

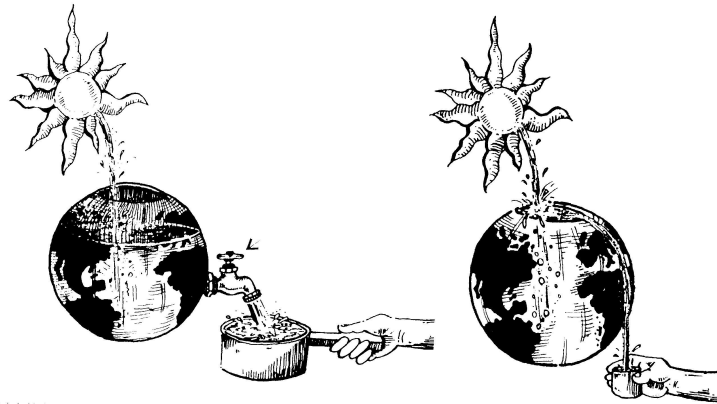
## **A Dummies' Guide to (Education for) Sustainable Development Limits – what limits?**

*Hey, you with your ESD hat on, what's this talk about respect for the rights of others, nature, animals and future generations? What's that got to do with me?*

*Surely, I live in a free country and I drive whatever car I want, I buy whatever takes my fancy, and as much of it as I like or can afford. I live only once and I am not going to let the likes of you ruin my well-deserved freedom!*

I respect your honesty, mate, and I can't even blame you because through media and marketing you have heard almost nothing else for the last 50 years: 'freedom' and 'Me, myself and I'. So I am really sorry that I have to tell you that you are in the wrong film. There is no such thing as 'limitless' freedom and 'free' personal choice. This is true on a material as well as social level.

The Earth is 'thermodynamically closed and non-materially-growing' (Costanza *et al.* 1996, 2). This aspect is best encapsulated in the following illustration by Phil Testemale:



*Figure 3: taken from Wackernagel/Rees, 1996, 34.*

With respect to matter our life-support system is a closed system and to live sustainably, we can only use the interest (i.e. the energy coming in from the sun), but should not eat into the capital base (i.e. diminish non-renewable resources). This makes the idea of unlimited material growth a *physical* impossibility.

So, there is only so much to go round for everybody – water, clean air, oil, productive soil, food, you name it. The challenge for sustainability is therefore to find solutions which respect these limits – and the good news is that most of these solutions are known, sometimes since millennia. All you have to do is open your eyes, shed some progress myths and go looking for them.

On a social level, it's almost as easy. If there is such a thing as justice, i.e. if you treat others as you expect others to treat you, then your freedom is limited. As soon as your actions infringe the freedom of others in ways that you wouldn't want yours infringed, that's it, end of story. I guess this is one essence of sustainability: web of life. Whatever we do, say or think has consequences. There is no isolated action (such as driving a car) which is limited, as in a void, to a small set of intended consequences.

*I don't believe you. This is academic bullshitting to me. Where's the blinking proof?*

Okay, let's be brutally honest. You claim life is about making free choices. Fine: If all inhabitants of the world make the same sensible free choices as the average European, this means:

- we would need at least three additional planet Earth to have enough resources to feed that lifestyle
- car ownership would go up 400%, from 590 million to 2.36 billion, with all the associated pollution, fuel consumption and road building consequences.
- CO<sub>2</sub> emissions would more than double
- meat consumption would increase by a factor 2.5, putting even more stress on food production, when scarce crops on land under fertility and water stress are used for meat production instead of feeding people directly.

It is easy to see that there is no way to do this so that:

- the planet's ecosystems wouldn't collapse
- the planet's oil and other mineral resources (such as coltan, uranium, etc.) would be totally exhausted quickly
- the world's climate wouldn't freak.

*But haven't I got a right to such destructiveness? I don't care what comes after me.*

Of course, personal choice. But if you insist on that 'right', be prepared to:

- renounce the Universal Declaration of Human Rights: the right of everybody to a self-determined life in dignity is impossible in such circumstances, because your 'free choice' actively undermines choice for others.
- bear the consequences: if as a result of our greed wars over mineral resources and water break out, prompting environmental refugees to flood Europe, please don't complain.
- if your 'free choice' and self-determination is limited and constrained by what transnational corporations, supermarkets and complicit governments allow, don't complain. If what you eat, what your job has on offer and what you can do in your freetime, is decided by unelected corporate managers in some far-away countries, just relish the experience: it is exactly what happens to the majority of people in the world now in the so-called developing countries.

*I am not sure I'm prepared to go THAT far....*

But if you say A – if you recognise the right of any human being on earth (born or unborn, black or yellow or white, young or old) to lead a dignified life – then you have got to say B as well:

- your ecological footprint is not allowed to be higher than the available world average allowing sustainable development: 1.8ha per person. And, heck, this doesn't mean you need to be bombed back into the Stone Age. This is possible with simple means: get rid of your car, stop eating meat, reduce the floor area of each member of your household by a factor 2.5, throw away your mobile phone and replace your TV and computer every 10 years instead of every 3, replace your WC with a compost toilet.

*Wow, shit, this IS the Stone Age!*

No, it isn't at all. For half the world population this would mean: no change at all. You see, it is all a matter of perspective. We *think* we cannot possibly live without all those things. But fact is, we easily can. Most people for most of history have. Most people – so various studies have shown – who haven't got all the amenities of 'civilised life' live happier lives. A meaningful, happy, sustainable life has nothing to do with cars, big flats and flatscreen TVs – despite what all the consumerist spin doctors tell us. Add another aspect to this: researchers tell us that based on the energy consumption of the average European in the 1960s, a sustainable world would be possible. Are you sure, 1965 *was* still in the Stone Age?

*So, what is all the fuss about, if you're saying it is dead easy?*

Adding up all the bits and pieces. Yes, it is easy in the sense that there are everywhere you look brilliant, ingenious solutions (see boxes for some examples) around. A sustainable world is possible now, without any further technological progress, without any further economic growth, with what's around now.

But on the other hand the much praised ESD competence 'critical thinking' ought to enable us to the reality of underlying values which still guide us predominantly. So never underestimate the fundamental conflict between our existing western economic and political system and what might qualify as a sustainable society. This is exemplified by the guiding values. The current system is based on unlimited growth, accelerated progress and technological innovation, short-term orientation, individualism and unlimited consumption. A sustainable system which works for all (and not just for us in the rich countries) is very difficult to imagine without acceptance of planetary limits, reduction of resource throughput/consumption, long-term planning, acceptance of diversity of systems, collective effort, slowness, acceptance of our responsibility for the consequences of our ways of life.

Examples of solutions:

*Sustainable water use:* Arguably, the invention of the flush toilet was one of the worst ideas ever inflicted on humankind. Just think about it: on the one hand you have, if properly treated, a perfectly safe fertiliser, constantly replenished: human urine and excrement. On the other hand, you have the life blood on Earth: water. Rather than keeping them separately, and therefore useable, you mix them together, thereby contaminating your precious water which you then have to clean at great expense, not to mention the increased pressure on drinking water, used by the gallons to flush down your poo. From a sustainability point of view, there is no question that the flush toilet is no match to the dry toilet. Enter a fascinating educational project at the *Secundario 'Instituto Patria'*, in Xico-Chalco, Mexico, where dry toilets yield rich educational fertiliser:

The dry latrine project simultaneously develops theoretical and practical skills. History, English, Spanish, social studies, natural sciences, journalism, community development, recycling, waste "management", and other disciplines are taught in the integrated manner essential for engaging in moral education and ecological literacy. [...] The dry latrine project involves "learning by doing". The school day is divided into two parts. During the afternoon, teams constituted of students, supervising teachers, parents, and neighbors install at least one dry latrine a week for the entire academic year in the homes of community members. This is key to communal learning. The mornings focus on theoretical explorations of this postmodern technology. The theory and practice of producing, promoting, constructing, and installing dry latrines involves several elements: (a) curing themselves of the ignorance and apprehensions

regarding dry latrines – including fears of odor, disease, plagues, dysfunctionality, underdevelopment, or backwardness; (b) liberating themselves from their blind faith that the flush toilet of the developed world is superior or more desirable; (c) emancipating themselves through the discovery that even if the flush toilet were made available to the population of Xico-Chalco, it would not be desirable; that, in fact, it would prove to be a catastrophe for a whole set of ecological, economic, political, health, moral, and educational reasons; and (d) developing leaders in the community for the production, promotion, installation, and construction of alternative postmodern ecologically friendly technologies. (Prakash/Richardson 1999, 65-78)

*Sustainable housing:* There are two routes one can take, both with interesting aspects, even though the second is probably the more sustainable over all. The first is the high-tech approach, as chosen by an innovative communal housing project in London called Bed Zed.

Fifty per cent of the world's population now live in cities, which currently account for around 75% of all resources consumed and wastes produced. The proportion of people living in cities is forecast to grow to 60-70% in this century. Therefore, making our cities sustainable is one of our greatest challenges. Beddington Zero Energy Development (BedZED) is demonstrating how we can create high quality urban environments and live within our 1.9 hectare target ecological footprint. (Desai/Riddlestone 2002, 90)

The second is the revival of old, low-impact building technologies which rely entirely on local materials with little embodied energy and little industrialised manufacturing. A few examples of the later can be found at Cae Mabon in North Wales: a traditional roundhouse with thatched roof, a hexagonal block house with turfed roof, built according to Native American Navajo traditions and a cob structure, built with local earth and straw (see <http://www.caemabon.co.uk/>).

*Sustainable transport:* How do you limit, for example, growth in private car use, in practice? One of the most interesting examples to show how intelligent ecological solutions can be combined with social ones, if the necessary political will is there, is the Brazilian city of Curitiba:

Jaime Lerner, the architect who has transformed Curitiba into one of the world's greenest cities, has been twice re-elected to run the city and is now state governor. Lerner's creed is revolutionary: "The poorer you are, the better the services you should have." When he first became mayor, Curitiba was mushrooming as the rural exodus of the seventies sent people into the cities and the transport system was heading for chaos: 50 bus companies competed in the city centre, the jams worsening every day. Something drastic had to be done. A subway system cost too much, and would take too long to build. So Lerner's planners identified what made an underground system fast and applied it to the bus service. Huge red articulated buses purr speedily up special lanes stopping at tubular steel and glass stations where passengers buy tickets before boarding. As the buses stop, ramps descend from their doors and boarding time is minimal. Neat little lifts in the pavement raise handicapped passengers to the platform. Lerner has produced an efficient, passenger-friendly service. Bus jams never happen, vandalism is unknown. "People don't vandalise it because they like it. They feel respected, they show respect," says Carlos Ceneviva, president of Urbs, the municipal company which collects fares and regulates 10 private companies. No subsidies are paid: 80 per cent of people go to work by bus; 28 per cent of car owners take the bus instead, which has led to a 20 per cent drop in fuel consumption. This had three effects: since most people take the bus the fares are so cheap

that even poor people can afford it. Additionally, the drop in private car use has made Curitiba the Brazilian city with the cleanest air and the highest percentage of parks and green areas, since the demand for parking spaces is lower. Thirdly, for low-income housing a clever scheme has allowed poorer families to live along the bus tracks in the city centre. Lerner says: "The less importance you give to cars the better it is for people. When you widen streets for cars you throw away identity and memory." (Rocha 1996, 18)<sup>i</sup>

*Sustainable agriculture:* Something which is yet to happen to most of the heavily oil-dependent industrialized countries has led to a veritable agricultural revolution in Cuba. Cuba's urban garden program was begun in the early 1990s to combat the serious shortage of food in the cities after the collapse of the Socialist bloc which meant the breakdown of oil imports. Crops withered in the countryside, with no means of transporting them to urban centres. In a three-year period the economy plummeted by more than 35 percent as trade traffic became virtually non-existent. As a result, the national caloric intake dropped by a third as many Cubans lost as much as 20 pounds. In response, urban gardens sprouted up everywhere – from schools, to community centres, to factories to army posts. Today, the gardens are providing a steady and reliable source of food and strengthen the fabric of the communities in which they flourish. The food is grown organically and no chemical fertilizers or pesticides are allowed in the process. Urban farming has been a remarkable success as city gardens now provide urban dwellers with a third of the vegetable diet recommended by the FAO. Today, half of the fresh produce consumed by two million Havana residents is grown by "nontraditional urban producers". What's more, this agricultural renewal has created tens of thousands of much needed jobs. (Sources: <http://www.oxfamamerica.org/advocacy/art6080.html>; <http://www.blythe.org/ai/cubanjobs.htm>)

Looking in on Western/Euro-american education from the outside:

Box 17: Learning from Ladakh: indigenous versus 'modern' education

[Modern education] isolates children from their culture and from nature, training them instead to become narrow specialists in a Westernized urban environment. This process is particularly striking in Ladakh, where modern schooling acts almost as a blindfold, preventing children from seeing the context in which they live. They leave school unable to use their own resources, unable to function in their own world. (...) For generation after generation, Ladakhis grew up learning how to provide themselves with clothing and shelter; how to make shoes out of yak skin and robes from the wool of sheep; how to build houses out of mud and stone. Education was location-specific and nurtured an intimate relationship with the living world. It gave children an intuitive awareness that allowed them, as they grew older, to use resources in an effective and sustainable way. None of that knowledge is provided in the modern school. Children are trained to become specialists in a technological, rather than an ecological, society. School is a place to forget traditional skills and, worse, to look down on them. (...) The basic curriculum [of Euro-American education in Ladakh] is a poor imitation of that taught in other parts of India, which itself is an imitation of British education. There is almost nothing Ladakhi about it. (...) Most of the skills Ladakhi children learn in school will never be of real use to them. They receive a poor version of an education appropriate for a New Yorker. They learn out of books written by people who have never set foot in Ladakh, who know nothing about growing barley at 12,000 feet or about making houses out of sun-dried bricks. (...) Modern education not only ignores local resources, but, worse still, makes Ladakhi children think of themselves and their culture as inferior. They are robbed of their self-esteem. Everything in school promotes the Western model and, as a direct consequence, makes them ashamed of their own traditions.

Helena Norberg-Hodge (2000), *Ancient Futures: Learning from Ladakh* (London, Rider Books), pp. 110-113.

<sup>i</sup> See also McKibben 1997, 57-115, *Factor Four* 1997, 126-128 and *Natural Capitalism* 2000, 288-308.