

BSc (Hon) Environmental Conservation

Sustainable Development

Do you think it will
affect us?



Sustainable Development

Module Aim:

To broaden the students' way of thinking as applied to sustainability issues. The module will foster earlier work incorporating sustainable development and strengthen the case for defining such a complex concept.



Outcomes

Critically evaluate the key factors that will influence sustainable development strategies.



Compare and contrast the principle issues and needs applicable to both rural and urban sustainable development.



Demonstrate knowledge and understanding of global sustainable development concerns.

Synthesise strategies and apply to current and practical situations / projects.

Assessment



- ▣ 50% Coursework
 - 1500 word contribution to report
 - 20 minute presentation per pair
- ▣ 50% Examination
 - 2 hour examination
 - ▣ 2 questions from 4

Sustainable Development



Concepts and Principles

Some Definitions of Sustainability

General definitions

- *...the capacity of system to maintain output at a level approximately equal to or greater than its historical average, with the approximation determined by the historical level of variability.*
Lynam and Herdt (1989)
- *...maximising the net benefits of economic development, subject to maintaining the services and quality of natural resources over time.*
Pearce and Turner (1990)

What is development?



- ▣ International development
- ▣ Global development
- ▣ Human development

Development is about enlarging people's choices

Sustainable Development

- *... development that improves the quality of human life while living within the carrying capacity of supported ecosystems. **IUCN (1991)***
- *...development that meets the needs of current generations without compromising the ability of future generations to meet their own needs. **WCED (1987)***

How would you define SD?

Two key concepts are contained in Brundtlan's definition:

- ▣ *Needs - meaning in particular the essential needs of the world's poor.*
- ▣ *Limitations - those imposed by the state of technology and social organisation on the environment's ability to meet present and future needs.*



Sustainable
development

Integrating the
natural with the
built environment



Brundtland also put it another way:

- ▣ *' if 7 billion people were to consume as much energy and resources as we do in the west today we would need 10 worlds, not one, to satisfy all our needs.'*
 - ▣ *The implication here further suggests...*

More rapid economic growth in both less developed and more developed countries.

Freer market access for the products of less developed countries.

Lower interest rates.

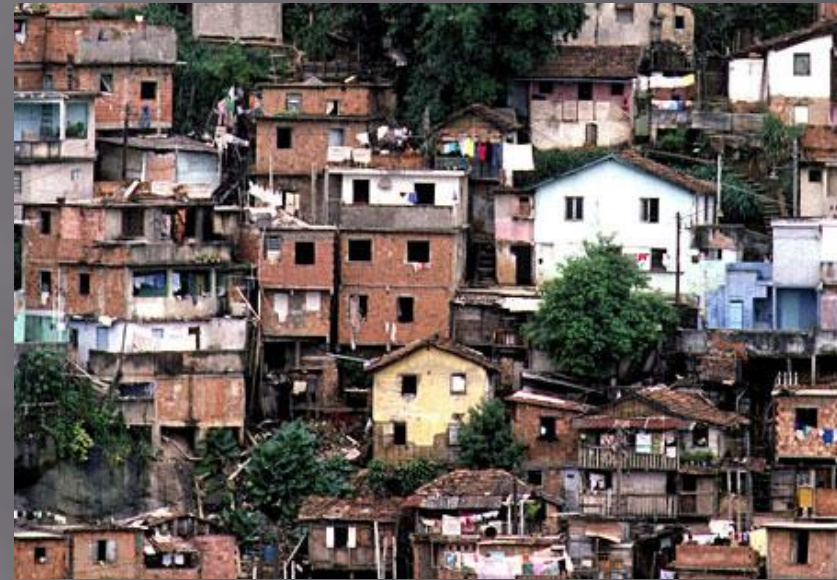
Greater technology transfer.

Significantly larger capital flows, both concessional and commercial.



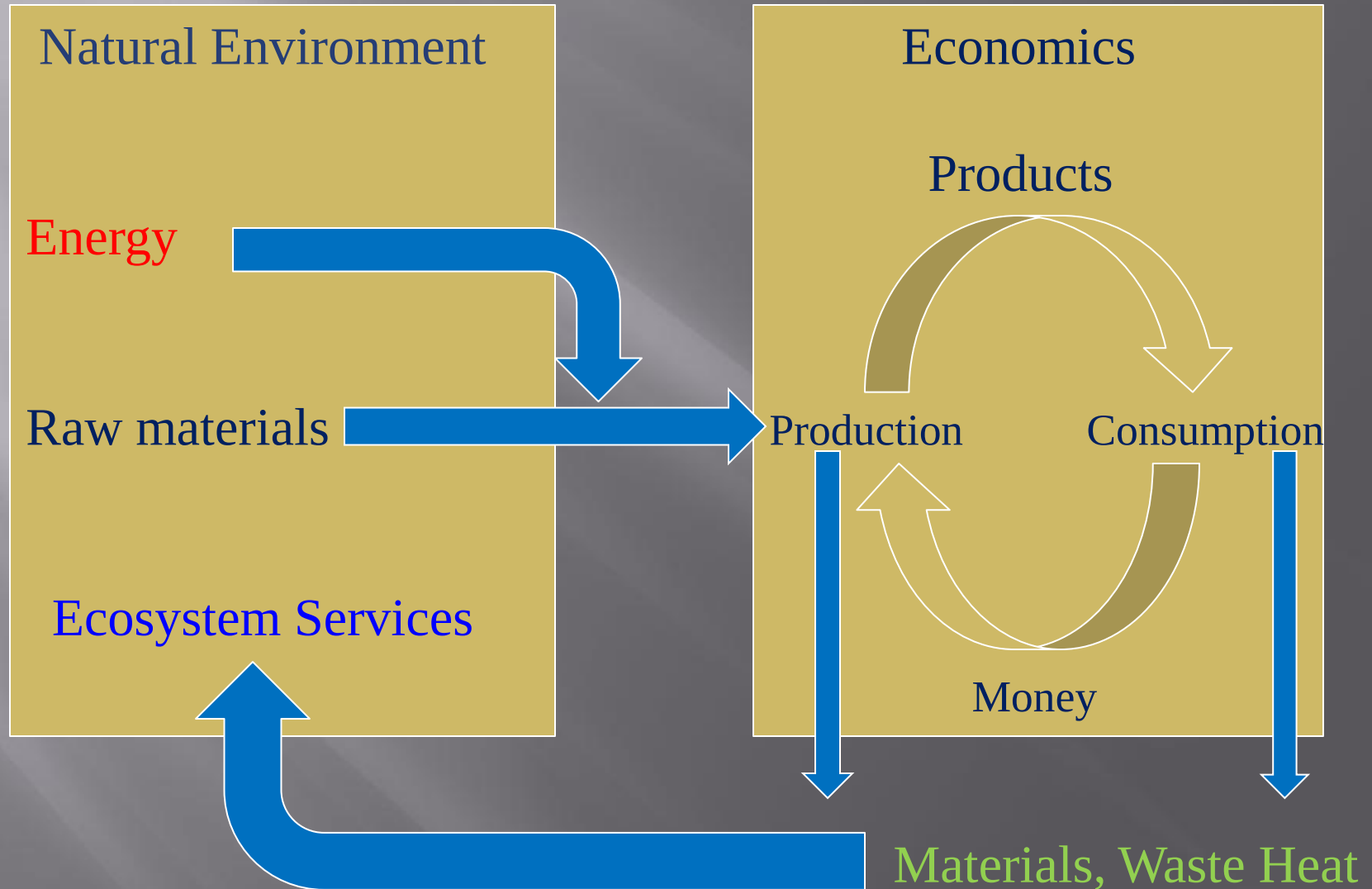
Sustainability is often considered by some to be an economic state.

i.e., demands placed on the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations.



In simple terms; leave the world better than you found it, take no more than you need, try not to harm life or the environment, make amends if you do...

Economics depends on the natural environment to provide resources and ecosystem services



Carrying capacity of an ecosystem

...is the maximum number of individuals of a given species that the ecosystem can support indefinitely.

Two factors are important:

1. *Resource availability*

2. *Quantity of resources that individuals of that species require.*



In Europe the concept of 'environmental space' was conceived:

'reflects that at any given point in time, there are limits to the amount of environmental pressure that the Earth's ecosystems can handle without irreversible damage to these systems or to the life support processes that they enable'

**European
Environment Agency
EEA**



Such services provided by the Earth's ecosystems, and for which there is limited space include:



Stocks' of renewable, semi-renewable and non-renewable resources.

Sinks' capacities to absorb waste, pollution and encroachment.

Sustainability then, is intended to include 'global equity'!



Paris was one of the first modern cities to introduce trees

Does it make sense then, that;

...nature cannot sustain a systematic concentration of substances extracted from the earth's crust, such as fossil fuels?

...nature cannot sustain a systematic increase in unnatural persistent substances, such as polychlorinated biphenyls (PCBs) and chlorofluorocarbons (CFCs)?

...the physical basis for the productivity and diversity not be systematically deteriorated beyond nature's ability to replenish itself, i.e. by over fishing, deforesting and depleting and destroying arable lands?

What then, about industry and commerce?

Although business may be the cause of many environmental problems, the abilities and creativity of business means that it will also play a key role in generating workable technical and economic solutions to many environmental challenges.

Also, the environment 'business' is in itself an important part of the whole business world, and many commercial opportunities will arise from conservation and environmental constraints, for example, in developing 'environmentally friendly' goods and or services.

Sustainable development??



Unsustainable development!
coal-burning power plant which
emits sulphur dioxide (SO_2)

Brundtland's dynamic approach shaped the aims of the Earth Summit in Rio in 1992.

The UNCED's aims were to produce agreements on responding to environmental and development challenges. Five priority outcomes were agreed:

1. The Rio declaration on Environment and Development.
2. Agenda 21.
3. The Framework Convention on Climate Change.
4. The Convention on Biological Diversity.
5. The Forest Principles.

The Rio Earth Summit was not without criticism:

Many of the outcomes were seen as simply rhetoric.

Many of the phrases in the agreements were considered controversial, difficult to interpret and easy for countries to avoid or wilfully misinterpret.

Many agreements contained opt-out clauses to the satisfaction of many countries.

LDC's emphasised development principles whilst MDC's signalled environmental principles.

Cost of implementation.

Many of the agreements were considered as minimalist.

And, of course, we have to analyse the outcomes of the Johannesburg Earth Summit.

Johannesburg Declaration on Sustainable Development

Major Accomplishments

Universal reaffirmation of the commitment to the full implementation of agenda 21 and the Millennium Development Goals

Strengthening of the concept of SD

The emergence of partnerships

Johannesburg Declaration on Sustainable Development

An Action Agenda

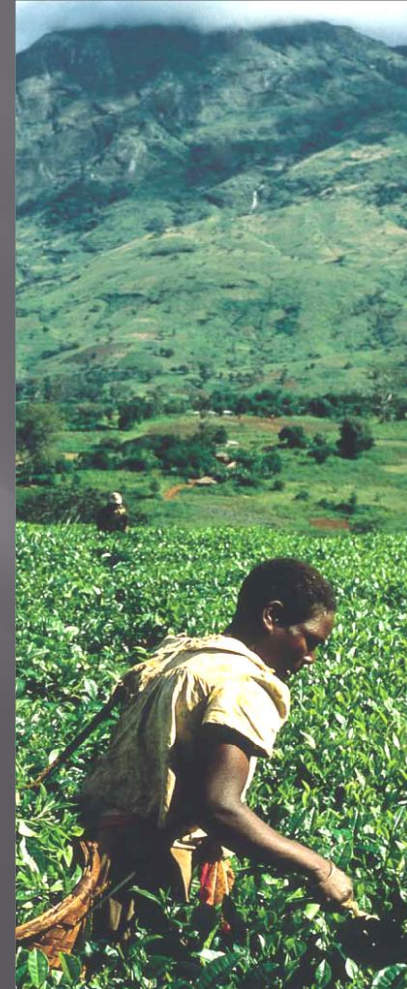
Water and sanitation

Energy

Health

Agriculture

Biodiversity protection
and ecosystem management



Reaching new goals and targets

Water and sanitation initiatives

\$970 million investment (USA)

Water for Life initiative (EU)

Asian Development Bank

United Nations



Reaching new goals and targets

Energy Initiatives

Latin America and Caribbean pledges to use renewable energy to meet 10% of their needs by 2010 – on-going!

The 'e7'

Partnership on cleaner fuels and vehicles

\$1250 million euros pledged to promote renewable energy



Global Network on Energy

Reaching new goals and targets

Health Initiatives

To reduce mortality rates

Reduction in HIV prevalence

Non use of chemicals

Eradicate Extreme Poverty
and Hunger



Reaching new goals and targets

Agriculture Initiatives

US committed to
invest \$90 million for
SA

UN committed to
partnerships relating
to agriculture
projects



Reaching new goals and targets

Biodiversity and Ecosystem Management Initiatives

Significantly reduce the rate of biodiversity loss

Reverse the current trend in natural resource degradation

Restore fisheries to their maximum sustainable yields by 2015

Reaching new goals and targets

Crack down on illegal logging

Establish a representative network of marine protected areas by 2012

Improve developing countries' access to environmentally-sound alternatives to ozone depleting chemicals by 2010 – work still in progress!

Implement the GPA for the protection of the marine environment from land based sources of pollution

Finance, trade and globalization

Some issues:

Subsidies

Greater attention to NEPAD

Consumption and production

Poverty eradication

Corporate responsibility

Disaster preparation
and response



The key principles of sustainable development (1999)

Ensuring an integrated approach to the consideration of social progress

Effective protection of the environment

Prudent use of natural resources

Maintaining high and stable levels of economic growth and employment

1999 Aims

- ▣ Captured the simple priority areas
- ▣ Not joined up!
- ▣ Lacked evolvement of SD policy
- ▣ Blinkered approach to SD



The 2005 Strategy

a new integrated vision
building on the 1999 strategy

five principles

four agreed priorities

a new indicator set,

Living Within Environmental Limits

Respecting the limits of the planet's environment, resources and biodiversity – to improve our environment and ensure that the natural resources needed for life are unimpaired and remain so for future generations.

Ensuring a Strong, Healthy and Just Society

Meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity for all.



Achieving a Sustainable Economy

Building a strong, stable and sustainable economy which provides prosperity and opportunities for all, and in which environmental and social costs fall on those who impose them (polluter pays), and efficient resource use is incentivised.

Promoting Good Governance

Actively promoting effective, participative systems of governance in all levels of society – engaging people's creativity, energy, and diversity.

Using Sound Science Responsibly

Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the precautionary principle) as well as public attitudes and values.

UK Sustainable Development Strategy (2005)

▣ Key priorities:

Sustainable Consumption and Production

Climate Change and Energy

Natural Resource Protection and Environmental Enhancement

Sustainable Communities



Helpu Cymru i leihau
ei Hôl Troed Carbon
Help Wales reduce
its Carbon Footprint



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

One Wales: One Planet

The Sustainable Development Scheme
of the Welsh Assembly Government

May 2009



One Wales: One Planet
a new Sustainable
Development Scheme for Wales
May 2009

Sustainable Development and Rio 2012

Sustainable development emphasizes a holistic, equitable and far-sighted approach to decision-making at all levels.

It emphasizes not just strong economic performance but intragenerational and intergenerational equity.

It rests on integration and a balanced consideration of social, economic and environmental goals and objectives in both public and private decision-making.

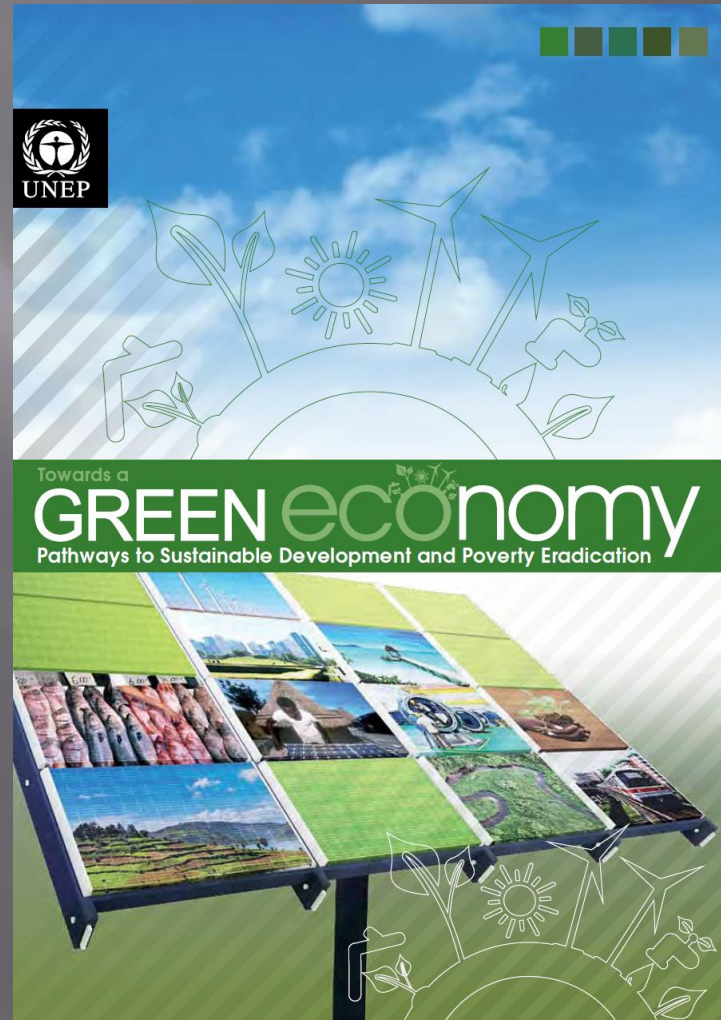
The concept of green economy focuses primarily on the intersection between environment and economy.

This recalls the 1992 Rio Conference: the United Nations Conference on Environment and Development.

Source: UNCSD

Sustainable Development and Rio 2012

- ▣ Jobs
- ▣ Energy
- ▣ Cities
- ▣ Food
- ▣ Water
- ▣ Oceans
- ▣ Disasters



Source: UNCSD

Questions?

 HM Government

UK Government Sustainable Procurement Action Plan

Incorporating the Government
response to the report of the
Sustainable Procurement Task Force

 **Securing the future**
delivering UK sustainable development strategy

Yes,
I told you it
would!



Tutorial: Sustainable Development - Contradiction in terms!

Questions for discussion:

1. How would you define sustainable development?
2. Does sustainability imply that no development is desirable?
3. To what extent should the potential of future generations to meet their needs be maintained?
4. Is it acceptable to engage in current developments that reduce the potential of current generations to meet their needs?
5. What trade-offs, if any, are acceptable between present generations and future ones?