

Review of *Tomorrow's World*

By D. McLaren, S Bullock and N Yousuf (Earthscan, 1997)

The book has been prepared by FoE's Sustainability Research Unit and seeks to explain all the many ways in which the technologies of almost every economic activity could be made vastly more efficient - that is, they could achieve the same end with far less resource use and therefore far less impact on the environment. The methodology is one based on strict global equity: the maximum (ecologically) sustainable yield of a natural product or service is calculated and then divided by roughly 10 billion, - the projected global human population in the year 2050. The resulting figure for each resource is the 'fair' share for each human being. The fair share for each nation-state is that per capita share multiplied by that state's projected population in 2050.

For most of us (the *average* person) in the industrialised countries, such figures are a quarter or a fifth or even a tenth of our current usage. For the average person in a poor country they may represent undreamed-of luxury. If the people in poor countries are ever to have their fair shares of the Earth's limited resources and still stay within sustainability limits, the argument goes, then those in 'rich' countries must hugely reduce their consumption. This could be done, according to FoE, entirely by the efficiencies latent in our technologies, and by changes in lifestyle choices - going by bike or public transport instead of by car, for instance. To give credit they do offer fairly detailed statistics about possible efficiency savings and consequent reductions of per capita resource use.

FoE as an organisation probably has had to do something to address the great fears of the Third World countries that environmental protection is an excuse for rich countries to pull up the drawbridge on their affluent lifestyles. Legislation for standards on emissions, for instance (often resulting in higher technical specifications and higher unit cost), may mean that the chance of having those things like fridges, which we take for granted, moves ever further from reality for poor countries. So, working in alliances with so-called 'world development' organisations, FoE has had to present sustainability policies in a way that shows how rich countries can meet sustainability targets which allow people in poor countries to consume much more - until everyone is at the same level of per capita consumption.

FoE accepts global population of 10 billion by 2050

The major objection to this 'total equity' methodology is that it regards one of the three key factors in the sustainability equation - population - as a given, and not part of any negotiation towards fairness. We are talking here about the human population - the numbers doing the per capita (fair shares) consuming. The FoE formula is spelt out: for each resource, determine the 'environmental space' required for global sustainable use in terms of an annual rate; calculate a per capita fair share in environmental space, based on forecast world population of 10 billion in 2050; calculate country targets on the 2050 projections. The UK figure is 59.6 million; if we grow only to a lower total, then we could still claim a national share based on the higher figure. Bangladesh, on the other hand, is projected to triple its population, so its national share would be three times that based on its present population; if it did not grow to that level, it could still claim that three-fold amount. So those countries with rapidly growing populations do rather well out of this scheme whether they slow their growth or not. The argument is that such countries will take 50 years to stabilise their populations. After 2050, the methodology changes, and any country continuing to grow in size would not be able to claim a bigger national 'fair share', and those with dwindling numbers would realise per capita improvements. This approach may seem hypothetical and academic, yet such calculations have figured in the Kyoto negotiations over CO₂ emissions, with some countries pressing for a global per capita formula which in general would allow poor countries to greatly increase their development of CO₂-emitting technologies and would bind richer countries to big reductions. But many countries objected to such a formula because it would seem to reward countries with very large populations, like China, whose impact when all its citizens reach the per capita limit would be immense.

While it is true that the high-consumption countries must accept much lower levels of resource use to meet sustainability targets, it is equally obvious that the high-population growth countries should accept their obligation to stabilise numbers. The FoE book never approaches such a view. Nor does it suggest that the world or the UK is already overburdened by humans, so that an actual diminution in numbers (and they could say, so as

to still remain politically correct - "especially in the high consumption countries like USA, UK and so on.") is required alongside technological change.

Reliance on the reformation of technology

Indeed, the emphasis is all on the possibilities of reforming technology. Most of the examples given and the arguments used are very convincing. But they are theoretical and seem rather to disregard human nature. Doing things efficiently in resource terms may be fairly costly in terms of human expenditure of time and effort - e.g. cycling, or even using a bus instead of driving. The book assumes that such changes could be brought about without anybody feeling any diminution of their standard of living. But it is abundantly clear from all the evidence around us, that most people are not prepared even to segregate their rubbish, or to operate a compost heap for kitchen waste, or even take a shopping bag to the supermarket thus avoiding the need for several plastic ones. Having tasted convenience, people will only with great difficulty be persuaded to return to lifestyles requiring effort and the loss of luxuries like intercontinental flights.

In short, people's behaviour is a much more problematical issue than this book recognises. There is also the 'screw-up' factor alluded to by Norman Myers: with the best of intentions, technical solutions have a beastly way of going wrong or throwing up more problems than they solve. Even where technological efficiencies are clearly feasible, a great degree of political will and huge amounts of investment will be required.

The general thesis of the book comes seriously unstuck on the issues of water and land, whose availability is not really a question of technology. Fair shares in tungsten or oil or timber can be delivered to a global citizen anywhere in the world. But water and land are not tradable items. The authors admit this: "Unfortunately, water fits uncomfortably into the environmental space methodology... for this reason, even though it raises some moral concerns, we will treat water not as a global resource, but as a regional or national one". Therefore they "do not assume that consumption should be equal everywhere". They admit that in this case practical measures to save this resource are most effectively promoted at a national level. (I would argue that, in political terms, this is true of many other resources.)

The water companies are targeted as the villains because of substantial water wastage through leaky pipes. The sums show that if the leaks were all plugged the UK would have no water shortages. Well, so long as we all took care not to squander water - using showers, low-flush toilets, hose-pipe-free gardening and so on. Metering of domestic watering is rejected on equity grounds (and here the anthropocentric approach is clear) because a survey showed that 'up to 8%' of households with water meters suffered 'hardship'. As a water-metered householder - three adults and a large, extremely productive garden - I seriously question this, since we are well in pocket!... but we do think carefully about every pint. A better approach, surely, is to endorse metering, while encouraging ameliorative schemes for those in low-rated (and thus low water-charged) houses who might find metered supply relatively expensive.

The issue of regionally finite water supplies illustrates a further problem with the efficiency approach: when all the suggested measures are in place but pressure to consume is still upward, (more consumers, more economic growth) there may be no further 'slack' in the system. The law of diminishing returns applies to technological efficiencies: waste can only be eradicated up to the point where greater savings would require superhuman efforts. A complete switch of technology to a more benign one, as in the change from fossil fuel to renewable energy systems, incurs a high set-up cost in resources and therefore in environmental impact.

Land, cities and our ecological footprint

On the issue of land, the book is clear that 10% of land, globally, should be protected or actively managed for biodiversity conservation. Each country would therefore have a target of 10%. For the UK this would require a net shift from arable to protected land of about 50,000 hectares. They say "Our global calculations for land use are based on the assumption that additional land for biodiversity protection will not reduce the net area of agricultural land, but this cannot hold strictly for the UK, where land is already more intensively used." But then there is no further explanation. With regard to land as a producer of food, there is no problem for the FoE methodology, because food is infinitely tradable; our per capita 'fair' share would simply be the global average food intake, imported from wherever there was a surplus. Our large population, too great to be fed from our own hectares, would require the production from the hectares of others.

With regard to living space it's a different matter. To stop further encroachment on agricultural land and biodiversity land, urban sprawl must stop and city dwelling be intensified. The 'need' identified by the Department of Environment for 4.4 million more homes by 2016 in England alone is not questioned. Yet the growth of the urban area to 20% of the land area by 2050 is termed 'unsustainable'. Once again, 'efficiency' is the key, meaning increasing density, using derelict land, filling empty properties and using flats above shops. The flight to a 'spurious' countryside idyll is treated with scorn, with rural life sketched as lonely and limiting... yet where is the sociology that would explain why people feel that cities are hostile places? The arguments for increasing density of occupation are valid up to a point but they remind one of the 1960s - 70s planners' solution to rehousing the millions of slum dwellers - tower blocks. No problem of population growth, just build upwards! And we know the sociological results of that 'solution'. People's desires to grow their own vegetables, keep chickens or have a pigeon loft in the back garden are not considered in FoE's very urban future.

It is true that, if we are to house increasing numbers of Britons and at the same time reduce pressures on the environment - on agricultural land and on wildlife areas - then we probably have to do most of the things FoE advocates (though one could argue for a better mix of *rural* settlement and urban intensification). But why is it nowhere admitted that a different approach might be to campaign for a significant reduction in the UK's population over the next 50 years to avoid such intensive measures? FoE's view that problems of alienation and criminality in cities can be minimised, and that city environments are superior to rustic ones because of the great and varied cultural mixing opportunities they afford, may not be shared by everyone.

The need to speak out on fertility restraint

In sum, FoE's approach does not *reject* the need to do anything about the population factor in sustainability - it simply ignores it, which is intellectually infuriating. It concentrates on technology, yet a bad technology can be shut down overnight, and a better technology installed in five, ten or twenty years. But each year, right now, there are some 80 million extra people, and we can't shut them down; once children are born we have a moral duty to care for them and give them the best possible chance to live out their threescore years and ten. This means that the problem of extra numbers, each year's increase, is with us for some 70 - 80 years. It takes that long to reap the benefit of any restraint introduced now. It thus seems a very poor strategy to neglect the P factor, leaving the hoped-for lowered fertility trends to result from reproductive health programmes and increasing affluence. And this approach entirely ignores research which indicates that in already affluent countries, more affluence (sense of security) may lead to *greater* fertility.

While falling fertility rates in many developing countries may give grounds for optimism (though this can quickly change, as seems to be happening in the UK), the provision of reproductive health programmes is still woefully underfunded. Some countries have simply not come up with the funds promised at the Population and Development Conference at Cairo in 1994. Indeed the USA Congress has recently withdrawn funds to population activities in China on the grounds that they may be used for abortions. [Ironically, without easily available contraception, many thousands *more* women will seek abortions] It is vital that the issue of people having control over their fertility should be shifted out of this political/'moral' battleground, and identified firmly as a requirement for human survival with dignity on a healthy planet; yet we hear no voice of outrage from the influential environment organisations, who could create a real shift of attitude - shaming governments into making the funding of reproductive health programmes a priority.

Lovins and Weizsäcker, in their book *Factor Four*, say "Assuming per capita consumption increases of a mere 1.5 % per year (China has maintained annual increases of some 8% for years!), the median variant (the 10 billion projected by the UN) would lead to a quadrupling of total consumption from 1995 to 2050. In other words, the total F4 revolution - if it took place during the same period - would already be eaten up by this double dynamic of population increase and a very modest increase of per capita consumption... Nothing of the efficiency revolution would be left for a relief to the overstressed natural environment." In other words F4 offers us a breathing space to *halt* population growth; if we don't, all our efforts will have achieved nothing. Indeed, historically, each improvement in the productivity of our use of natural resources has allowed population to *expand*. Environmental organisations should hammer away at the need for procreation restraint every bit as much as at the need for technological efficiency and lifestyle changes.

The impracticability of global altruism

The other major shortcoming in FoE's chosen methodology is that altruism is not rewarded except in the long term. Those nations (and individuals perhaps) who adopt constraints - on their fertility, on their emissions, on their use of a finite resource - cannot enjoy the benefit, but for 50 years hence must share the benefit with all other nations (global fair shares) including those who have continued to be profligate. Some may *not* consider that fair, however 'politically correct'. Given that many nations will laugh at targets set on the basis of ecological altruism, and that what matters is the ecological impact, being felt **now**, in each region, the political way forward must be for enlightened governments to set sustainability targets for their own countries based on their own environmental space (working at international agreements wherever possible) and to forge policies to meet those constraints. Such policies would involve technology, lifestyle and numbers of people in whatever mix that country thought best or achievable - keeping within a sustainability ceiling, with high numbers and low standards of living, or vice versa. It would require some degree of enlightened trade protectionism so that the benefits of living ecologically and the rewards of self-imposed restraint would not be eroded by the carelessness of other countries.

To conclude, it should be noted that this book is very well written, and a vast array of facts has been marshalled in an entirely digestible manner. It is both scholarly and readable. My copy's margin is peppered with 'yes', 'agree', 'good' etc. But it is the conclusions, the inferences, the hypothetical solutions that strike one as doctrinaire, even daft, and certainly politically impractical.

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