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SETTING THE ENVIRONMENTAL AGENDA SINCE 1970
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The aviation industry's (tail)spin

I'm sure I wasn't the only one to pick up a paper on Tuesday 21st September and read the headline 'Airlines vow to Halve Emissions by 2050' with some shock. Really? I hadn't been aware the airlines even had the technology to accomplish such a feat, let alone the confidence to publicly commit themselves to such a goal.

As I read the article, hopeful that it might contain some commitment by the aviation industry to fully integrate itself with any post-Copenhagen climate agreement, my heart sank.

What I read instead was that the aviation industry wanted to opt out of the EU Emissions Trading System (still, for all its faults, the only fully-functioning carbon market in the world) and instead have access to what BA chief executive Willie Walsh describes as a 'global trading system'.

No such thing currently exists, and won't do for a good few years, even should it be agreed at Copenhagen. More importantly perhaps, the painstaking lessons learned from the European system (don't give away free credits, don't issue more credits than there are emissions, etc) will probably have to be re-learned in the global system.

Most worryingly, having held out a begging bowl to a Government for the necessary scientific work that will be necessary to develop more efficient planes, the industry admitted that if the technology failed to deliver, carbon trading or offsetting would have to cover the difference.

This is a get-out-of-jail-free card of epic proportions. Greenpeace director John Sauven called it 'little more than an elaborate conjuring trick'; Friends of the Earth a 'con' and a 'smokescreen'; and the Aviation Environment Federation warned that offsets 'are no substitute for real cuts in emissions'.

Faced with the prospect of having to curb its rampant growth, the industry has kicked sand in the eyes of policymakers in the hope that it will be let off the hook.

Such stunts are stock in trade for the airlines, but they look even worse when compared with proposals by that other great polluter, the shipping industry.

In a paper released by a coalition of shipping authorities, the industry called – like the airlines – for a sectoral carbon approach (dealing with the industry as a whole rather than on a country-by-country basis).

But unlike the aviation industry, which proposes vague 1.5 per cent per year increases in 'efficiency' and its own, unique targets, the shipping industry admits it will have to submit to an international carbon cap, and has suggested that its carbon permits to be auctioned, rather than given away free – the usual cry of any newly regulated sector. Its report was warmly welcomed by WWF.

At the moment, these are, of course, just words and position papers. But as we draw close to the Copenhagen negotiations, the intricate detail of these industry statements will become crucial in knowing whether a global agreement will be meaningful, or just more hot air.

Mark Anslow, Editor

Work less, save the Earth?

The 'leisure economy' has been predicted for decades, but never realised, despite research showing that overworking is bad for our health and bad for the planet. What chance change, asks **Ewan Kingston**

There's something wonky with the way we work. Those of us with jobs are stressed when we're at work, and fatigued when we're not.

Many of us don't feel we have time to interact with our communities. 46 percent of Brits have described themselves as being 'exhausted' at the end of a day's work. A similar survey by the Families and Work Institute found one third of Americans were 'chronically overworked'. Less than a quarter of Brits are 'satisfied' with their work hours.

But while some of us are shackled to a long-hours culture, unemployment has been rising.

Firms across the industrialised world, from car manufacturers to consultants to city councils have been offering employees the choice to work less hours for less pay, instead of lay-offs. Many workers have accepted the new conditions willingly, some even relishing them. One British delivery firm found when it offered its workers a three-day week, some asked to work only two.

In June, the *Ecologist* interviewed employees of the Toyota assembly plant in Derby. A recent 10 per cent hours and wage cut was being taken mildly.

'At least we've still got jobs,' was a typical response.

One young employee, new to the workforce, thought the new hours were ideal and the lower pay easily sufficient - he hadn't yet gathered the debts that most of us run up given a few years in paid employment.

The beginning

So how did we arrive at a 40 hour week in the first place? Looking back, there's good reason to believe it came about by a curious set of historical circumstances.

From the 1820s to the 1930s, unions were consistent in their demands for both shorter working weeks and higher wages. The average work week in the US, for example shrank from 60 hours a week in 1900 to under 50 just two decades later.

Industrialists like Henry Ford agreed with the vision of progressively shorter hours and in 1933 a 30 hour week was, according to some historians, 'within a month' of becoming a reality in the USA.

Surprisingly, the incoming President Roosevelt quashed the idea, a decision he is said to have regretted just two years later.

The most long-lived experiment with shorter work hours in the industrial world was when cereal company Kellogg switched to a 30 hour week during the Great Depression. The new hours lasted far longer than the Depression did, with some sections of the company voting again and again to retain the system well into the eighties.

The idea of work-time reduction continued to be supported by such thinkers as Bertrand Russell and, notably, the now newly-fashionable John Maynard Keynes. Keynes

called fiscal stimulus 'first aid' and WTR the 'ultimate solution' to unemployment.

However, the 40 hour week was supported by the International Labour Organization in 1935, and incorporated into the New Deal in 1938. After the war, the orientation of the economy towards growth and consumption meant WTR never regained momentum, and the 40 hour week became the norm.

Free choice?

So then doesn't the 40 hour week mark an equilibrium point that workers have chosen, between the value of their free time and the value they place on their income?

Not necessarily. For one, it's not a freely negotiated situation. Employers tend to seek a one-size-fits-all solution, making it very hard for those who want to work less to do so. One book on 'downshifting' even suggests that people reducing their work-time maintain the illusion they still work full-time hours in order to avoid being discriminated against by fellow employees.

For some of course, forty-hour weeks would be a luxury: the US is infamous for lacking legislation on paid holidays and maximum weekly hours. The fact that British workers (unlike those in the rest of the EU) are still able to opt-out of the protection of a maximum forty-eight hour week will continue to be abused by unscrupulous employers to create long-hours working cultures. It's an asymmetrical situation - the right to request flexible or reduced hours in the UK with the support of the government only applies to those wishing to care for a specific person.

Economic orthodoxy has shunned the idea that work-time reduction (WTR), especially outside of times of recession, will help reduce unemployment. Some economists refer to the idea that there is a set amount of employment to be distributed among those willing to work as the 'lump of labour fallacy'. They believe- work-time reduction will lead to less demand for products, a slower economy, and thus have no positive effect on unemployment rates.

However, this line is being challenged by economists like Tom Walker and Leeds University's David Spencer, and there are loud voices calling for work-time reduction as general policy in industrialised countries.

Historian Benjamin Hunnicutt is insistent: 'The [economic] house of cards that is necessary to support full-time employment is such a problematic undertaking that sooner or later it is going to come crashing down. We're close to it now'.

Ironically, signs indicate that businesses too would benefit from decreased work hours – the harmful impact of worker fatigue in manufacturing has been long established (see for example Philip Sargant Florence, *The Economics of Fatigue and Unrest*).

'The economic house of cards that is necessary to support full-time employment is sooner or later going to come crashing down. We're close to it now'

More recently, the US Department of Labour has found that employees are generally more productive in the first 5 hours of their workday. The fact that employees took less sick days and were more productive while at work was one reason why Kellogg could afford to increase its hourly wage when it was running 30 hour weeks.

A low-growth future?

Work-time reduction is featured in the UK government's Sustainable Development Commission's 'Prosperity Without Growth' report, which showcased economist Peter Victor's model of a stable, non-growing economy. Victor created this model, based on statistical data drawn from the Canadian economy, then experimented with adjusting variables like labour participation and investment rates to try to find a stable, desirable no-growth scenario.

Several no-growth scenarios were accompanied by high poverty and unemployment levels, but one stood out – it featured low unemployment and poverty levels, and sinking levels of CO2 emissions.

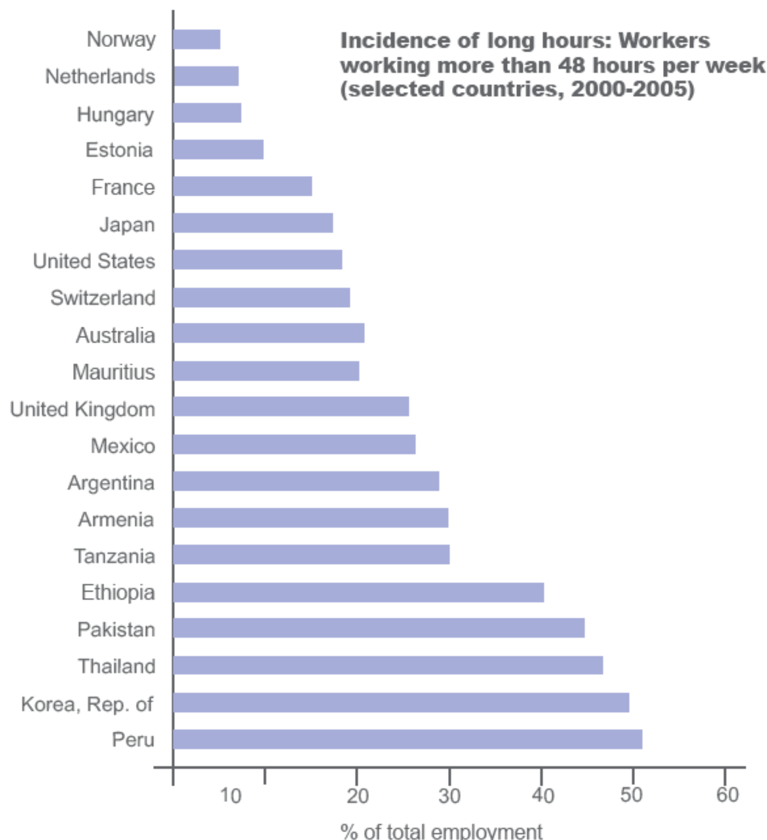
One key feature of this 'Resilient' scenario was that investment was concentrated on public rather than private goods, but what was the crucial variable that saved the day? Work-time reduction.

Macro-economic models of non-growing economies aren't thick on the ground. In fact, this is the first. Are there more to come? Tim Jackson, chair of the SDC hopes so:

'One thing we can say for sure,' he told the *Ecologist*, 'is that we need some macroeconomic thinking around these possiblities. And we need it quick!'

A further barrier towards reducing the hours we work is in the way in which our self-image can be defined by what we can consume.

'Meaning, purpose and identity are now increasingly expressed through consumption. It can make downshifting very difficult

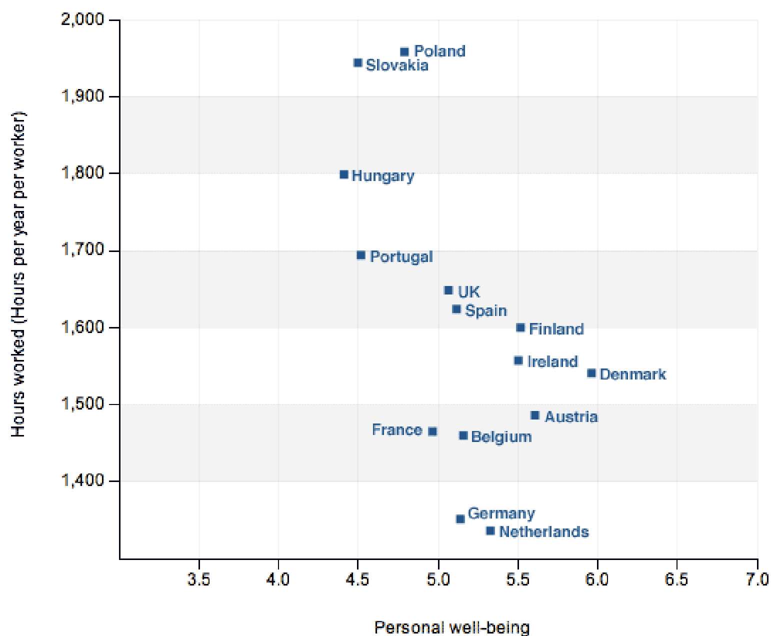


Source: Table 3.4 in *Working Time Around the World (ILO and Routledge, 2007), pp. 46-51. Available at http://tinyurl.com/yatrw3q*

because you have to build a new identity and a new pattern of meaning in your life' says *Guardian* columnist, Madeleine Bunting, who writes on work issues.

This linking of self-image and the products we consume has been heavily reinforced by the advertising industry, a this is why in the vision of sustainable economies, such as that of the SDC or economist Herman Daly, work-time reduction may need to be augmented by more restrictions on, or disincentives to, advertising. While this may sound like wishful thinking to some, governments already regulate advertising and some, such as Scandanavia's, have managed much greater restrictions.

Advertising restrictions don't just belong to highly industrialised economies, either. Brazil's Sao Paolo, under a conservative mayor, went billboard-free in 2007, a move which has been hailed as a success by residents.



Source: National Accounts of Wellbeing (New Economics Foundation, 2009). Available at www.nationalaccountsofwellbeing.org

Environmental benefits

The knock-on environmental benefits of work time-reduction could be considerable. As individuals, if we make the choice to trade some of our income for more time, we might find our consumption drops automatically. A WWF report found the wealthier areas of the UK tend to have higher ecological footprints. The link with work time has also been made explicit. The Center for Economic and Policy Research found in 2006 that if Europe was to emulate the long working hours of the USA, carbon dioxide emissions from the region would rise by 30 per cent.

'It is possible that the US and Europe will find... that they would rather use increasing productivity in the form of leisure time'

Equally importantly, leisure time allows people the time and energy to engage in Earth-friendly activities. It takes time and energy to grow your own food, to gain confidence to cycle to work, to become an engaged and informed citizen. We don't like to change our habits, and when we are time pressured and exhausted, we are even less likely to do so.

While the shorter-work movement may have gone underground for several decades, the growth in 'ecological economics' has seen it surface again, this time marrying both labour and environmental concerns. The New Economics Foundation has promoted the idea, as has *Ecologist* columnist, Tom Hodgkinson. The idea has also surfaced in the Conservative party's 'Blueprint for a Green Economy'.

The movement is stronger, however, in North America, where the Take Back Your Time (TBYT) foundation and the Canadian Work Less Party work ceaselessly(!) to put work-time reduction on the agenda.

John de Graaf, director of TBYT and co-author of *Affluenza* is an influential voice:

'We need [WTR] for health, for relationships, connections, communities; we need it to be good environmental stewards, and we need it to reduce unsustainable levels of consumption,' he says.

The movement has powerful allies. President Obama has met personally with TBYT, and mentioned work-time reduction in his inauguration speech. 'Obama gets these things,' says De Graaf.

Even among the economic orthodoxy, ideas are shifting. Nobel prize winner for economics Robert Solow told *Harpers Magazine* last year:

'It is possible that the US and Europe will find.... that they would rather use increasing productivity in the form of leisure. There is nothing intrinsic in the system that says it cannot exist happily in a stationary state.'

So might the UK see work-time reduction as forward-thinking policy? The grassroots support is still minimal.

'Trade unions worry about the impact of shorter work hours on the wages of their members but they tend to overlook ways by which this issue may be overcome.... I perhaps need to promote the idea more myself,' says David Spencer, economist at Leeds University.

If he looked to Continental Europe, Spencer would find he wasn't without company.

Volkswagen's German plants have run efficiently with a 29-hour week for more than a decade.

On a national level, the government of the Netherlands has initiated a Working Hours Adjustment act, which fully protects the rights of employees to seek shorter hours. France's 35-hour week is no longer prescribed by law, but businesses and unions are nonetheless finding 35 hours per week to be a happy medium.

It may not seem like it when looking over the household budget, but taking a longer-term view, those of us with full-time jobs can generally afford to work less.

While real incomes in industrialised countries have roughly doubled in the last four decades, we have become no happier. Still, our labour productivity, the amount of work that we can do in a set time, has continually increased. Hence the sensible call that we can trade our gains in productivity for more leisure time, instead of more stuff.

Ewan Kingston is a freelance journalist

More on work/life balance on theecologist.org

'Work-life balance'?
The term doesn't make sense
- Molly Scott Cato

101 ways forward - changing our culture

What is downshifting?
- Laura Sevier

Can cows help stop global warming?

Livestock in general has in recent years joined the ranks of the 4x4 and the short-haul flight. But could a change in the way we graze animals have a positive effect on greenhouse gas emissions? **Ed Hamer** investigates

The next time you look over a hedgerow and see a herd of cows contentedly grazing a field, you may be forgiven for thinking you are witnessing one of the world's number one climate criminals in action.

With a reputation for producing an estimated 33 million tonnes of greenhouse-gases (GHG'S) each year - a staggering 13 per cent of the world's total emissions - it is not surprising that our bovine friends have belched and farted their way to the top of such an unenviable hit-list.

What you may not be aware of however is that this pastoral scene could just be at the forefront of one of the most radical and ingenious solutions to climate change.

Grazing ahead

Among the weird and wonderful initiatives put forward for saving the planet at the Guardian Manchester International Festival - which included carbon-mortgages, energy-bonds and the creative prospect of cloud-making ships - a single proposal on soil-carbon sequestration, given by Tony Lovell from the Soil Carbon Institute of Australia, received an overwhelming response due to the sheer simplicity of its design and the practicality of its approach.

Lovell argues that the planet's 5bn hectares of agricultural grazing land represent a vast untapped sink for carbon which is currently under serious threat from intensive farming. He claims that simple yet effective changes in the way we manage livestock can restore the natural ability of these grasslands to physically pump carbon dioxide out of the atmosphere.

Too good to be true? The proposal may not be ground-breaking – the idea has been mooted by several prominent agricultural scientists over the past decade – but the scale of mitigation proposed has the potential to intrigue even the most determined sceptics. Lovell calculates that increasing the organic matter content in the top 30cm of the world's agricultural soils by as little as 2.7 per-cent, has the potential to restore atmospheric carbon dioxide to pre-industrial levels.

'The problem of unhealthy grasslands arose when we first domesticated large herbivores and restricted the way that they grazed'

According to Lovell the secret to locking carbon in the soil depends on us reverting to a model of management that compliments the ecology of our grasslands and the livestock that graze them.

'To demonstrate this we must look at one of the last remaining natural grassland ecosystems on the planet, the Serengeti in Africa, to see this natural relationship in action,' he explains. 'If you think of a wildlife documentary with a closing-shot panning out across a herd of wildebeest, you'll notice three main things. Firstly the animals are in one big herd. Secondly the herd is constantly moving, eating the good grass at the front and leaving dung and trampled grass at the rear. Thirdly the herd is kept tightly bunched by pack-herding predators.

'The problem of unhealthy grasslands arose when we first domesticated these large herbivores and restricted the way they grazed. Through a combination of eliminating their natural predators, separating them into smaller herds for ownership and management purposes and fencing them in to stop them from moving, we fundamentally altered the pattern of their grazing and the natural function of grasslands as a carbon sink.'

It is widely accepted that grasses evolved as species with a natural tendency to balance their above-ground and below-ground biomass – in other words, if grass leaves are eaten, a corresponding amount of root material is lost from the plant.

It is this balancing act, which takes place in nature following the intense short-term grazing of large herds, that has caused such excitement.

The dirt on grass

Like all vascular plants, grasses have evolved a symbiotic relationship with unique soil-living fungi. In this case Arbuscular Mycorrhizae supply the plant with water and micro-nutrients and in return use sugars (converted via photosynthesis from carbon dioxide) to form a carbon-heavy substance called glomalin. Mycorrhizae uses glomalin as a kind of super-glue to plug holes and attach itself to

the plant roots.

As the grass plant is grazed in a natural ecosystem it responds by shedding below-ground biomass and the carbon-heavy stores of glomalin from its roots into the soil. As the plant re-grows more glomalin is formed using carbon dioxide, drawn not from the soil but from the atmosphere, thereby beginning a pumping action which buries carbon in the soil at a rate equal to the pattern of grazing.

Mankind's domestication of livestock broke this natural pattern of herd-management, replacing it gradually with continuous grazing systems, many of which are reliant upon specially sown grass mixtures and synthetic fertilisers. As a result, grass plants are grazed intensively and not given the time to re-grow and re-balance their root systems.

The benefits of introducing a model of grazing management that mimics those of natural grassland ecosystems is the focus of a recent book by UK agricultural commentator Graham Harvey. In *The Carbon Fields*, Harvey explains how 'rotational grazing', using fenced-off paddocks within a larger pasture, has the ability not only to stimulate carbon sequestration but also to dramatically increase grazing productivity.

'Understandably cattle prefer to graze the freshest upper-most shoots of the grass sward and will graze these leaves off an entire field before starting on the lower tougher shoots,' Harvey writes. 'By carefully managing the period of grazing it is possible for the farmer to move the cows off the field at the critical point, which allows the grass to produce a continuous cycle of fresh growth. In this way the highest quality grazing is reflected in the quality of the cow's milk and meat.'

Rotational grazing for improved productivity was an idea first proposed by mid 20th-century French farmer and agronomist Andre Voisin, whose classic book on the subject, *Grass Productivity*, inspired a revolution in livestock management across Europe. Today there are an estimated 200 farmers in the UK alone practising various interpretations of rotational management for improved productivity.

Added benefits

The technique isn't just a carbon quick-fix however. Grass-fed cattle have been shown to emit up to 25 per-cent fewer GHGs than their counterparts fed on grains, while grassland systems have demonstrated a much lower carbon-hoofprint compared to conventional meat or dairy operations.

At the micro-level increased levels of glomalin are associated with enhanced soil structure, improved aeration and nutrient availability – meaning that applications of fertiliser (organic or non-organic) can be reduced. Likewise a rotational approach to grazing management can help prevent many of the problems associated with permanent grazing, including soil compaction, over-grazing, loss of topsoil and pollution of watercourses.

From a scientific point of view there is little doubt that agricultural soils offer enormous carbon-capture potential in the fight against climate change. The Intergovernmental Panel on Climate Change (IPCC) identifies the world's soils as the third largest carbon sink on the planet, after coal fields and the deep sea, holding an estimated 1580Gt of carbon compared to just 610Gt held in the living plants and animals. What is less clear however is how soil-carbon sequestration – and the farmers who will provide it – will fit into international negotiations on climate change.

'All that's missing is a commercial imperative to get a [carbon] dataset for soils'

Back to the books

One of the biggest problems is the lack of peer-reviewed research on how accurately we can measure the carbon content of soils. And despite widespread enthusiasm for soil-carbon sequestration, there appears to be little consensus on the specifics.

Professor Keith Paustian of the IPCC estimates that changes in rangeland management have the potential to sequester and average of 2 tonnes of carbon dioxide per hectare per year. Australian think-tank Carbon for Life, headed by the soil-scientist Dr Christine Jones, puts the figure closer to 5 tonnes, while a third estimate by the man who many regard as the world's leading authority on the subject, US agrononomist Rattan Lal, puts the range between 1.2 to 4.1 tonnes per hectare per year.

Tony Lovell thinks that research into soil-carbon sequestration has suffered due to the popular notion that the world's forests offer more immediate potential as a carbon-sink. 'We have a massive amount of data on carbon sinks in forestry because we have been measuring forest productivity for conservation and commercial management for a number of years. All that's missing is a commercial imperative to get a dataset for soils,' he says.

In the run-up to Copenhagen many commentators are keen to highlight existing soil-carbon trading initiatives as an example of how they may be included in an eventual policy. One example offered by Harvey is the self-styled 'Carbon Farmers of America' – a group which currently offer farmers $19 for every tonne of carbon they manage to lock into their soil.

Others fear that problems will arise by attempting to value a commodity whose existence is based on emerging science. In his forthcoming book, *Livestock, Meat and Environmental Justice*, Simon Fairlie writes:

'Soil carbon credits are handicapped by the fact that farmers are paid for the amount of carbon they sequester in their soil, but logically they should be paid for the amount they extract from the atmosphere. And this is by no means the same thing.'

Fairlie says that carbon accreditation schemes must work using a 'whole systems approach', whereby a farm's entire carbon budget is factored in to the value of any carbon captured through holistic grazing practices.

While proponents of holistic grazing are keen to see the model adopted as soon as possible, Fairlie urges caution in the face of fledgling carbon-trading initiatives in the US:

'Claims that carbon sequestration in soil and trees can single-handedly reverse climate change are a bid to make the biosphere responsible for remedying global warming problems that are primarily caused by fossil fuels - as can be clearly seen in the Carbon Farmers of America's promise that, for $175, they will turn your car into a carbon sink.'

The practice is not without its contradictions. The farming of livestock itself has been justifiably criticised by prominent commentators such as Vandana Shiva and Jonathon Porritt as an 'inefficient luxury' which simply cannot be afforded in a world where 9 billion people must be fed by 2050.

On the other hand it is essential that, as highlighted by a recent UN report, 'the voices of the rural poor and indigenous peoples are not lost in a rush to secure carbon gains'.

For the majority of sub-Saharan African countries, grassland ecosystems may represent the single greatest asset they have to offer in a future carbon-trading arena, which, combined with carbon-sensitive management, could offer great hopes of benefiting from the new-dawn of the carbon economy.

For fans of soil-carbon sequestration, the road to, and from, Copenhagen will be a rocky one. Although the jury may still be out on the form any future soil-carbon trading initiative may take, it is clear that the idea of employing natural ecosystems in the fight against climate change has undeniably caught the public imagination. That it has managed such a feat is testament to the maverick scientists willing to stick their head above the parapet - or indeed the hedgerow.

Ed Hamer is a freelance journalist specialising in agriculture and globalisation issues

Greening the Church

Responsibility for one's actions; fighting for justice; living in harmony – religious beliefs can sound like a green wish-list. With its huge influence, could the Church do more to tackle climate change, asks **Tamsin Omond**

On May 31st 2007, as thousands of Londoners poured out of Hatton Cross tube, a message arrived from Rowan Williams, the Archbishop of Canterbury.

It was addressed to Father Amatu, priest to the villages of Sipson and Harmondsworth, and to the five thousand people assembling outside to protest against the third runway.

The march, which was to wind round Heathrow's perimeter fence before arriving at the villages threatened by the expansion plans, was launched by Fr. Amatu with Rowan Williams' words:

'Concern for our environment is a clear imperative arising from the respect we owe to creation and to each other.

'It is about securing justice for each other and for the generations to come. So questions of airport expansion, like all developments that risk increasing the damage we do to our global environment – which still impact hardest on the poorest – cannot be considered uncritically, or to be in a morality-free zone.'

Forgive us our carbon sins

The message went unreported by the media, and seemed hardly noticed by the crowd. Yet the implications of the statement were, and remain, profound. The head of the Anglican church had to all intents and purposes labelled airport expansion sinful.

The BAA lobbyists who doctored government reports, and the ministers who designed sham 'consultation' documents, were– in the eyes of the Church of England – in danger of suffering spiritual consequences.

There is nothing, of course, in the Bible about climate change; but the respect for creation and care for the poor and weak that it commands make cutting carbon emissions integral to a moral twenty-first century life.

What about Rowan's statement on an individual level? If airport expansion is not a morality-free zone, what about the choices people make over whether to travel by train or by plane? Or how much meat they consume, given that animal husbandry accounts for 22 per cent of global carbon emissions?

And what about the church office that leaves its equipment on standby all week long? Christians who see themselves as witnesses of Christ, of God and of His creation should – according to the Archbishop – make low-carbon decisions, as act of faith. That's pretty huge. It places concern about climate change at the heart of everyone's actions. It could be truly transformative.

No green comment...

Yet there is no interfaith, or even inter-Christian statement on climate change, and there is no sense that Christians are the ones to turn to if you want to cut your carbon.

The lack of religious engagement with climate change is odd. In the west, environmentalism is about making difficult choices in a milieu where those choices can seem pointless. It can be hard to feel that your not flying shorthaul has any real value when you know a plane takes off from Heathrow every 90 seconds.

So the value is a moral one, and the compulsion to stick to your values is a social one– things that faith groups should, at least, excel in. Economists will talk about financial incentives: make the train cheaper than the plane: marketing execs will talk about advertising: make holidaying at home seem more fun than holidaying abroad. Environmentalists talk about morals: don't take a plane because it's the right thing to do. You will feel good about yourself if you take the train.

It squares so well with religion it's bizarre that faith groups haven't been jumping all over it.

This is particularly strange in the context of the Church of England, for at the highest levels our national church is doing a great deal. On December 5th the Archbishop will talk at the Stop Climate Chaos march, and later that month he will address the international delegates at the COP 15 talks.

The Church that he leads has a carbon cutting campaign, 'Shrinking the Footprint', and a number of officers whose job it is to help the transition to a low carbon church.

In the highest echelons of the Church of England it seems that everyone is talking about climate change, and the most senior advisor is not a man of the cloth, but a celebrated conservationist: David Shreeve, environmental advisor to the Archbishop's Council and founder of the Conservation Society.

It shows an admirable humility that a faith

organisation has sought out scientific expertise for advice on their latest challenge.

David Shreeve is highly aware of the positive effects that would ensue if the church could put its house in order.

He tells me that the Church of England has over 16,200 church buildings, not including the church schools, offices or vicarages. Its annual footprint is circa 1.3m tonnes of CO_2, the same as the UK's leading supermarket.

If the church were to announce a plan to become carbon neutral then not only would it lead to a noticeable reduction on the national scale, it would also be an act of moral leadership.

A global mass movement?

In a world increasingly deaf to its influence, it could make the church seem relevant again; framing the climate debate in terms of ethics, revitalizing the debates over the 'morality-free zones' of consumerism and waste.

As Shreeve says: 'There are over 70 million Anglicans in 160 countries – this is bigger than any environmental or political body. If it stood up and said 'we are concerned' – well... some people don't have lightbulbs to switch off – but such a statement, made together, would represent a global concern.'

Seventy million people is a good start for a global mass movement - which is what everyone from Al Gore to Ed Miliband seem to be saying is necessary to tackle climate change. And a faith group is particularly well placed to transform mere concern into concrete action, because shaping behaviour through moral pressure is what religion does.

Oxfam can encourage its membership to buy fair trade, but it doesn't see them every week to check up on them, it doesn't ask them to search their hearts and confess their supermarket sins to the Lord, and it can't promise spiritual rewards with their coffee.

Yet this statement of global concern has not been made publicly even by Anglicans, and the Catholic Church, with its 1 billion members and enormous international influence, still has no official environmental initiative.

I touched on this fact with David Shreeve and he sounded despondent: 'we had hoped that other denominations would announce that they were adopting the Shrinking the Footprint campaign.' It seems that even the catastrophic threat of climate change cannot bridge the divides within Christianity.

When I spoke to Celia Dean-Drummond, spirituality advisor to CAFOD (Catholic Agency for Overseas Development), about the apparent unwillingness of the Catholic church to either walk the walk or talk the talk, she sighed and said: 'I think the new pope wants to build something distinctive from his predecessor - he isn't really a nature mystic in the same way as Pope John.'

When I asked about the English Catholic church there was even less to say: 'Unfortunately some of the interpreters of the Catholic social team haven't interpreted it or accepted [environmental problems'] centrality to the Catholic church... I would like it to be more official within the leadership of the Catholic church in Britain.'

When I suggested that perhaps it was difficult for a church that consumed so much to preach sustainability from the pulpit (silently reminding myself of the recently launched Vatican Airlines) she steered the conversation back to CAFOD and their focused climate campaign:

'In the Global South, such as Cambodia, they know the devastating effects of climate change – even if they don't use those western terms, they are aware of the changes in the patterns of their weather, that something is going on and going wrong. CAFOD is a partnership organization, we work in dialogue and partnership with the people in South America, Africa and China.'

Such partnerships are to be applauded, but CAFOD is a charity, not the church's official leadership, and there's no shortage of Christian charities focussing on climate change: Christian Aid, Tearfund, Operation Noah, A Rocha... And considering how active many congregations are in supporting them, why is there silence on an institutional level?

Well, they are saddled with one particular difficulty, a refrain I heard time and time again from every level and every denomination of Christianity: 'People complain that their churches are dark and cold.'

Harangued priests would sound severely fed up about having to explain this to me, and while I'd want to talk about the loss of the arctic sea ice, shrinking glaciers, drought and war, I couldn't deny the fact that churches patently are dark and cold. They can be majestic and full of gravity, but a rheumatic congregation are even less likely to make it out to church if they know they can't even have the radiators on.

So here's the crunch. Meaningful emission cuts, at least in the short term, are going to involve turning our back on things we've taken for granted for the last thirty years. Less consumption, less travel, less security, less self-absorbtion. They will involve a different view of human progress, a different value system, a different way of life.

For those of us who've grown up with supermarkets, high street shops and Easyjet it will feel like a massive loss of freedom.

The church is understandably afraid of sticking its neck out and alienating its dwindling (and aging) membership. But it could also see it as an opportunity, to reclaim the world of the early gospels, of Christianity in its most vital and inspiring form.

Enter the Church of England's most outspoken environmentalist, the Bishop of London. He says that climate change need not paralyse action but inspire it; that it need not paralyse faith but recognise it. There is a role for a humble church to play, accepting the West's responsibility for climate change and acknowledging the sacrifices we must make to secure a future:

'It's the truth. We're called to do it [...] It's something that is right, a responsibility that we must accept.'

Yet in accepting the responsibility we don't necessarily have to accept the consquences. Climate change is happening now, but it is not too late for radical action that will make it much less severe. And as such it is both our biggest threat and our greatest hope.

If we delay, if we allow ourselves to enter a world of 'catastrophe first', then the future is too horrible to contemplate; if we react in time, and make the necessary changes before we are forced to, there is the very real possibility of a transformation - of a loving and co-operative community on earth.

The Bishop says that we can be 'communicants (or participants) in a web of life, rather than relentless consumers of matter.' It is when he speaks of communion that his message is most mystical and his faith most exciting.

'There are over 70 million Anglicans in 160 countries - this is bigger than any environmental group'

The environmental movement is often criticised for being holier-than-thou, moralising and quasi-religious. Environmentalists themselves are generally resistant to the comparison, disliking formal institutions and not wanting to dilute the scientific base of their message.

It's less clear why faith groups don't want to be compared to environmentalists. Surely taking responsibility for our actions, fighting for justice and living in harmony with the rest of creation are among the founding principles of every religion? And the continued importance of religion, even in the west, says that those principles still have resonance.

There are those who say that you can't build a mass movement on sacrifice – if the changes you look for are difficult and life-altering and done purely because they're the right thing to do. I guess someone should have told that to Jesus.

Tamsin Omond is a climate activist and founder of the protest group Climate Rush

Can we trust the FSC?

It's the logo we all look for when buying furniture and wood products. But the Forest Stewardship Council's standards have come in for some serious criticism. **Matilda Lee** looks at both sides of the argument

It's quite likely that you've bought a product made from illegally harvested wood.

How can I say that? Well, globally, illegal logging accounts for between 20 to 40 per cent of wood production, according to WWF. Within the EU, WWF says that between 16 and 19 per cent of all timber imports derive from illegal or suspicious sources – much of it coming from Russia.

While it wouldn't sit well with most of us to unknowingly support the illegal logging trade, because of the fact that most of the time products aren't labelled we wouldn't know one way or the other.

Product certification is a necessary market instrument to help consumers to distinguish between good and bad. A successful certification scheme would reassure consumers and provide an incentive for forest owners and managers to legally and responsibly manage forests.

The Forest Stewardship Council, created in 1993, is meant to do just that. It's described by many as the world's leading forest certification scheme and is based on two components: the sustainable management of forests and certification of the 'chain of custody' which traces timber as it comes out of the forest.

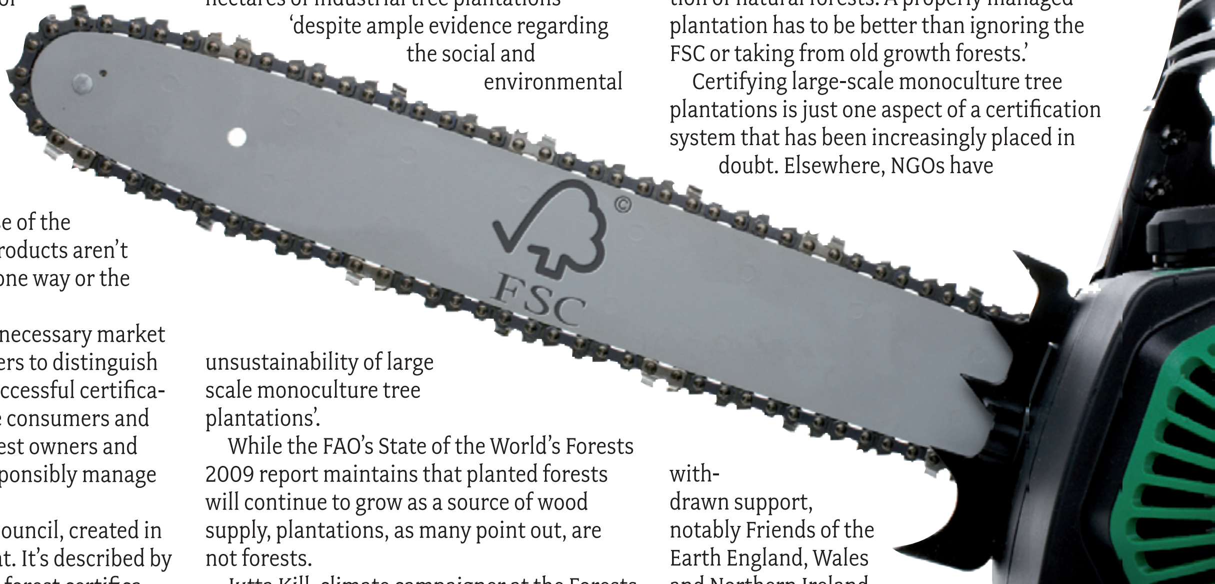
FSC doesn't carry out forest inspections itself, but rather accredits certification bodies (e.g. programmes run by the Soil Association, SGS, Rainforest Alliance and SCS) to work to FSC's set of Principles and Criteria. These principles range from ensuring that forest managers comply with laws, to respect for local use rights and maintaining the 'ecological functions' of a forest.

The FSC has certified 160 million hectares of forest worldwide. Over 40,000 companies are certified to deal in FSC products. Those products, from books, to tissues, to beds, can either come from FSC-only material (FSC 100%), from a variety of sources but with at least 50 per cent FSC-certified content (FSC Mixed Sources) or recycled (FSC 100% Recycled).

The Executive Director of FSC-UK, Charles Thwaites, says that the FSC's aims are to 'persuade people of the advantages of a sustainable product – instead of cheaper one from nefarious sources. All we can do is make the moral argument.'

But the FSC's position as the high priest of this moral argument has in recent years come seriously into question.

The World Rainforest Movement reports that by 2008 the FSC had certified 8.6 million hectares of industrial tree plantations 'despite ample evidence regarding the social and environmental unsustainability of large scale monoculture tree plantations'.



While the FAO's State of the World's Forests 2009 report maintains that planted forests will continue to grow as a source of wood supply, plantations, as many point out, are not forests.

Jutta Kill, climate campaigner at the Forests and European Union Resource Network (FERN) says, 'There is a long continuum between an intact forest and short rotation monoculture tree plantation on the other end. It is preposterous to claim these are the same.

'Plantations are water hungry, we've seen them dry out rivers and water wells, with massive impacts on communities dependent on water. In an intensely managed plantation, there isn't much else growing - there is no such thing as forest biodiversity.'

'Too many FSC certifications were given out to companies not practising environmentally and socially just plantations,' Jutta says. Plantations also conflict with FSC's principle to maintain forests' ecosystem functions.

In response to these criticisms, the FSC began a Plantations Review in 2002. NGOs such as FERN are demanding that the process result in a clear distinction between forest and plantation operations and an improvement in plantation management.

'Companies receiving FSC certification are given public funding and marketing advantages. Currently, the FSC allows them to sell themselves as something they are not,' says Jutta.

While the Plantation Review is still ongoing, the FSC's Charles Thwaites insists it is not going to fundamentally change FSC policy on plantations.

'We continue to feel that properly managed plantations are essential to stop the destruction of natural forests. A properly managed plantation has to be better than ignoring the FSC or taking from old growth forests.'

Certifying large-scale monoculture tree plantations is just one aspect of a certification system that has been increasingly placed in doubt. Elsewhere, NGOs have withdrawn support, notably Friends of the Earth England, Wales and Northern Ireland, which no longer recommends the FSC label because of concerns regarding the credibility of various FSC certificates.

From the falsification of documents, to illegal third party concessions and environmental damage in forests from Guyana to Nicaragua to Brazil, over the years FSC has been found to have certified the uncertifiable.

Simon Counsell was involved in the establishment of the FSC, but later became critical to the extent that he helped to set up FSC-Watch a website dedicated to monitoring FSC activities. He feels that there are structural flaws within the FSC, namely the contractual relationships between certifiers and the logging companies who receive certificates.

'In 2002 we had already noticed that in order to get business, certifiers were competing with each other. The most successful are the most generous and lenient, turning a blind eye to breaches in FSC requirements. I've seen cases where logging companies have switched certifiers. This happens everywhere.

'We believe the right way to do it is when

requests get sent in from logging companies to get certified they are sent to FSC. The FSC would then choose, as a tendering process. They've completely ignored that suggestion.'

The FSC is aware of its critics. 'Inevitably [the criticism] hasn't been helpful,' says Thwaites. 'We are trying to convince [FOE] that the certificates mean what they say. We acknowledge there has been a problem. In the intervening 14 months since they publicly disassociated with us we have done a lot to put it right.'

A meeting between the two groups is planned for later this year to discuss, if not resolve, differences.

'We have plenty of those people who shout at us from the sidelines. We can't just say "ok sounds good, let's go and do it". We need to consult. People complain they don't get what they want because it is too much of a compromise,' says Thwaites.

He's referring to the FSC's General Assembly – a three-chamber set up, with voting rights so that no one chamber can be outvoted. Timber consuming companies make up the economic chamber; groups such as WWF make up the environmental chamber; the social chamber represents those who live and work in the forests, such as indigenous groups. This is part, the FSC points out, of a standard-setting process that is transparent, democratic and inclusive.

'Whilst the General Assembly is the equitable part of decision-making structure, it is where decisions are least taken into account,' says Simon Counsell. 'Lots of General Assembly decisions have been taken but ignored. For example, it was decided that there shouldn't be any FSC certificates issued in countries unless there were standards drawn up by local stakeholders. This was voted on about seven years ago, but ignored.'

While NGOs and other environmental/ social stakeholders are part of the decision-making structure, they can 'run out of time and money to get to the meetings.'

Counsell says the FSC's system is biased in favour of government groups and corporations, which have the resources to 'stay with it' during the long process. 'Policy working groups and consultations are really where decisions take place,' he says.

Supporters

WWF maintains its support for the FSC as the only credible forest certification system, as does Greenpeace, which has documented the certifier's reponse to complaints in an unequivocally titled report, 'Holding the line with the FSC', published in October 2008.

Some have suggested that this allegiance is tactical. A source close to the issue gave the *Ecologist* an unconfirmed account that Greenpeace had admitted its continued support of FSC was politically motivated, with the FSC representing a positive alternative for promotion alongside their more radical campaigns calling for boycotts of illegal timber and products.

Christoph Thies, who coordinates Greenpeace International's forestry policy, denies this:

'This would be highly dangerous for our credibility. I don't think, when it comes to the FSC, we are less radical than otherwise. We are aware of the FSC's shortcomings, but consider it by far the best around. If we come to the conclusion that the FSC is irreversibly set up for failure, we would immediately leave.'

Where voluntary programmes such as the FSC have struggled, there is still hope that binding legislation may yet fill the gap.

'People are bothered. More and more people are asking for assurance and manufacturers need to listen'

In May 2008, the US Congress passed an amendment to the Lacey Act, becoming the first country in the world to ban the import of illegally harvested wood and wood products. This puts the burden of proof on importers, who can no longer claim 'innocent owner' defence, meaning they did not know they were importing items containing illegal wood.

Action in the EU, sadly, hasn't been as robust. The Forest Law Enforcement, Governance and Trade, or FLEGT, plan, adopted in 2003, sets forth voluntary agreements with producer countries to exclude illegal timber imports.

According to WWF though, even if all FLEGT partnerships were implemented, 'more than 90 per cent of the overall imports of illegally logged wood will still enter the EU'.

Julian Newman, campaigns director at the Environmental Investigation Agency, describes FLEGT as 'very weak', since it stops short of an outright ban on illegal imports.

A UK private members bill was introduced in the House of Commons in April 2008, prohibiting the import and sale of illegal wood, but this is nowhere near becoming law.

But where schemes and lawmakers may seem to flounder, consumer demand is sending out some clear signals.

According to the 'Ethical Consumerism Report 2008', purchases of sustainable timber and paper products rose from 696 million in 2006, to 1,019 million in 2007 - a jump of 46 per cent. Furniture manufacturer James Barker, pointing to the success of the recently launched Trees 4 Trees project says:

'People are bothered. More and more people are asking for assurance and manufacturers need to sit up and listen.'

Many activists and environmentalists will point to groups like Freecycle, where one could, with a bit of patience, entirely kit out a flat with recycled furniture. And let's not forget the good old three Rs when it comes to reducing demand for wood and pulp products.

But despite these options, the appetite for legal and sustainably-harvested wood products is still there and people's values are still important. The question is whether labels can live up to our expectations.

Matilda Lee is the Ecologist's Consumer Affairs Editor

Other certification schemes

FSC may be one of the most well-known, but it is certainly not the only forestry certification scheme around.

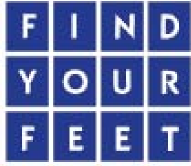
The Soil Association aims to create an organic woodland certification scheme that would exclude chemicals but 'so far we haven't awarded any certification, but have had interest' according to Marie-Christine Flechard, a certification manager. 'There has never been any consumer demand for it' she says.

The European Programme for the Endorsement of Forest Certification Schemes (PEFC) is, according to Charles Thwaites, the FSC's chief competitor. Essentially enforcing individual national forest standards and helping to strengthen them, PEFC has certified two and a half times more forest area than the FSC, and has built up a strong business-to-business reputation. Many NGOs (including WWF and Greenpeace) however, found that PEFC cannot guarantee well-managed forests.

The US-based Sustainable Forestry Initiative (SFI) is led by US logging companies and mill owners and deals in mainly timber from US forests. A network of groups including the Rainforest Action Network claims that SFI 'does not protect forests or deliver credible assurances.'

Trees 4 Trees, a non-profit Foundation established by timber product manufacturers, distributes free seedlings of high value species such as teak, mahogany to local famers and villagers in Indonesia. Trees 4 Trees furniture is on sale in independent retailers. The scheme is small-scale and its next step is FSC certification.

Finally, a Fairtrade wood certification system, which could address many NGO concerns, is being discussed, but no launch date has yet been set.



Africa doesn't need a green revolution : it needs agroecology

Green Revolution architect Norman Borlaug is credited with 'feeding India'. Helping Africa feed itself, says **Dan Taylor**, will require a much more sophisticated approach

The recent death of Norman Borlaug the 'grandfather' of the Green Revolution makes this a good time to reflect on food and farming in the 21st Century and the Malthusian Time Bomb that he sought to defuse.

It is often suggested that Borlaug succeeded in achieving significant yield increases in crops in Asia through a combination of dwarf varieties, inputs in the form of inorganic fertilisers and irrigation.

However, the Green Revolution was institutional as well as agronomic, with the state providing the infrastructural support needed for making this transformation successful.

The conditions for a Green Revolution in Africa are not, and have never been, in place. Recent interventions such as the Millennium Development Project, Alliance for a Green Revolution for Africa or even the up-to-now successful input subsidy in Malawi are unlikely to be sustainable.

The flaw in these interventions is the narrow perspective adopted: agricultural sustainability cannot be reduced to questions of production alone. Neither is agricultural sustainability simply the wise and careful stewardship of the land. Both views remove farming from its social, economic, political and historical determinants. Rather, it would be better to recognise the need for social transformation that embeds agriculture as stewardship in webs of social relationships that link production, consumption, questions of equity and environmental justice.

Agricultural ecology, or agroecology, provides a shorthand for this complex understanding of the biological, socio-economic and cultural elements that embody an agricultural ecosystem. Hence agroecology introduces agricultural systems that mimic the natural ecosystems they have replaced, and maintains the link between the cultivation of the land and the culture of the people who farm it. In direct contrast to the universalising message of the New Green Revolution, agroecology is particular, contextual and nuanced. It strikes a balance between production, stability and resilience through diversification rather than intensification.

The traditional agricultural systems that industrial agriculture has replaced were characterised by diversified strategies. Farmers would plant a number of different crops in the same field - for example, maize, sorghum and millet could be intercropped with cowpeas and pumpkins in its drier upper limits. Meanwhile the retention of useful natural tree species or the cultivation of others combines annual and perennial crops in this rich mosaic.

These agricultural systems make the fullest possible use of agroecological niches and conserve the resource base on which agriculture depends, ensuring production in the long term. Each crop has different times of planting, growth habit and maturity date, thus extending the growing season and reducing peak labour demands by lengthening the period of harvest. The outcome is to lower the risk of crop failure and hunger, and to offer a more diverse and healthy diet.

Given current population pressures, agroecology needs to look forwards to other ways of maintaining and enhancing soil fertility. We, at Find Your Feet, support farmers to conserve their soils by rotating their crops, applying compost, taking measures against soil erosion and introducing leguminous crops. We also encourage farmers to save seed that is adapted to local conditions. This is in contrast to the present over-reliance on high yielding modern seed varieties – normally hybrid maize – and fertilisers. Our on-farm trials in Malawi have demonstrated that, under field conditions, there is no real benefit in using hybrid maize over open-pollinated varieties given the fact that the main constraints to maize production are soil fertility and soil moisture.

In doing so we are not suggesting panaceas but alternatives that require knowledge and perspicacity. We believe that there are specific solutions to specific farming problems, not a one-size-fits-all agriculture that is often proposed by the advocates of high input industrial agriculture. Some solutions may be technical, requiring a drought resistant crop, others, social and political, such as the need for agrarian reform.

The relevance of looking at agriculture from an agroecological standpoint is not confined to the developing world. Here in Europe/UK, the industrial model of agriculture has led to a rural crisis. The emphasis on farming as business has lead to fewer, larger farms and a declining rural economy, with consequent depopulation of rural areas. Agroecology recognises agriculture's multifunctionality – its role in creating and/or maintaining the landscape as well as producing food, providing employment, and conserving biodiversity.

In the face of impending and dramatic climate change, we need to do more to build resilience into our farming systems. This can best be achieved by looking to agroecology as the way forward because it will rebuild the countryside and the webs of social and ecological relationships on which it depends. We acknowledge Borlaug's contribution to increasing agricultural yields but question the path he took to do so – the neglect of the environment in the singular concern for productivity gains was short-sighted in the extreme. It is a legacy that we must address if we are to resolve the environmental crisis of today.

'The emphasis on farming as business has lead to fewer, larger farms and a declining rural economy, with consequent depopulation of rural areas'

Dan Taylor is the director of Find Your Feet. Visit www.fyf.org.uk

Find Your Feet **helps African farmers introduce agroecological techniques**