

global poverty, global warming

why climate change is a development issue



Marika Rose and Caroline Harmon



an urgent problem

Human-induced climate change is happening right now. According to an Intergovernmental Panel on Climate Change (IPCC) Working Group report released in April 2007¹, it is at least 90% likely that human activities are principally responsible for warming observed since 1950. Since the beginning of the Industrial Revolution more than 150 years ago our actions have been contributing to make the earth warm faster than at any other time in the past 10,000 years.^{2,3}

The world is already experiencing the negative consequences of climate change:

- In 2003 the hottest summer Europe has experienced in 500 years caused 28,000 premature deaths across the continent^{2,3}
- In the 1970s there were 16 major natural disasters, in the 1990s there were 70. Whilst individual disasters cannot necessarily be attributed to climate change, the increase in the number and severity of natural disasters is consistent with recorded climate change⁴

Honduras 2001.

The Carbajal family were one of 10,000 desperate families battling drought. Their complete crop of corn shrivelled by the lack of rain



- The Arctic region is already experiencing what are known as positive feedbacks. This means that some of the consequences of climate change actually begin to cause further climate change, creating an accelerating spiral of change and causing temperatures to increase more rapidly. For instance, snow is melting earlier, which means that more summer heat goes into the air and ground instead of into melting snow. This raises temperatures even higher and the warming becomes self-reinforcing. Snowmelt and other climate-induced changes in the arctic threaten to make the area uninhabitable for the people and animals that currently live there.²

We also need to consider the potential future consequences of further unchecked climate change. If the average global temperature is allowed to rise 2°C above pre-industrial levels then the following is some of what is likely to happen:

- 40-60 million more people in Africa could be exposed to malaria.²
- 20-30% of species of animal could be under threat of extinction or in decline.⁵ The consequences for biodiversity could make it very hard to produce enough food.²



“Climate change is not just an environmental issue, as too many people still believe. It is an all-encompassing threat.”

Kofi Annan, former Secretary General of the United Nations

If all of this weren't bad enough, even the most conservative studies suggest that if average global temperatures exceed 3°C above pre-industrial levels, up to 100% of the sea ice at the Arctic will be lost. This will cause large scale flooding across every continent and millions of people will lose their homes and livelihoods. The bad news is that if present trends continue we could see a rise of 5 or 6°C.²

The impact of climate change on the poor is of particular concern to World Vision. For more than fifty years, World Vision has invested heavily in relief and development in order to make lasting solutions to poverty. Climate change threatens to undermine this investment. There is no use in building amenities such as schools, toilets and clinics for a town if people then leave the area because drought, flooding or desertification make it impossible to farm.

Children and families gather at a well for water



Staff are already observing the effects of climate change on the frequency and severity of storms, drought, and floods.

The major causes of climate change are the subject of scientific debate at the moment, but there is an increasing consensus that human activity is a key contributor. Two of the most important causes are:

- **Increases in greenhouse gases**, the most important of which is carbon dioxide. The world's economy runs on carbon: the 'fuel' in fossil fuels. Coal, oil, and natural gas contribute energy to nearly every human activity in industrialized nations, and carbon dioxide (CO₂) is a by-product of burning these fuels. Methane is the second most significant cause of greenhouse warming. Cows are one of the greatest methane emitters.⁷
- **Land use changes.** When humans transform land from forests to seasonal crops or from natural to urban environments, the regional and local climate system is altered. For example, clear-cut hillsides are significantly warmer than forests. Urban environments are also islands of heat produced by industry, homes, automobiles, and by asphalt's absorption of solar energy. Changing uses of the land are also associated with changes in the usage and availability of water, as well as the production of greenhouse gases. World forest cover has reduced from approximately 40% to 27% since 1950.⁶ due to demand for wood products and land to develop and farm and deforestation can significantly increase the amount of atmospheric CO₂.⁷

The causes and consequences of climate change also have a wider impact on the environment in which we and other creatures live.

Trees and Bees

While returning to traditional methods of farming such as reforestation and organic farming can sometimes work well, at other times it is necessary to opt for modern methods. In the Lufwanyama District of Zambia, many people practice a traditional method of beekeeping which involves debarking live trees to make bee hives. This leads to the tree dying and contributes



to a high deforestation rate in the area. World Vision has been working to provide modern hives made from timber harvested from softwood plantations and to teach modern techniques for looking after bees. An additional benefit is that because bark hive beekeeping requires an ability to climb trees and modern hives do not, more women are getting involved in bee keeping.

An education programme that has seen 416 students registered as conservation club members accompanies the beekeeping project. They have been given books and other educational material to help them learn about environmental conservation. Eight schools are also establishing forest nurseries in their grounds. Pupils will learn about the importance of trees and what they need to grow by tending to those in their own schools. The trees grown will be sold to farmers, with proceeds going to the school, or used for establishing agro forestry demonstration plots. Farmers will visit these plots to learn how trees benefit soil fertility.

Other related issues include:

- **Soil erosion:** often a consequence of deforestation or other forms of clearing land of vegetation. The world loses 10 million hectares of cultivable land per year to erosion, which could otherwise be used for growing crops.⁶
- **Pollution.** From the way in which we dispose of waste to unnecessary use of chemicals on farmland, we are poisoning the world which we then expect to provide us with water and food.
- **Water shortages.** While the developed world's demand for water increases, often for non-essential purposes, the developing world often lacks the resources and infrastructure to get even enough drinking water to people. Climate change threatens to make more water undrinkable and to create more droughts as well as more flooding.
- **Desertification,** which is sometimes caused by deforestation and already affects 3.6 billion hectares of land. This land, which includes much of the Sahel region bordering the Sahara desert in northwest Africa, cannot be used for farming.

But is this really a priority issue for Christians?

Yes it is! Christians, of all people, should be at the forefront of the environmental agenda. Care for creation is an integral part of Christian discipleship.

why should Christians care for

the environment

I God cares for His creation

Genesis tells us that when God created the world He didn't make it instantly, with the snap of a finger or a single word, but that He crafted it bit by bit, declaring it 'good' at every stage of its development. This good creation was abundant and diverse, with plants, trees, birds, fish, and animals 'of every kind'.

But this initial careful work of God was not the end of his involvement. Throughout the Bible, He is depicted as intimately involved with sustaining his creation at every moment. He knows about every sparrow that falls to the ground (*Matthew 10:29*); the rain, mist, lightening and wind appear at his word (*Jeremiah 10:12-13*); everything holds together in Him (*Colossians 1:16-17*). Psalm 65 says of God:

"You visit the earth and water it, you greatly enrich it...You water its furrows abundantly, settling its ridges, softening it with showers, and blessing its growth. You crown the year with your bounty; your wagon tracks overflow with richness."

The picture is of God lavishing his goodness on his creation; and the response from the earth is one of praise:

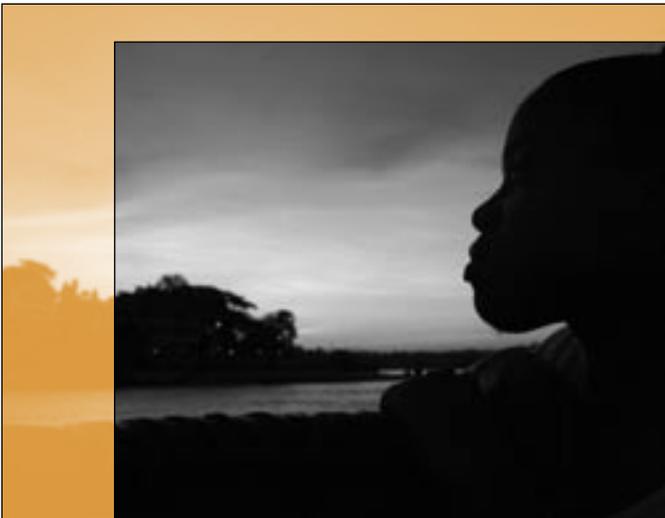
"The pastures of the wilderness overflow, the hills gird themselves with joy, the meadows clothe themselves with flocks, the valleys deck themselves with grain, they shout and sing together for joy."

Too often we think of the earth as a collection of inanimate objects, but this is far from much biblical imagery. The Psalms in particular are full of the language of creation praising God: it rejoices (*Psalm 97:1*) and sings for joy (*Psalm 98:7-8*). Psalm 19 says:

"The heavens are telling the glory of God; and the firmament proclaims his handiwork. Day to day pours forth speech, and night to night declares knowledge. There is no speech, nor are there words; their voice is not heard; yet their voice goes out through all the earth, and their words to the end of the world."

The Bible paints creation not as a passive, lifeless collection of rocks and earth, but as an entity that is full of life, full of praise, and full of God's glory. It reveals His character and inspires us to worship Him.

To claim to love the Creator but to abuse the world in which we live is like claiming to be fans of Shakespeare whilst burning his plays. The created world is God's masterpiece: He crafted it to reflect his character; He continually sustains it and works for its fruitfulness and abundance. God's attitude to creation indicates that it is precious and wonderful independent of any utility it possesses for us. To love God and to be like Him is to care for the things that He cares for. This alone ought to be enough to motivate us to take responsibility for the world around us.



Christians

2 Our interconnection with the earth

In Genesis 2, there is no one to till the ground, so God forms man (adam) from the ground (adamah) and asks him to till and to keep it. This Hebrew wordplay (adam/adamah) expresses our solidarity with the earth; we are connected to it and utterly dependent upon it for life. For this reason Psalm 139: 13-15 can parallel the 'womb of the earth' with 'a mother's womb'. Humans are both physical and spiritual and the two ought not to be separated. To care for creation, then, is to care for a system that we are part of: in caring for the earth, we care for ourselves.

The original harmony between humans and the earth was corrupted by the fall. But even here, the interconnection between 'adam' and 'adamah' is reiterated. The earth becomes difficult to farm, cursed because of human disobedience (*Genesis 3:17-19*). We suffer when creation suffers, and it is our sin that causes creation's suffering (*Romans 8:19-20*).

Most dramatically, God announces that humanity will revert to the earth upon death, a tragic reversal of the original act of creation: *"You are dust, and to dust you shall return."* (*Genesis 3:19*)

This interconnection can be seen throughout history – over and over again societies have undermined their own welfare by abusing the land that they depend on for life⁸ – and can be seen today, but with a difference. Habits of consumption and energy production in the West threaten to destroy not so much our own homes and livelihoods (at least not in the short term), but those of the world's poorest people.

3 Servant kingship

However, when God breathes life into Adam this sets Him apart from the earth. The contrast between God making plants and animals *"according to their kinds"* (*Genesis 1:25*) with the creation of humans *"in our image, in our likeness"* (*Genesis 1:26*) implies a unique, intimate relationship between God and this part of his creation. *Genesis 1:28* says that God blessed humankind and said:

"be fruitful and multiply; fill the earth and subdue it and have dominion...over every living thing"

Genesis 3 says that God created humans *"to till [the earth] and to keep it"* (*Genesis 3:15*). But what does this mean in practice?

The language of being 'in the image of God' is found in other societies around Israel at the time *Genesis* was written, usually used of kings, who were thought to be God's representatives on earth. In some cultures, the king would have to give an annual account of his rule, and would only be allowed to continue to represent God if He had ruled well. The language of the "image of God" in *Genesis* is unusual because it makes humanity as a whole God's representative on earth. Together, we have authority to rule the earth.

The language of 'dominion' over the earth is sometimes (mis)taken as license to treat the earth however we want, but a careful reading of the Bible rules this out. First, this language of 'dominion' is balanced by the language of *Genesis 2:15*, where humans are put on the earth to till ('to work, serve') and to keep ('to guard, protect') it.

Second, while the language of 'dominion' does imply some degree of power or authority, it begs the question of how that power and authority should be exercised. Our rule, as his image bearers, is to be modelled after God's rule. Not only does He delight in his creation, but He takes care of the meek and does justice for the orphan and the oppressed (*Psalms 10:16-18*). He is the shepherd King who promises,

"I will seek the lost, and I will bring back the strayed, and I will bind up the injured, and I will strengthen the weak" (Ezekiel 34:16)

Moreover, we ought not to read the command to have dominion without remembering Paul's exhortation to

"Let the same mind be in you that was in Christ Jesus, who, though He was in the form of God, did not regard equality with God as something to be exploited, but emptied himself, taking the form of a slave" (Philippians 2:5-7)

To rule over the earth in a way that reflects God's character; then, demands of us service and humility, not exploitation and selfishness.

3 God's promises for the future

Our attitude to the earth is affected not only by the way we view God's original intentions in creation, but also by our view of God's promises for the future and for the ultimate redemption of the sin-ridden world in which we now live.

One popular view of Christianity is that this means escape from the world into a purely spiritual Heaven, but this is far from the biblical picture of 'the end'. As in the creation narratives we saw that care for creation is also care for ourselves as inescapably physical

creatures, so in the promise of redemption we see that some form of ongoing bodily existence is integral to what we will be.

In 1 Corinthians 15, Paul discusses at length the importance of physical resurrection, and we see a picture of the similarity and difference that will mark our resurrection bodies (*John 20*).

Similarly the promises of the Bible point to a "new Heavens and new earth" (*Revelation 21:1*) – a renewal and transformation of this creation. Romans 8 says that creation waits "with eager longing" for the time when it will be "set free from its bondage to decay and will obtain the freedom of the glory of the children of God." At that time the desert and the wilderness will blossom and praise God, (*Isaiah 35:1-7*) rivers and streams will flow in the desert (*Isaiah 41:17-20*); all creation will rejoice (*Isaiah 55:12*).

In Jesus' ministry we see God's promised future breaking into the present as Jesus heals and feeds people as well as forgiving their sins (*Mark 5:21-43; Luke 6:18-19; 17:11-19; Matthew 14:13-21; 15:32-39*). The good news that Jesus proclaims is for all creation, and his promise is of the redemption of all things. And although we live now in the time in between the first and second comings of Jesus when all is not yet as it will be, the New Testament makes it clear that our role in this 'now and not yet' time is not simply to wait passively, but to work to bring God's kingdom to earth whilst recognising that it won't fully arrive until Christ returns. Like Jesus, our role is to proclaim and demonstrate the gospel; to model a new humanity; to bear witness now to the total redemption that God will one day bring about.

5 Right relationships

What does this redemption look like? Jesus summarises God's will like this:

"Love the Lord your God with all your Heart, and with all your soul, and with all your mind, and with all your strength" and "love your neighbour as yourself" (Mark 12:30)

In other words, the sum of the will of God for us is that we would have perfect relationships with God and with others. A concern for getting our relationships right is the essence of Christianity.

As in the parable of the Good Samaritan, having right relationships with our 'neighbours' means we must take care of their bodies as well as their souls, and in order to do this we must take care of the earth, with which we are all interconnected and upon which our well-being depends. Environmental destruction has consequences for people both around the world – as noted above, the poorest and

most vulnerable are most at risk from environmental devastation – and down the generations – the call to love our neighbour extends to our children and grandchildren, and on into the future.

This focus upon the concerns of others is also captured in the biblical concept of justice (Hebrew: mishpat). Far from being some abstract concept of fairness, mishpat is all about the way we conduct each and every relationship. It is about 'meeting the obligations of our relationships'⁹ It highlights our duties and responsibilities towards others, and is particularly invoked in the Bible in the context of oppression of the poor and vulnerable. Are we meeting our obligations to the poor? Or do we need to re-examine our habits of consumption?

Failure to care for creation is a failure to conduct our relationships in the way God wants us to; it is a failure of justice; it is a failure of love.

From dust to fertile soil

World Vision Ethiopia runs a number of projects that have transformed dust bowls into productive land. Since 1984, when Ethiopia suffered severe drought and famine, millions of trees have been planted and many banks and check dams have been constructed to conserve water. This has led to the natural restoration of biological processes and a recharging of water tables and springs. The water is used in a sustainable manner for irrigation and the trees provide food, timber, fuel, fodder for livestock and nectar for a thriving honey bee industry.



6 Implications for climate change

What does a concern for right relationships mean for the way we take care of our world? The reality is that many of the things we do as a society which damage the earth have their roots in broken relationships or a failure to prioritise relationships over things. Take transport, household energy use and our habits of consumption as examples.

We travel further to work than ever before, and do so increasingly alone in our own cars. This affects not only the climate, but also our relationships with those around us. American sociologist Robert Putnam estimates that for every 10 minutes of additional commuting time, there is a corresponding 10% decrease in our social interactions. A concern for relationships challenges the hyper-mobility of our society.

Carbon emissions from home energy use have risen most significantly because of the increase in single-occupancy homes.¹⁰ For a wide variety of reasons, for which we all as a society are responsible, people increasingly live alone. What does this tell us about the quality of our relationships as a society? What could be done to strengthen relationships in families and communities?

The most significant proportion of our household carbon emissions in the West comes from consumption, which in many areas (e.g. communication, recreation, clothing and footwear) has tripled over the past few decades. Jesus says that "the love of money is the root of all kinds of evil", and we see this too in our society. Our lives become more about owning 'stuff', as we buy into the belief that more things will make us happier; that we can forge our identity by the things we buy; and our desire to

acquire not only distracts us from the most important thing – investing in our relationships – it also all too often overrides our desire for justice for the poor; or any consideration of the effect of our lifestyles on the environment.

All of these relational and environmental problems are challenged by the holistic message of the gospel. For example, the biblical images of the Sabbath and Jubilee proclaim the equal value of all people, the importance of limitations upon the accumulation of wealth and spirals of debt, the importance of rootedness in place, the importance of family and community relationships, as well as the importance of rest for all people and for the earth. The gospel paints a vision of society that that is relationally and environmentally sustainable.

If we are to take the gospel seriously, we must recognise its demands over every area of life and over every relationship. It requires of us an integrated understanding of mission that neither neglects evangelism and the need for repentance and faith in Christ, nor the need for radical action to address the problem of climate change, nor the need for social reform to address the underlying structural factors that make it more difficult for us to live the life God intends for us.

But the message of the gospel is, above all, good news. Contemporary accounts of climate change often offer serious cause for concern and little hope. Christian hope for the future is not an excuse for apathy, but ought instead to provide us with the motivation to engage positively with our communities, in the expectation that God will be faithful to his promise to one day "*reconcile all things to himself*" (*Colossians 1:15-23*) and that, in the meantime, He delights to use his people as the agents of his redemptive activity.

a window of opportunity

It is accepted by many scientists, governments and international agencies that if the earth's average temperature reaches two degrees Centigrade above pre-industrial levels then the, largely negative, impacts will become unmanageable and beyond our control. For instance:

- The official position of the EU is that 'an increase of 2°C of the earth's average temperature above pre-industrial levels is the maximum safe level that can be envisaged'.²
- In March 2007 the government introduced a draft bill, which proposes that the UK become the first country in the world to legally commit to cutting greenhouse gas emissions by 60% by 2050. This bill is likely to become law in 2008.¹¹

Large cracks in the dried earth of the paddy fields left farmland unproductive in summer 2006

Nanchong City, China



- This introduction of the draft bill was, in part, prompted by the publication of the Stern Review of the Economics of Climate Change, published in late 2006, in which Sir Nicholas Stern writes: 'A peak temperature increase of less than 2°C would strongly reduce the risks of climate change impacts, and might be sufficient to avoid certain thresholds for major irreversible change.'

Already the world's average global surface temperature is 0.76°C above what it was more than 150 years ago when the industrial revolution began.² If this rise can be kept below 2°C we have a greater chance of being able to adapt to the effects we are already experiencing and prevent further change.²

Many development agencies and other organisations are calling on individuals, governments and corporations to ensure that this relatively 'safe' level of a 2°C rise is not exceeded.^{3/11/12} They are asking for urgent action as it is estimated that we have just 50 years – a brief window of opportunity considering the scale of the problem – to contain climate change.²

But why would a development agency like World Vision concern itself with environmental issues, and climate change in particular?

Above (a) 2°C (rise) in global temperature) the impacts will become progressively less manageable, perhaps uncontrollable... It is imperative that humanity takes action to rein in global warming and to stop global temperatures rising by 2°C.

why World Vision is taking action

I Helping the poor who are already affected

World Vision works to make a serious and sustainable impact on poverty and its causes, especially as they affect children. The environmental problems we face today are both causing poverty and exacerbating existing poverty around the world and threaten to undermine development efforts in poor countries. While climate change is primarily being caused by harmful emissions in rich and rapidly developing countries, the impacts of environmental damage are already being felt and will continue to be felt most keenly by the poorest and most vulnerable, many of them children:

- Farmers in parts of Africa are reporting consistently shorter rain-fed growing seasons. Whilst food productivity in the US and Europe may increase as a result of climate change (within a 1-2°C rise, beyond this much of the world will probably experience a decline in food productivity). In parts of Africa, including most of East and Southern Africa, the production of maize is expected to fall significantly as a result of changing seasons and drought.

The challenge is now to support those people living in the most vulnerable areas so that they are able to adapt and improve their ways of life.

Martin Rees President of the Royal Society.

It's the poorest of the poor in the world... who are going to be worst hit.

Rajendra Pachauri Chairman of the Intergovernmental Panel on Climate Change

- The World Health Organisation estimates that 150,000 people already die each year as a result of climate change, most of them in developing countries. This might be through increased exposure to malaria-carrying mosquitoes as more areas of the world become warm enough for them to live in, increased cases of diarrhoea due to increased water shortage or increased malnutrition due to shorter growing seasons and, thus, less crops. By 2020 75-200 million people across Africa could face water shortages.
- As sea levels begin to rise the tiny island nation of Tuvalu is disappearing under the waves. Its government has made a deal with New Zealand to accept its population in stages before the whole of Tuvalu succumbs to the sea. Within this century hundreds of millions of people in the developing world, in low lying countries like Bangladesh, are likely to be displaced by rising sea levels. The number of ensuing 'environmental refugees' is likely to lead to increased conflict over the parts of the world which are still inhabitable.

Vision is ta

To make things worse, the poor are generally less well equipped to deal with the worst impacts of environmental problems. People in low-income countries are four times more likely to die in natural disasters than people in high-income countries. In addition, many poor communities and countries are isolated and politically marginalised, making it hard for them to influence the bigger picture and access the resources needed to reverse environmental problems.

It is essential then, that organisations like World Vision are working with these communities to help them cope with the worst effects of climate change.

2 Tackling the root causes of poverty

World Vision works to tackle the root cause of poverty, not just the symptoms, so that long-term sustainable change can be achieved. If this is to work we need an appreciation of how the way we treat the world will affect what the world is able to give us in return. If we don't our development efforts will merely treat the symptoms of environmental problems, not the causes. A failure to appreciate the impact of our actions on the earth has contributed to many of the

“We should all be environmentalists. You cannot deal with hunger and deprivation without dealing with the environment.”

Tony Campolo Christian Speaker and Author

problems faced by the communities with which World Vision works. By contrast, when we care for and protect the world we live in, we ensure that it in turn will at least provide for everyone's basic needs and often more.

We do not have to choose between solving environmental problems and ending poverty. The health of people and the earth are inextricably linked as noted below and as many of the case studies in this paper show. A consideration of the environment then, is not an optional 'add on' to development, but an integral part of overcoming poverty and hunger.

“It is not sufficient to have debt cancellation, aid raised to 0.7% of GDP and fair trade if you also have global warming and environmental degradation... we have to mobilise to make sure climate change is on the same frontburner in people's minds as other issues.”

Mary Robinson, former UN High Commissioner for Human Rights

3 Changing Lifestyles

The richest countries in the world have created most of the emissions and pollution that are causing climate change. We have also played a role in creating other environmental problems.

For instance, our consumer culture has often led to the destruction and unsustainable use of natural resources around the world. World Vision is working to educate its supporters so that we can each recognise both our contribution to environmental problems and the vital role we must all play in tackling them. This paper includes a range of actions you can take to lead a more environmentally sound lifestyle which will benefit both people and planet. There are also ideas to help you ask governments and companies to take action too.

A child born in a wealthy country is likely to consume, waste and pollute more in his lifetime than 50 children born in developing countries.

George Carey former Archbishop of Canterbury

Reforestation in Niger

In the 1950s and 60's well intentioned modernization drives in Niger encouraged deforestation for crop planting and 'modern' farming techniques such as monoculture and the use of chemical fertilizers. This led to more crops in good rainfall years, but very low yields during drought years, compared to beforehand, and subsequently hunger and poverty.

Since the 1970's reforestation has been encouraged and this has led to an increase in food security as soil fertility has increased and the trees themselves have produced edible leaves and fruits. Reforestation has also improved the local economy. In 2005 when Niger experienced its worst famine for 20 years, 36 villages in which farmers had begun leaving 100-200 trees in their fields, survived by selling firewood and non-wood tree products. A member of staff commented: *'As a result, there was no need for any food distribution (which was) unlike what was happening elsewhere in Niger.'*



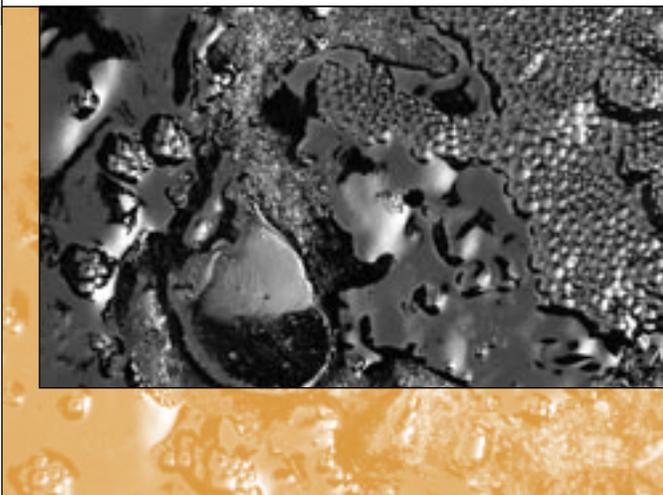
Seedlings raised in a group tree nursery situated in Goutchine, by the River Niger.

Environmental problems do not respect borders. As we have seen climate change caused by high CO₂ emissions from the developed world are already having a negative impact in poorer countries where people are ill equipped to deal with the consequences. While deforestation has local impacts such as soil erosion, it also affects the whole world's climate as trees soak up carbon dioxide.

Agencies like World Vision can make a difference. World Vision recently drew up a list of issues that we believe need to be addressed if the negative affects of climate change on poor communities are to be mitigated or avoided all together.

According to UN statistics, cleaning sea pollution as a result of war will cost 150 million dollars and will last as long as a year:

Lebanon '06



These include:

- Allowing developing countries a bigger say in climate change policy making
- More funds to enable poor countries to adapt to and mitigate the effects of climate change, and ensuring this aid reaches the poorest
- More incentives to poor countries to stop deforestation

However if the goal of limiting global warming to 2°C is to be achieved concerted and sustained efforts by governments and international institutions are essential.

Individuals also have an important part to play. Environmental problems may seem huge and insurmountable. In reality, the actions of individuals have created these problems and the actions of individuals can help overcome them. The changes we make now in our own home, lifestyle and workplace can have a positive impact for others and ourselves, both locally and around the world. The final section of this report includes some practical suggestions of things we can do as individuals or households to make a difference.

“The greatest threat to our planet is people believing that the decline of our common environment is inevitable. Nothing could be further from the truth. If we all play a small part, big change is possible.”

Tony Juniper, Executive Director, Friends of the Earth

not too late

not too late

Since the year 2000, the science behind climate change has continued to strengthen. Scientists are now much more certain that:

- The global climate is rapidly changing
- That human activity is the main cause
- The effects will intensify this century

More importantly, scientists consider it essential that we act now to reduce greenhouse gas emissions, before major and rapid changes to our climate cause irreparable and irreversible harm to the environment and overwhelm our global economy.

But effects of climate change present moral and theological issues as well as practical ones. The impact of climate change is most likely to be felt greatest by the poorest and most vulnerable members of our global society.

And our failure to recognise our own hand in its causes and take the necessary action to mitigate or reduce its harmful effects are an indictment of our performance as stewards of God's earth.

However, it is not too late. Gradually the global community is waking up to what is happening to our wonderful and beautiful world. Christians above all others should be in the vanguard of efforts to address the causes of climate change and to reduce its impact on the poor. Such efforts will be costly and, for those living in the West, will require sacrifices to be made. But the result will be that we are directly involved in God's 'redemptive activity' that is bring to fruition His plan to make all things new.



Trees of life

'In the past in order to find wood I had to travel... Now I have it in my own backyard. It has changed my life, and enabled me to stay Here in my village.'

Abebe Abrihim is a farmer in the Ansokia region of Ethiopia. Twenty years ago this area was a desolate landscape stripped of its tree cover by farmers desperate for fuel for cooking fires and to build houses. The bare, unprotected soil that was left behind was washed away in the rain and blown away by the wind as dust. Little could grow.

Today, the area is barely recognisable from that time. Since World Vision began working in the area 18 years ago, 20 million tree seedlings have been planted in terraces behind rock walls which were built to stop the mountain sliding into the valley. Newly planted trees thrive in the soil which collects behind these terraces.

Trees are essential to life – they are the earth's lungs, absorbing CO₂ and providing oxygen. For the people of Ansokia, they also have local, visible benefits. Their roots hold the ground together, stabilising the soil and allowing crops to be produced. They also increase the retention of rain water and slow its flow so that it doesn't wash soil down the mountains: *'My farmland downstream benefits, because before, it was washed away.'* Trees often play host to a number of predator insects which help keep pest populations in check. This in turn reduces the need for expensive fertilizers which can damage the soil and reduce its long term productivity.



World Vision's original tree nursery, from which millions of tree seedlings have been distributed in the valley and beyond.

The trees themselves are an economic benefit to Abebe. He can harvest their timber after eight years and earn around £100 from a quarter hectare plot of 250 trees. This is more than the total annual income for many farmers in Ethiopia. If the tree is cut near the stump instead of being entirely got rid off, it will then produce as many as five new saplings. Abebe's farm now earns him enough money to send his children to a school supported by World Vision.

taking action

Some practical steps all of us can take to make a contribution to reducing climate change and improving the environment.

→ Eco living

- **Reduce, reuse, recycle** – in that order!
All three are good, but reducing the amount of things we buy and consume in the first place is better for the environment than reusing what we have and deliberately buying things which are reusable. In turn these are both better than recycling those items we can no longer reuse. 80% of our waste could be recycled, but nationally only 20% is. To find out what else you can recycle in your area visit: www.recycle-more.co.uk.
The '3Rs' will all reduce the amount of waste from going to landfill, where it would produce methane as it rots, or being incinerated, which produces CO₂ and ash.
- **Sharing items** that are costly and used only occasionally is one way of cutting back. Do you really need your own lawn mower, gardening tools, toolkit and other DIY equipment? Could you share ownership of these items with friends? Consider creating and circulating a list within your church or workplace of who owns what, that they are willing to lend out.
- **Close the loop:** Recycling should be the never-ending cycle suggested in the name, in which our rubbish is brought back to life again and again. www.recyclenow.com showcases a wide range of recycled products.
- **Hug trees!** Our demand for wood products means that 80% of the world's ancient forests have already been destroyed. Look for wood products that come with the Forest Stewardship Council's logo – your independent guarantee that they have been responsibly sourced: www.fsc-uk.info.
- **Eat less meat.** The amount of meat eaten by the average person in the West is unsustainable. It takes 100,000 litres of water to produce 1 kilo of grain-fed beef, but only 500 litres of water to produce 1 kilo of potatoes. One acre of land yields an average of 20kgs of usable protein from meat, but 35kgs from corn and 161.5 kgs from soya beans. Try cutting out meat one day each week.
- **Improve your home:** Our homes are responsible for more than one third of CO₂ emissions in Britain. From turning down your thermostat and fitting energy saving light bulbs to installing solar panels, there are lots of ways to 'green' your home. Visit one of the following eco centres to get more inspiration:
www.cat.org.uk
or www.gwill.org.uk/ecohouse,
subscribe to New Consumer magazine: www.newconsumer.com
or visit: www.est.org.uk

→ Transforming your travel

- **Don't drive.** Personal travel accounts for up to a quarter of all the damage individuals do to the environment across Europe, including climate change effects. If you honestly can't cope without a car, begin by choosing one journey you do each week and find an alternative. Catch the train, take the bus or walk. Consider replacing your gym membership with a bike; the extra time it takes to get places can replace time spent on the treadmill. Ditching the car completely can be made easier if you car share or join a car club for occasional use. See: www.citycarclub.co.uk.
- **Take the train or bus.** Emissions are expected to increase massively over the next two decades.

Buck the trend and cut out short haul flights; the worst kind as they are the easiest to replace with another method of transport. Consider holidaying in Britain and video conferencing at work. For European train timetables and tickets see: www.thetrainline.com. Scrutinise the effectiveness of controversial carbon offsetting schemes and make up your own mind at: www.sinkswatch.org.

- **Don't fly your food!** Chances are your dinner is better travelled than you. The average dinner has travelled a total of 2400 kilometres, often by air. Buy locally produced food, visit farmer's markets, join an organic box scheme (www.vegboxschemes.co.uk) or get an allotment from your local council! (www.gardenorganic.org.uk).

A bird and a tree

The cattle egret is a type of bird which will only nest in the Gao tree. In recent years, there has been wide spread destruction of Gao trees in West Africa through felling to create more land for planting and through widespread aerial spraying of the land to kill locusts. Ironically, cattle egrets eat locusts, 30 to 50 locusts in a day in fact, which, taking into account how fast they breed, means that just one bird can be responsible for preventing up to 12 million locusts in one year from damaging crops and pastures.

That prevents food for nearly 60,000 people from being eaten by locusts. World Vision is working to learn more about the important role different animal and plant species, such as the cattle egrets, play in preventing environmental degradation.



The desert locust is a pest of unusually destructive powers. A small part of an average swarm, about one tonne of locusts, eats the same amount of food every day as 2,500 people.

➔ The bigger picture

- **Big buildings have the potential to be very bad for the environment.**
Visit www.climatechanged.org to find easy steps you can take to improve the environmental performance of your workplace, school or church. Alternatively, ask the people responsible for the building to carry out an energy audit and work towards an accredited Environmental Management System (EMS). Point out the financial savings to be made as well as the environmental benefits.
www.netregs.gov.uk,
www.ecocongregation.org and
www.tearfund.org/Campaigning/Derek.

“Pray as if it all depends on God
and live as if it all depends on you.”

The Vision by **Pete Greig**, 24-7 Prayer Movement.

Northern and eastern Uganda has borne the brunt of torrential rains and floods during 2007, the heaviest rains seen since 1963. Due to this the Ugandan government has declared a state of emergency (Sept '07). Twenty-one lives have been lost due to the floods. Bridges have been submerged and roads washed away

- **Campaign.** Put pressure on governments and companies. Some changes will only happen if laws are passed and action is taken on an international scale:
www.stopclimatechaos.org. The impact of companies on the environment is huge and while some are leading the way with environmentally-friendly measures, others need a nudge from consumers:
www.turnuptheheat.org.
- **Support Christian conservation work.**
A Rocha is a Christian nature conservation organisation working all over the world. A Rocha projects are frequently cross-cultural in character and share a community emphasis with a focus on science and research, practical conservation and environmental education. www.arocha.org.
- **Read.** This paper is linked to a book called Christianity, Climate Change and Sustainable Living (SPCK) by Nick Spencer and Robert White, which includes more ideas for action and unpicks some of the more complicated and confusing issues and solutions. Copies are available from www.spckonline.com or from good book stores.
- **Pray.** Christian Ecology Link produce a day-by-day prayer diary to help Christians pray for environmental issues. Download it from: www.christian-ecology.org.uk/prayer-guide-index.htm.



references

references

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- 10 **Spencer, Nick** and **White, Robert** (SPCK 2007),
Christianity, climate change and sustainable living, p.53-54
- 11 www.tearfund.org/Campaigning/Campaign+news/CC+bill+report+to+Parliament.htm
- 12 www.oxfam.org.uk/get_involved/campaign/climate_change/index.html

For a fuller discussion of the issues raised in this paper, see
'*Christianity, Climate Change and Sustainable Living*'
by **Nick Spencer** and **Robert White** (SPCK, 2007).

World Vision

is a Christian, international relief, development and advocacy organisation which works with world's poorest children and empowers communities to tackle poverty and the causes of poverty. World Vision connects people to fight poverty, linking our supporters to beneficiaries through our global partnership, providing opportunities for people to become involved and to actually see and feel the difference they are making to the lives of children. World Vision has more of its own staff operational on the ground than any other international development NGO, with over 24,000 staff working in 100 countries around the world, 97% of whom are working in their countries of origin.

The Jubilee Centre

was founded in 1983 from the conviction that the Bible presents a coherent social vision able to guide our response to current issues and provide an alternative to contemporary political ideologies. This led the Jubilee Centre to conduct research into the content and application of biblical social ethics and then into a number of campaigns on such issues as Sunday trading (Keep Sunday Special) and credit and debt (Credit Action). The insight that the nurture and restoration of relationships is the central concern of biblical ethics led to the launch of the Relationships Foundation in 1994. It has undertaken various practical initiatives, based on a relational agenda or Relationism, in fields such as criminal justice, healthcare, unemployment, business practice and peace-building.

Over recent years the Jubilee Centre's focus has shifted from the direct campaigns to concentrate on research and education. Its research seeks to understand the overall social vision of the Bible and, within that context, to apply biblical teaching to contemporary social, political and economic questions. By sharing its work widely, the Jubilee Centre equips Christians in the UK and overseas, from all walks of life, to live distinctive lives and influence their churches, communities and wider society on the basis of biblical principles.



Orange papers offer a Christian perspective on contemporary development issues.

This orange paper has been co-produced by World Vision UK and the Jubilee Centre.

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