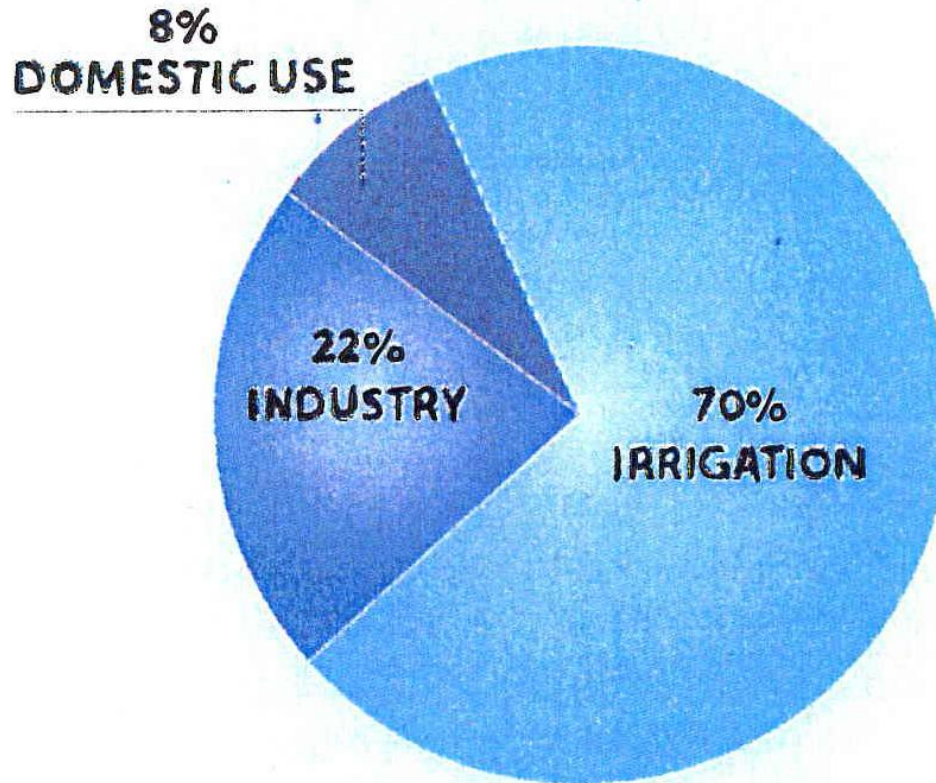


Freshwater resources

Source: Geographical April 2010

WATER USE

Agriculture is by far the greatest drain on the world's water resources, with irrigation consuming as much as 2,500 cubic kilometres of water per year.



By 2025, two thirds of the world population could be under water stress.

Source: Geographical April 2010

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- By 2030 agriculture will need 45% more water
- By 2025 40% of the world population will live in water scarce regions





Aral Sea 1985



Aral Sea 2009

- Better drip irrigation
- Better use of urban sewage
- Better capture and storage
- Better use of shallow aquifers
- Short term use of deep aquifers

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- 70% of the population depend on agriculture
- 70% of the farmers are women
- 12x the land area of India; 200 million less people

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A 1% increase in agricultural GDP in Africa reduces poverty by 3 or 4 times as much as a 1% increase in non-agricultural GDP.

The World Bank

African Agriculture Needs

- Better infrastructure

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- Land Registration

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- Better nutrition

- : “If today’s agricultural business as usual continues on the continent of Africa, by 2050 it will only be able to provide 13% of its food needs.”

The Comprehensive Africa Agriculture
Programme (CAADP)