

**Education
for
Environmental
Sustainability**

Making it work in practice

Trends shaping the future

- The global economy continues to grow
- Impacts of climate change are increasing
- Increased use of wind and solar energy
- Vehicle production continues to expand
- HIV/AIDS threatens development
- Obesity reaches epidemic levels
- The number of violent conflicts is falling
- Corporate responsibility is taking root



Our role as educators ...

“Without significant precautions, education can equip people merely to be more effective vandals of the Earth.”

David Orr: “Earth in mind” 1994

“One of the tasks of the progressive educator ... is to unveil opportunities for hope, no matter what the obstacles might be.”

Paulo Freire: “A Pedagogy of Hope” 1994



Educating **FOR**
Environmental Sustainability,
not **ABOUT** ...

'Futures' Studies

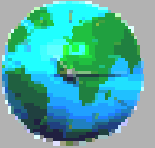
The purpose is to discover or invent, examine and evaluate, and propose (different) futures.

Futurists seek to know:

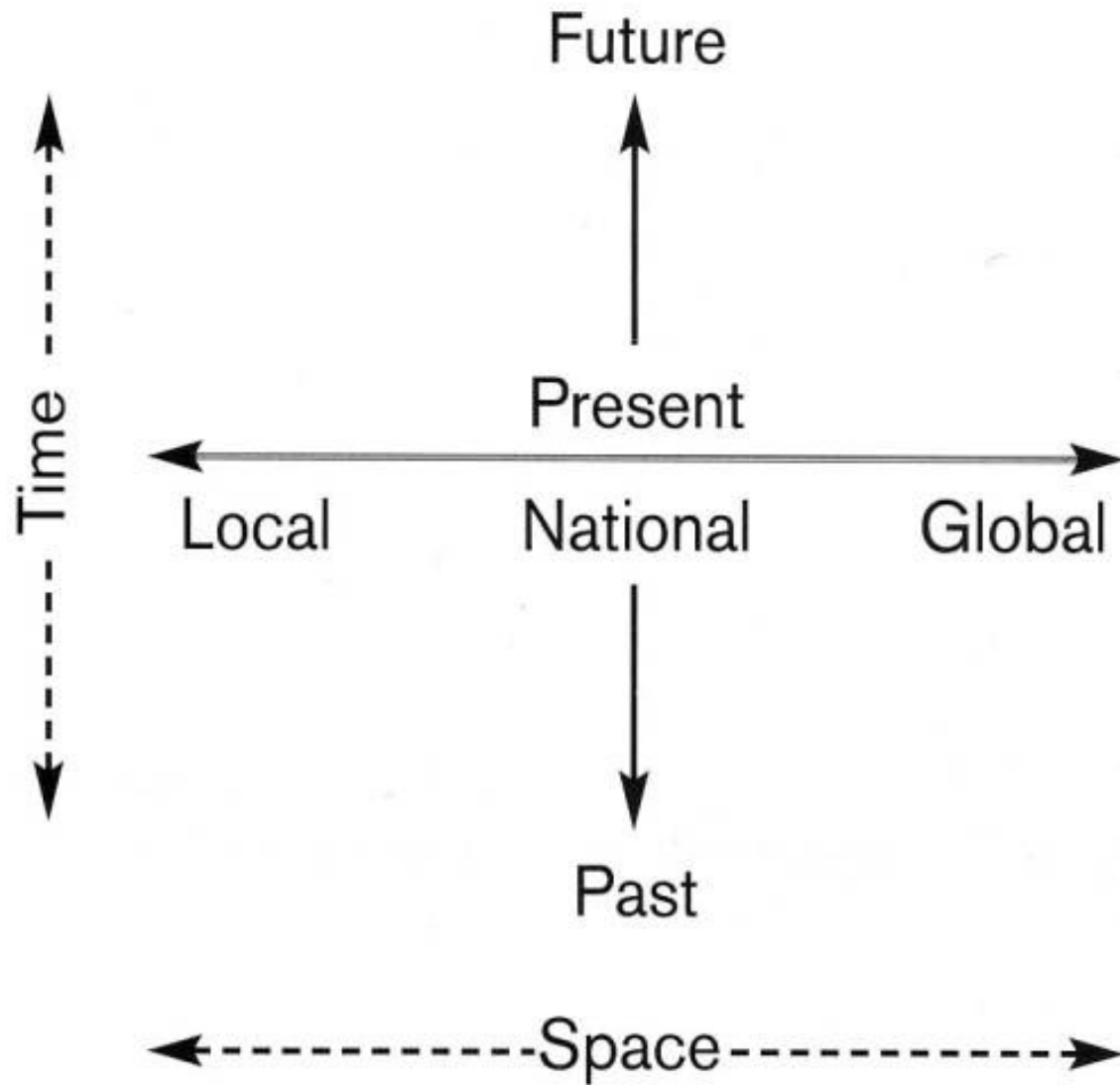
What can or could be - the **possible**

What is likely to be - the **probable**

What ought to be - the **preferable**



The spatial and temporal dimensions

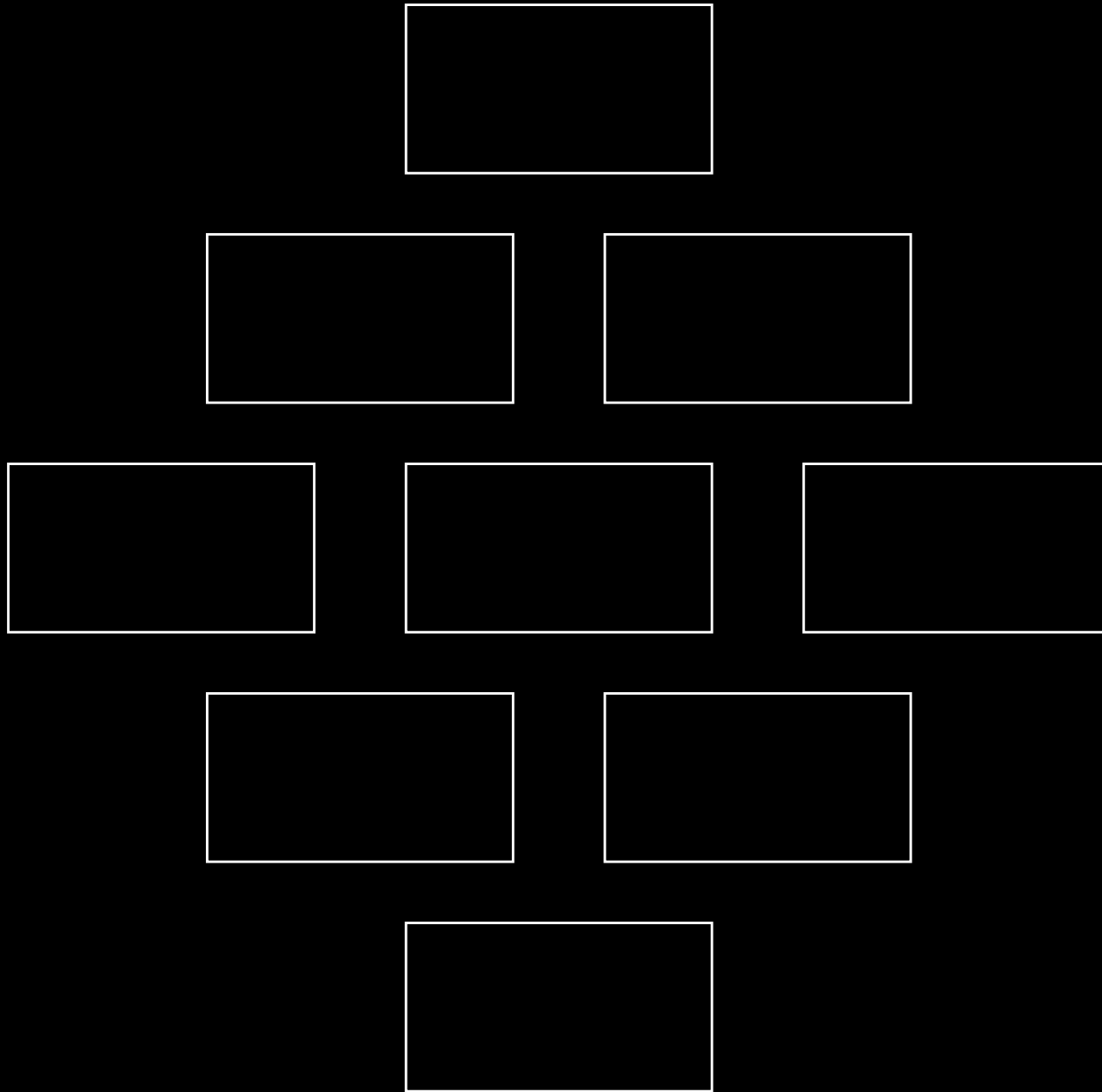


David Hicks: "Citizenship for the future" WWF-UK 2001



Do we effectively address the
'futures' dimension in IB
programmes?

Diamond Ranking





Asking questions ...

Creating 'a need to know':

Where is this place?

What is it like?

How did it get like this?

How are we connected to this place?

How is it changing?

What might people that live here feel about these changes?

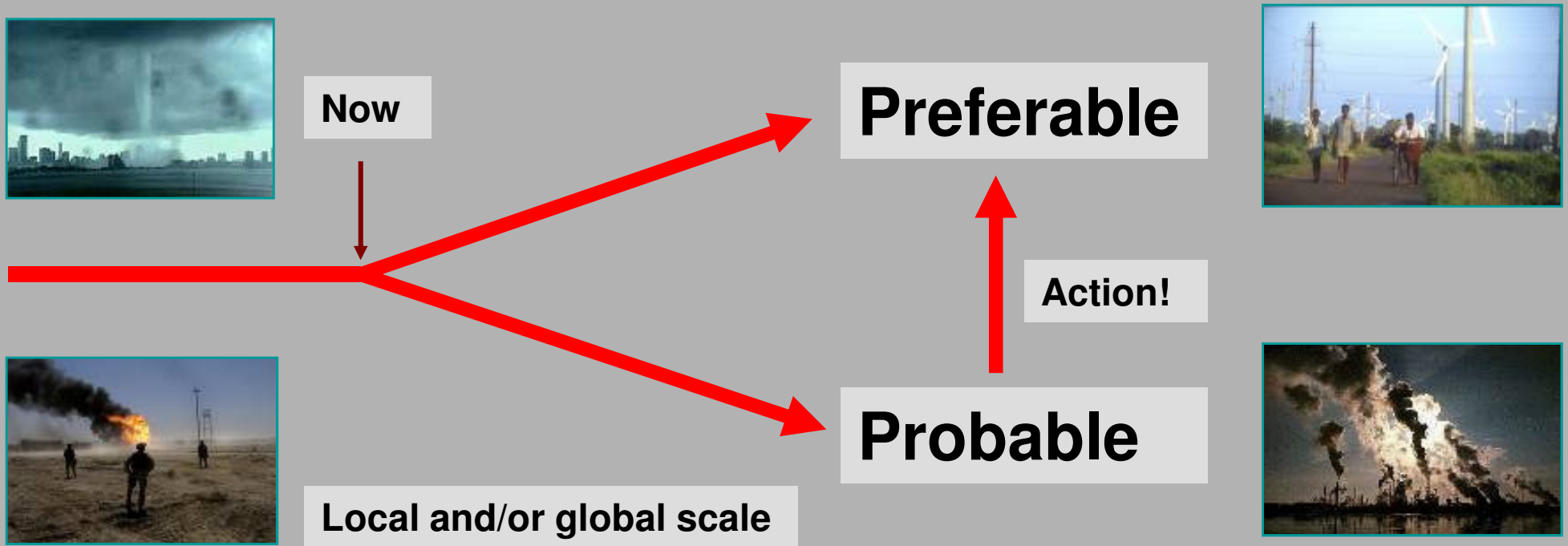
What might it be like in 10, 20 or even 50 years' time?

What ought to be done about it?




What might future generations ask of us about this place if they could speak to us?

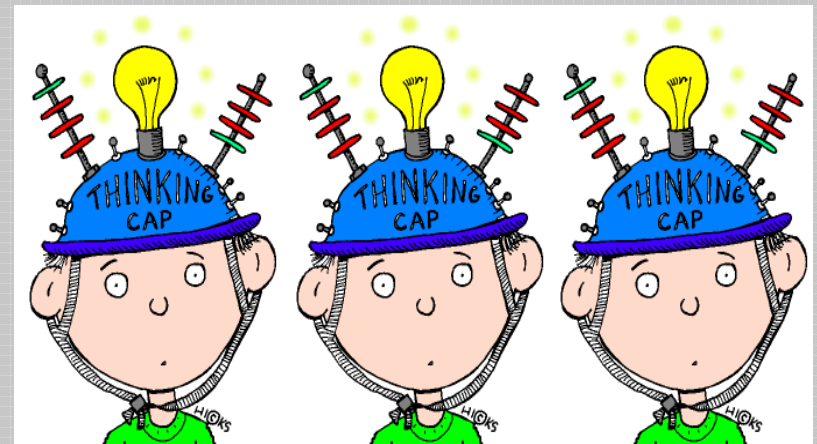


Thinking about the future ...

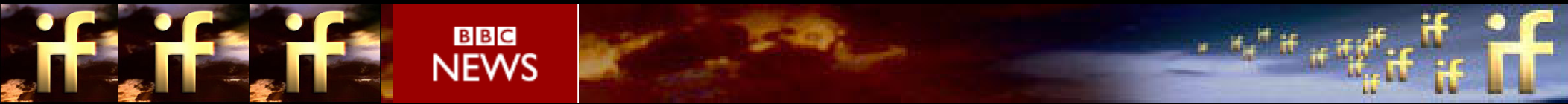


Visions of the future

-  'Business as usual'
-  The 'technological fix'
-  The 'precautionary principle'



Using 'docudramas', scenarios, literature, movies



“If the lights go out”



“If the generations fall out”



“If the toxic time bomb goes off”



“If women ruled the world”



“If cloning could cure us”



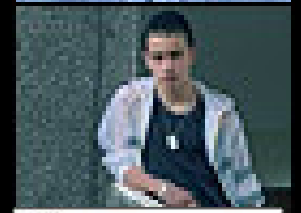
“If the oil runs out”



“If drugs were legal”



“If we could stop the violence”



“If we don't stop eating”



“If we stop giving aid to Africa”

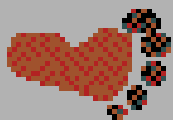
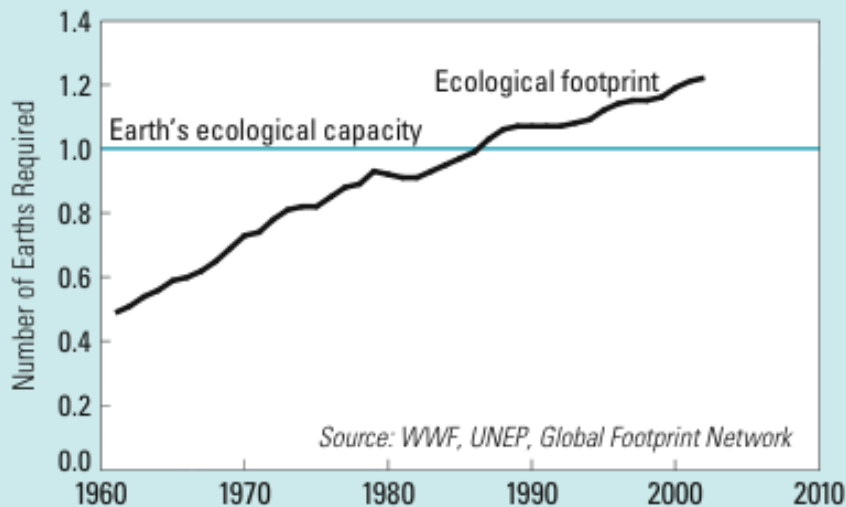


Ecological Footprint =

The amount of productive land and water a given population requires to produce all the resources they consume and take in all the waste they make, using prevailing technology.



Figure 1. World Ecological Footprint, 1961–2002





Ecological Footprint Quiz



¡Bienvenido! Elija su país.

(ca) Canada

(cr) Costa Rica

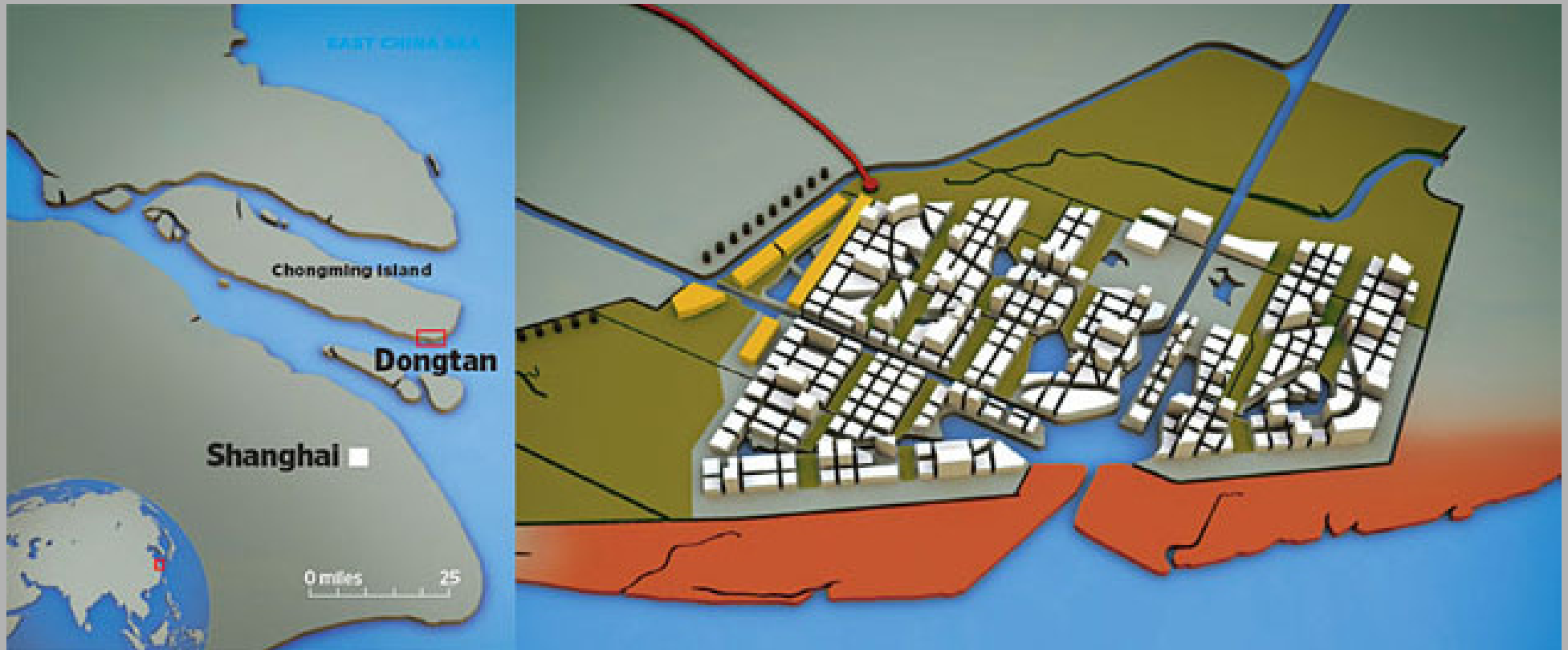
(mx) México

(us) United States of America



www.earthday.net/footprint/index.asp

Footprints and Sustainable Cities



Dong Tan, China – a city of the future with an ‘ecological budget’ ...

Peter Menzel (2007) "Hungry Planet: what the world eats" Ten Speed Press

marie claire KNOW YOUR WORLD



What's on your family's table?



CHAD THE ABOUBAKAR FAMILY and their week's worth of food

This family of six escaped civil war in their country and now lives among 30,000 refugees in one of 11 camps in Chad. There, they rely on the U.N. and relief agencies like Oxfam for food and water.

• **Daily rations per person** at the camp: 15 ounces of cereal, such as sorghum or millet; 1 tablespoon of sugar; 1 teaspoon of salt; ½ cup of lentils; CSB (a corn-soy blend) and vegetable oil

• **Average daily caloric intake** at the camp: 2100

• **Cooking method:** wood fire

• **Food preservation:** natural drying



GERMANY THE MELANDER FAMILY and their week's worth of food

The Melanders are a middle-class family of four (Dad is a biologist, Mom is a nurse) living outside of Hamburg. They prefer to buy organic at outdoor markets, even in the coldest months, but they also shop at supermarkets, where food is cheaper.

• **Their weekly grocery bill:** \$494.19 (which includes \$89 spent on vitamins)

• **Average daily caloric intake** in Germany: 3496

• **Cooking methods:** electric stove, microwave, and outdoor BBQ grill

• **Food preservation:** refrigerator-freezer, freezer chest



BHUTAN THE NAMGAY FAMILY and their week's worth of food

This extended family of 13 lives together in a three-story house. Almost all their meals consist of cheese, vegetables (grown in their garden), and rice; as Buddhists, they don't kill animals for food, but if a cow dies by accident, they'll eat it.

• **The family's weekly rice consumption:** 66 pounds

• **Their weekly dairy consumption:** 2.8 gallons from family cows

• **Average yearly meat consumption** in Bhutan: 6.6 pounds

• **Cooking method:** wood-fueled stove

• **Food preservation:** natural drying

FYI

At myfood diary.com, you can keep a log of what you eat and calculate the number of calories you've ingested in one day.

YOU & your world

KNOW MORE, LOVE MORE, LIVE MORE

What's on Your Dinner Table?

We all have to eat, but what we eat varies drastically from person to person, culture to culture. Turn the page to see the eating habits of the world's families—excerpted from the upcoming book *Hungry Planet*. What's on your menu—and what does it say about you? >>

In GREENLAND, 20% of families eat **seal** four times a week. (Seal meat is illegal in the U.S.)

In GERMANY, annual **alcohol** consumption is 13.1 quarts per person. In the U.S., it's 9.6; in Kuwait, it's 3 (or less than a third of a bottle of beer).

In JAPAN, each person consumes a yearly average of 146 pounds of **fish** and 97 pounds of meat. (An American consumes 275 pounds of meat.)

In the U.S., there are 13,491 **McDonald's** restaurants. In France, there are 973; in China, 546; in Cuba, 1 (on a U.S. naval base).

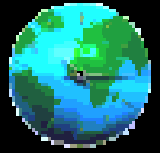
In CHAD, **ajaj,** a porridge made from **sorghum** or millet, is eaten at every meal.

In BHUTAN, the **chili pepper** is served at nearly every meal; it's viewed as a vegetable, not a spice.

In FRANCE, contrary to its desert-mad image, yearly **sugar** consumption is just 88 pounds per person, compared to 158 pounds in the U.S.

In ECUADOR, spit-roasted **coy,** otherwise known as **guinea pig**, is served at many restaurants.

Highlighting interdependence - through space and/or time ...



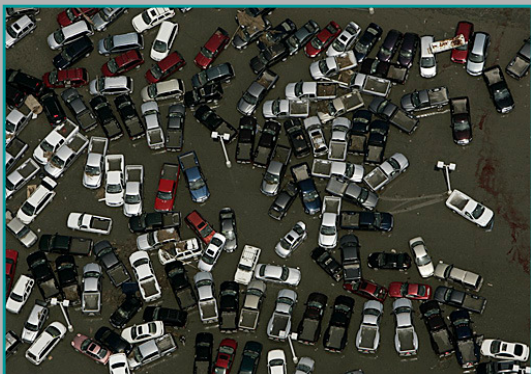
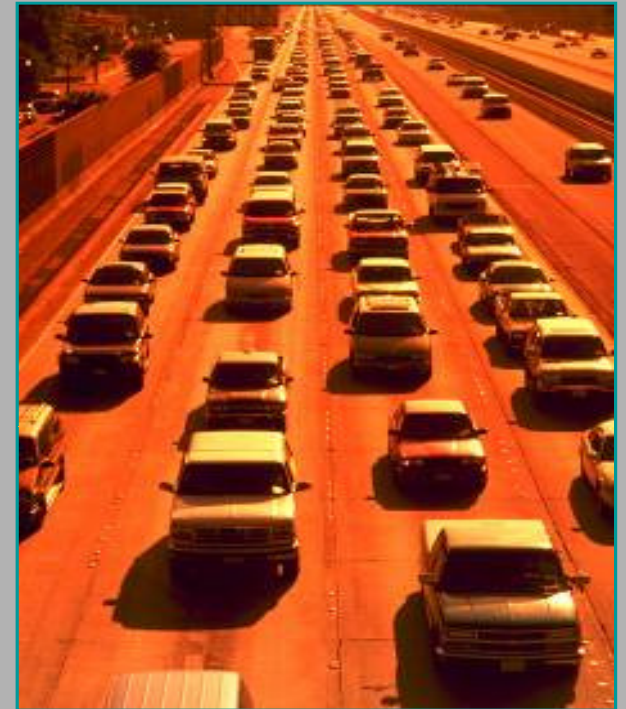
‘Mysteries’

‘Consequences wheels’

‘Mind movies’

‘Time capsules’

‘Visualising a footprint’



Teaching controversial issues

“I do ‘circle time’, I covered it in my training, but I wouldn’t discuss anything controversial, partly because I think it would be contentious and ... you worry about parents”.

Newly qualified Year 4 teacher

David Hicks & Cathie Holden: “Teaching the global dimension” Routledge 2007:55

Making sense of climate change in the classroom ...



Very complex
Very uncertain
Very contentious



... but a potential vehicle to embrace:

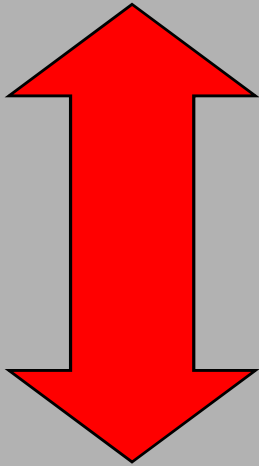
Interdependence
Futures education
Active citizenship



Exploring values ...

“Climate change is the most severe problem that we are facing today, more serious even than terrorism”

D. King, UK government Chief Scientific Advisor, 2004



Global warming is ... “the greatest hoax ever perpetrated on the American people”

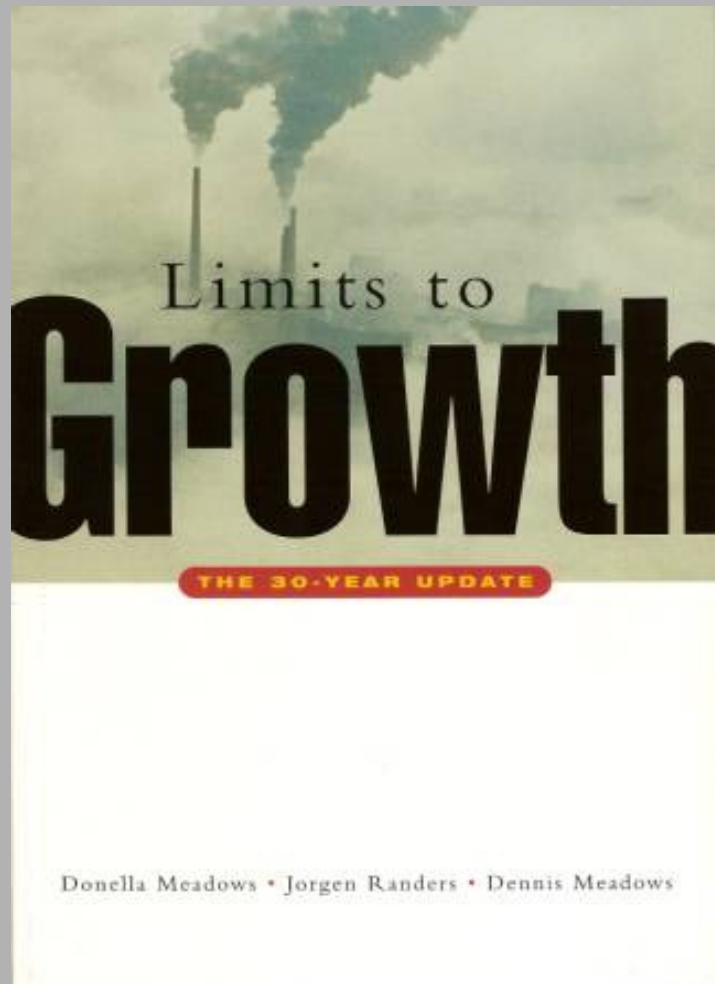
J. Inhofe, US Senator for Oklahoma, 2005

FACT ...



or OPINION?

Envisioning the future with ACTION

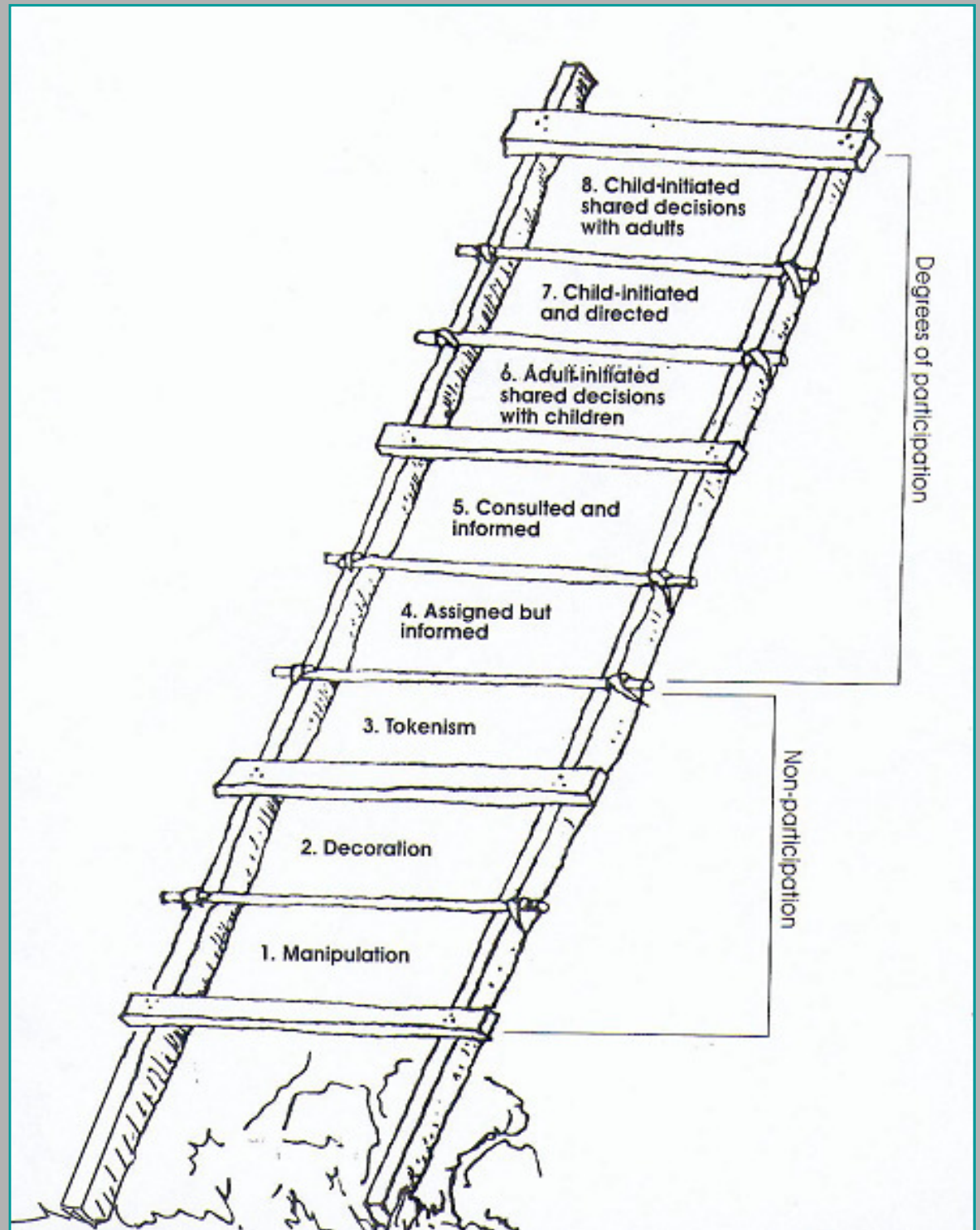


“Vision without action is useless. But action without vision is directionless and feeble. Vision is absolutely necessary to guide and motivate. More than that, vision, when widely shared and firmly kept in sight, does bring into being new systems.’

(Earthscan, 2004: 272)

A ladder of participation

Roger Hart 1992



‘Action Competence’ (UNESCO 2002)



“Avoid the belief that awareness leads to understanding, understanding leads to concern, and concern motivates the development of skills and action”.

Consider issues and problems that concern young people



Explore how these problems can be resolved in the community or local context



Action competence

“Start from the questions, issues and problems that concern young people themselves, and help them develop action competence through community-based learning”.

Think Global



Act Local

Participatory Action: Potential Barriers in Schools

Curriculum restrictions?

Shortage of time and resources?

Lack of commitment from administrators?

Compartmentalised school structure?

Challenge to existing practices in school?

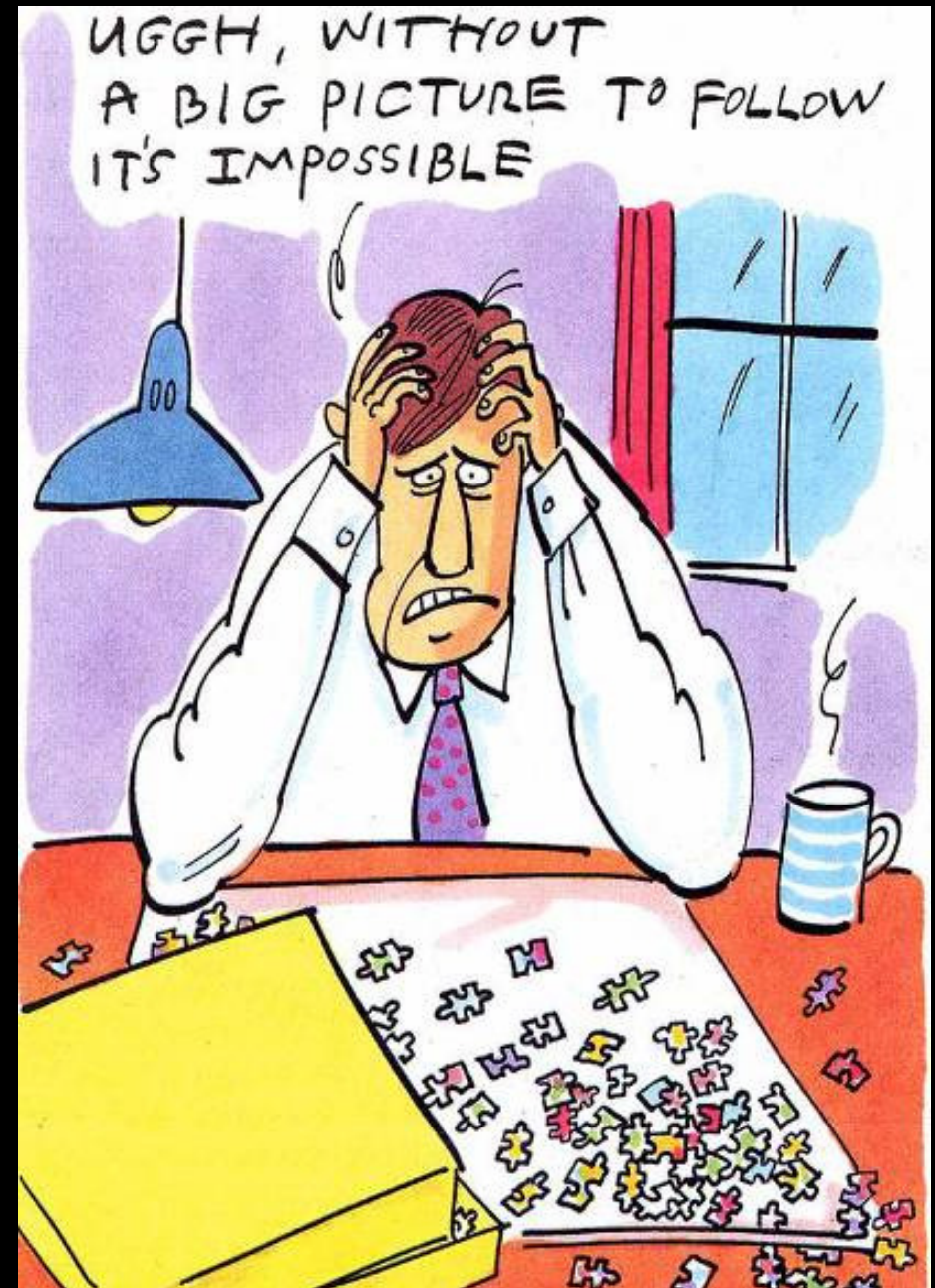
Values, skills & knowledge of teachers?

Reactions from parents?

Our role as curriculum leaders

“Our biggest challenge in this new century is to take an idea that seems abstract – ‘sustainable development’ – and turn it into a reality for all the world’s people”.

Kofi Annan, 2001



**Is she learning about
probable and preferable
futures for herself and
others?**

**Is she learning
how to think
critically and
creatively about
the world and her
future?**



**Is she learning
how to make
wiser choices in
the present for the
future?**

**Is she feeling
optimistic about
her future and
the future of her
world?**

**Is she learning
about all the
things she and
her friends can
do in the
community?**

**Is she learning about
what adults are doing
to protect her world?**

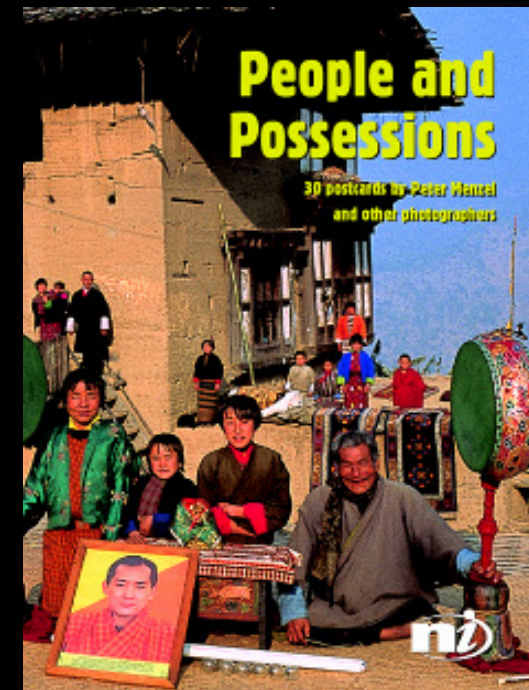
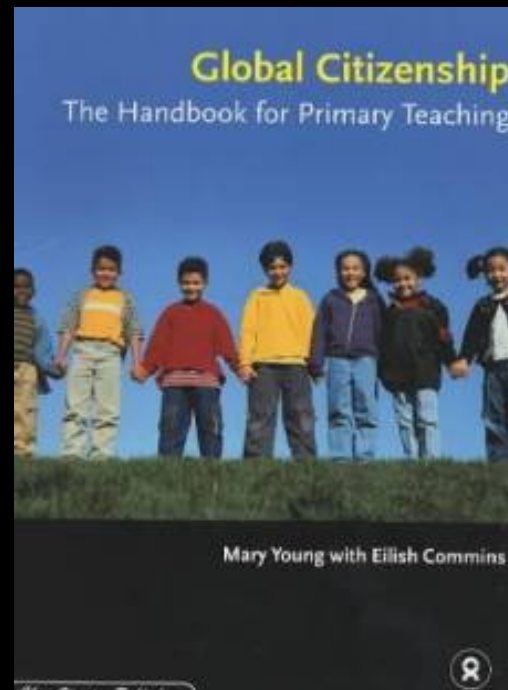
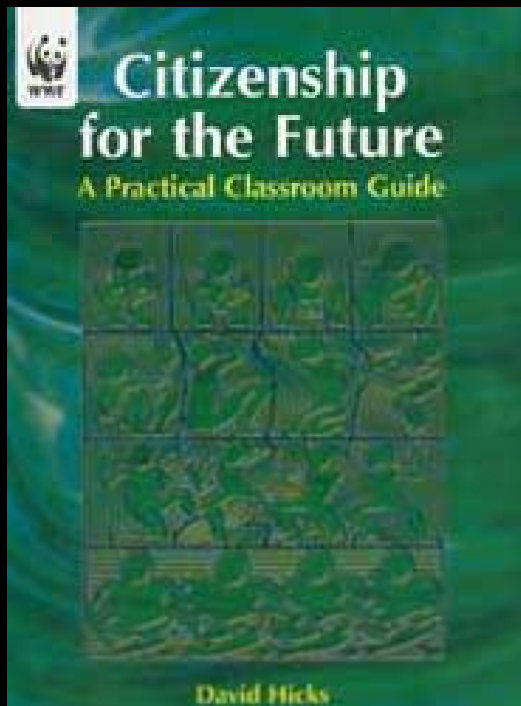
**If not, are her school and teachers failing in their
duty to her generation?**



WWF for a living planet*

wwflearning

Supporting Learning for Sustainability



See the reading list on the hand-out for details on these excellent resources plus suggestions for further reading.