

YHGSA (Secondary) ESD Inspection Box Guidance

The Yorkshire and Humberside Global Schools Association (YHGSA) was set up in 2002 to ensure all children in schools across the region receive their entitlement to a global dimension in their education. This is part of a Department for International Development national initiative “Enabling Effective Support”.

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Contents

Page 2	Introduction
Page 6	ESD Concept and Issues Web
Page 7	Curriculum links
Page 8	Website Links

Background Information to Sustainability Issues

The ideas below are excerpts and adaptation from: “Rethink, Refuse, Reduce. Education for Sustainability in a Changing World.”

Author: Ken Webster, Field Studies Council Publications, 2004, ISBN 1 85153 286 2

Human motivation is complex and faced with the facts of a massive increase in human behaviour which has a destructive impact on the Earth we can have a range of response. We can feel hopeless and powerless, dismiss it all as “doom and gloom” or deny that it is happening. We can feel guilty or angry, blame others or feel motivated to do something to make a difference.

Unsustainability isn't just about environment or Nature, it's about social conditions, politics and the economy as well. Increasing wealth has been accompanied by increasing inequality, both within nations and regions and in the world as a whole and with this comes poverty and many serious health and welfare issues. In richer nations wealth has been accompanied by increasing crime, drug and alcohol abuse, mental health problems, and the so-called diseases of affluence such as cancer and heart disease.

In the poorer countries problem are more obvious. The number of people in the developing world who...

- Subsist on less than \$1 per day is **1.3 billion**.
- Lack access to safe drinking water is **1.3 billion**.
- Lack access to health services is **0.9 billion**.
- Are living with HIV/ AIDS is **28.5 million**.
- Lack access to sanitation is **2.6 billion**.
- Lack access to electric power services is **2.0 billion**.

It is a cruelly familiar world of excess and destitution combined. The USA is the leading nation when it comes to excess and waste.

No satisfaction should be taken from the choice of a USA example. All over the world consumption patterns have tended to follow the USA as income rises. We all tend to see over-consumption as the evil of the ‘other fellow’.

Note: As of 1998, the total population of developing countries was approximately 4.58 billion.

To have and have not (excerpt from page 9)

- 5% of the world's human population resides in the USA
- 30% of the world's resources are used by the USA
- 8 motor vehicles are on the roads in China for every 1,000 citizens
- 750 motor vehicles are on the roads in the USA for every 1,000 citizens
- 15 kilograms of paper are consumed annually by each person in the developing world
- 333 kilograms of paper are consumed annually by each person in the USA
- 20% of the world's population lives in industrialized nations
- 75% of the world's pollutants and waste are produced by industrialized nations
- 8 billion dollars are spent each year on cosmetics in the USA
- 9 billion dollars would be needed each year (in addition to current expenditures) to provide water and sanitation for all people in developing nations

(collated by Josh Sevin for GRIST magazine)

The problem is worldwide and really quite fundamental.

Resources materials and energy-are being used faster than they can be replaced. Some resources are non-renewable. Most resources are being used by the richest nation for the benefit of a minority of their populations. The economy is chronically inefficient and wastes are increasing to levels which affect the very integrity of the ecosphere upon which all humankind depends. One of the example most often quoted is the impact of rising levels of carbon dioxide and other 'greenhouse' gases on the world's climate.

Unsustainable equation? (excerpt from page 11)

The 'environmental impact' (i) the world experiences depends on a number of variables. First there is the number of people: 'Population' (p). Then there is how much each person consumes: 'Consumption' (c). Last there is 'Technology' (t) or how efficiently resources are used (another way of putting this is the extra waste produced in providing the next unit of consumption). This gives a simple equation:

$$i = c \times p \times t$$

Imagine that environmental impact stays the same in 2050 as it now. Of course most people would wish it to fall, but this is just an example...

Imagine consumption continues to increase in the way it has. This means it doubles every 25-30 years if it is growing at 2-3% a year. This is a reasonable assumption. So conservative estimation puts consumption in 2050 at about three times greater than consumption in 2003.

Population is growing too. Although it is not growing as fast as it once did, the population could still grow half as much again by 2050. Remembering that the idea is that 'i' should stay the same... the only real variable left in the equation is 't' or how efficiently humanity behaves when using resources.

What will (t) have to be in 2050 to 'balance the books'?

It could be done proportionally. Let $i=1$ or the 'index' at year 2003 so the aim is to make sure that does not change...

$$i=c \times p \times t$$

so in 2050...

$$1=3.0 \text{ (the increase in consumption)} \times 1.5 \text{ (the increase in population)} \times \underline{1/4.5}$$

Why 1/4.5? Technology (t) will have to be 454% more efficient to counter the effects of increasing consumption and population (i.e. balance the equation).

That means between four or five times more efficient so everything will have to be made with between a **quarter** and a **fifth** of the resources which it takes now. It will take more than switching a few lights off and recycling campaign to achieve this. It will require a quiet revolution in how resources are used. Many educators have never really grasped the magnitude of the change required and for them this equation is a powerful wake-up call.

Ecological Footprints (excerpts from page 13)

This activity makes the nature of unsustainability "visible". It translates consumption into the area of the Earth's surface needed to provide the resources and waste sinks which match this consumption.

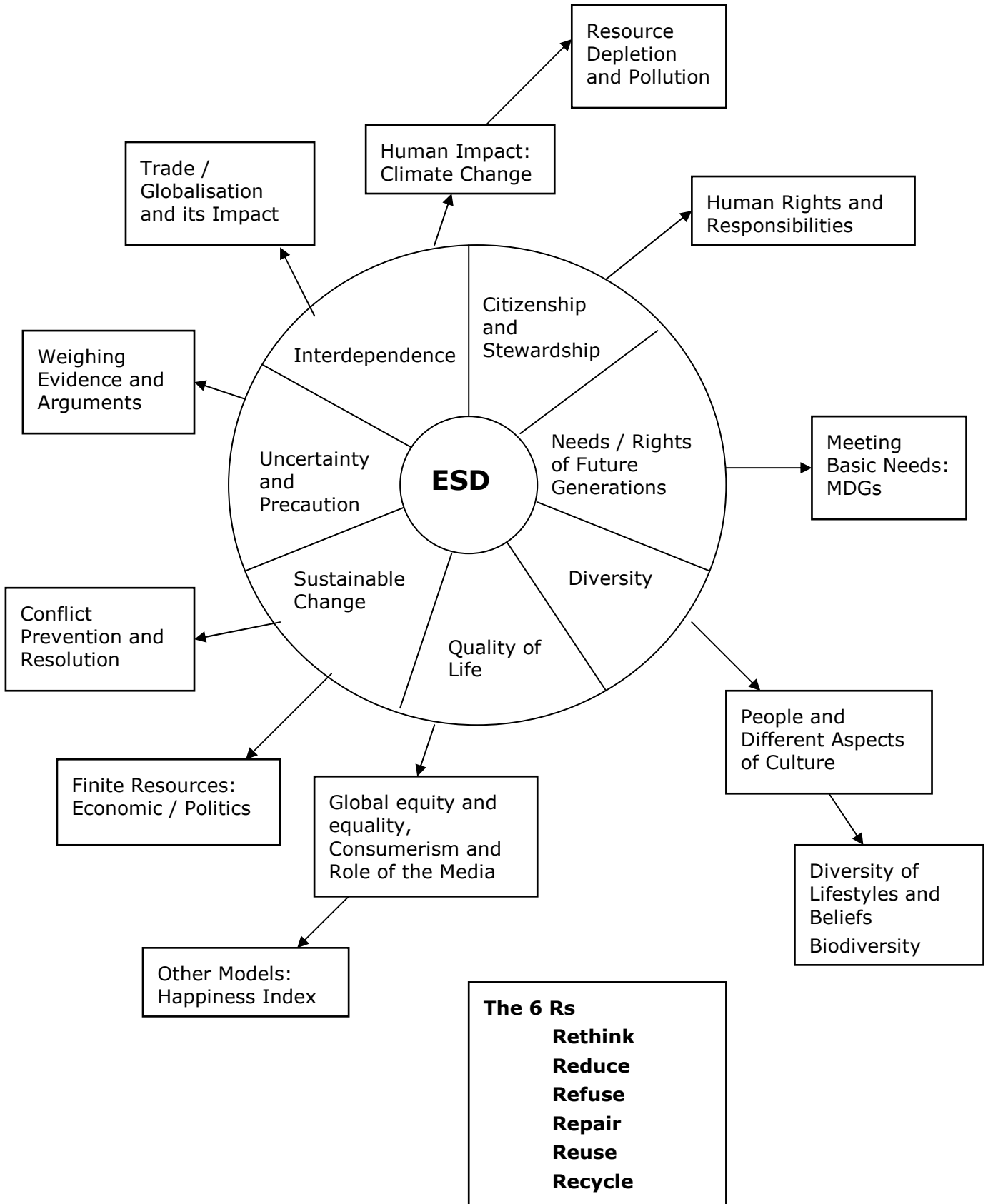
The earth has about 11.4 billion hectares of productive land and sea space, after all unproductive areas of icecaps, desert and open ocean are discounted, or about a quarter of its surface area. Divided between the global population of six billion people, this total equates to just 1.9 hectares per person. While the EF of the average African or Asian consumer was less than 1.4 hectare per person in 1999, the average Western European's footprint was about 5.0 hectares, and the average North American's was about 9.6 hectares.

The EF average of the world consumer in 1999 was 2.3 hectares per person, or 20% above the earth's biological capacity of 1.90 hectares per person. In other words, humanity now exceeds the planet's capacity to sustain its consumption of renewable resources. We are able to maintain this global overdraft on a temporary basis by eating into the earth's capital stocks of forest, fish and fertile soils. This is not sustainable in the

long-term - the only sustainable solution is to live within the biologically productive capacity of the earth.

However, current trends are moving humanity away from achieving this minimum requirement for sustainability, not towards it. The global ecological footprint has grown from about 70% of the planet's biological capacity in 1961 to about 120% of its biological capacity in 1999.

ESD Concept and Issues Web



Education for Sustainable Development inspection box resources showing Curriculum links KS3/KS4

√ = clear link to curriculum area √√ = strong link to curriculum area

Resource title	English	Maths	Geog	History	Science/ Techn.	PSHE/ Cit.	Art	Business Studies	RE	ICT
Change the World in 8 Steps	√	√	√√			√√				
Dealing with Disasters	√		√√			√√			√	
Exploring Our World	√	√	√√			√√				
Get Global	√	√	√	√	√	√√	√	√	√	√
*Growing Bananas										
Looking Behind the Logo	√		√		√	√√		√		
Make your Mark	√	√	√			√√		√	√	
Only One World										
Out of the Bin			√		√√	√	√			
*Papapaa	√	√	√√			√√				√
Positively Global	√		√√	√	√	√√				
Sustainable Human Development	√	√	√√			√√		√		√
The Challenge of Globalisation	√		√√	√		√√				√√
*The Computer Game	√	√				√√		√	√	√√
The Trading Game	√	√	√	√		√√		√	√	
Thinking about disasters	√	√	√√			√√			√	

Websites

www.earthday.net/footprint/index.asp A comprehensive footprints calculator is on this site.

www.Bestfootforward.com also has info. on the ecological footprint, background and comparisons.

www.wri.org World Resources Institute: has lots of statistical information, graphs of global trends.

www.worldwatch.org Worldwatch Institute

www.nc.uk.net/esd/gq1.htm UK guidance for schools

50 suggestions http://ec.europa.eu/environment/climat/campaign/takecontrol_en.htm

Resources - http://ec.europa.eu/environment/climat/campaign/resources_en.htm

www.farmingfutures.org lots of useful info on how farming will be affected by global warming.