

Hard Rain brings alive the global problems governments have been elected to solve: the wasteful use of resources by the few, poverty for the many, population expansion, pollution, habitat destruction and the summation of our problems, climate change.

Each problem is understood by decision-makers, but they typically continue to be addressed as separate issues. Every prime minister and president has been sent a copy of Hard Rain, urging pragmatic approaches to all our problems as a whole.

Read Hard Rain and join the debate, write to your prime minister, write to a CEO or a newspaper. Don't be fooled by the media convention of happy endings. It's not going to be all right without a huge, prolonged popular uprising.

We have to reinvent the modern world so that it is compatible with nature.

In this extraordinarily powerful book – moving, delicate, cryptic, violent by turns – Edwards and Dylan remind us of how much is at stake.

**Gerry McCarthy**, *Sunday Times*

This disturbing, powerfully moving work is a masterpiece that summons up the ghosts of our past and a vision of the future that is ours to change. Regret and optimism make strange bedfellows, but great artists have always known this.

**Tim Smit**, *Chief Executive and co-founder, The Eden Project*

This book inspires me to try and stand again. To know that others share this bleakest outlook brings a ray of hope.

At first I thought that Dylan's lines should not be illustrated. I was wrong.

**Christy Moore**

We need to give a damn, and here we can see, if we take a few minutes, why we should. This is the power of art.

**Colin Tudge**

The Hard Rain exhibition has been seen by over 12 million people on every continent. One of the most successful photographic displays ever created, it has attracted huge public and critical acclaim, along with the support and endorsement of political and environmental leaders.



[www.hardrainproject.com](http://www.hardrainproject.com)

**HARD RAIN** Mark Edwards Lyric by Bob Dylan

Mark Edwards  
Lyric by Bob Dylan

# HARD RAIN

## OUR HEADLONG COLLISION WITH NATURE



Your book is a piece of sustained beauty. I treasure it.  
**Arundhati Roy**



20 July 2009

Hard Rain is both a tremendous achievement and an incredibly troubling book to read – an unrelenting catalogue of burnt and barren landscapes, shrunken ice caps and devastated, dislocated lives.

Page by page it conjures up the terrible consequences of unchecked climate change – a human catastrophe that is quite unprecedented in our history, and one that we can no longer afford to deny.

Already, climate change and the competition for natural resources are destroying livelihoods, creating refugees and stoking conflicts right around the world. To allow this disaster to deepen further would be an unforgivable injustice – for whilst it is the richest countries that have caused this degradation, it is the poorest who are suffering its worst effects.

So if Hard Rain is a photographic elegy it is also an impassioned cry for change. Forceful, dramatic and disturbing, it is driven by what Martin Luther King called “the fierce urgency of now” – and I believe the call for a truly global response to climate change is an idea whose time has finally come.

**Rt Hon Gordon Brown MP, Prime Minister of the United Kingdom**

This is a book of powerful words and some even more powerful images. It reflects the thoughts of a generation who do not just want prosperity for themselves but who want progress for the poor as well, and who know we need a sustainable environment, not just to pass on to the next generation but to make life better in this generation too. Tackling climate change is not a distant and remote concern, but an urgent priority.

The lesson from Hard Rain is not only of the damage we are causing, but of the shared responsibility we all have to respond – and to do those things which, step by step, can make a real difference.

**Rt Hon David Cameron MP, Leader of the Conservative Party**

This is a moving and thought-provoking book, which illustrates, through the use of powerful images, the undeniable ongoing relevance of Dylan’s lyrics.

Environmental and human poverty is today at a level that Dylan could not have envisaged when he wrote those disturbing lyrics some forty years ago. Yet many of the world leaders, those who have the ability to affect a change, have failed to take care of the needs of the many. This must end now.

**Caroline Lucas MEP, Leader of the Green Party of England and Wales**

Full replies on page 145

Dear World Leader,

*Hard Rain has been sent to every prime minister and president in the world. It brings alive the global problems you were elected to solve: poverty, the wasteful use of resources, pollution, the loss of habitats and species, and the summation of our problems, climate change. This book and the exhibition that is touring the world are designed to help generate public support to decarbonize energy, pass legislation that gives companies the security to invest in ever-cleaner technology, and develop equitable trade agreements that allow poor countries to eliminate persistent pockets of poverty. Fifty years ago the UN set a target of 0.7% of GDP as official aid. Up to now, only five countries have met that target. Aid is needed to support education for girls and boys and provide child healthcare and family planning programmes. These measures are in all our interests. Humanity shares a common fate on a crowded planet.*

*The problems highlighted in Hard Rain are understood by decision-makers, but they typically continue to be addressed as separate issues. Climate change is handcuffed to poverty, which is linked to all the problems illustrated in this book. It must now be clear that the world needs to tackle all of these issues together if we are to solve any of them.*

*We are not going to pretend that there are solutions to all our problems. Many scientists and environmental experts acknowledge that there is a price to pay for the delay in dealing with them. There is disagreement about the exact price for the damage we have done to the earth’s life-support systems, but all are agreed that every step we take towards a sustainable future will lessen the impact of a natural backlash that will damage civilization and nature.*

*Hard Rain is an appeal to you and an appeal to readers to get in touch with you to support your government’s efforts to lead your country towards forms of progress that sustain all of humanity, while sustaining the planet.*

*This project began forty years ago on the day of the first moon landing, when I was lost in the Sahara and rescued by a Tuareg nomad who played me “A Hard Rain’s A-Gonna Fall”. “Sad forests”, “dead oceans”, “Where the people are many and their hands are all empty”, “Where hunger is ugly, where souls are forgotten”: I have seen Bob Dylan’s piercing words come alive in the viewfinder of my camera and in the photographs of my friends. It has fallen to our generation to deal with these tragic problems that now threaten to overwhelm us all.*

*I welcome your response to Hard Rain and will be pleased to add your comments to those from heads of state already posted on our website.*

Sincerely,



Mark Edwards



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*You cannot solve the problem  
with the same kind of thinking  
that has created the problem.*

Albert Einstein

# **HARD RAIN**

**OUR HEADLONG COLLISION WITH NATURE**

Mark Edwards  
Lyric by Bob Dylan



I owe a lot more than thanks to the Tuareg nomad who rescued me, and to Bob Dylan who gave permission to publish “A Hard Rain’s A-Gonna Fall”.

Many of the staff at Sony/ATV Music Publishing have helped this project on its journey from an idea in the desert to a book and touring exhibition. I am very grateful to Rakesh Sanghvi, Janice Brock, Mark Waring and Gary Bhupsingh.

Charlie Stanford at Columbia Records, London, encouraged me to roll the exhibition out around the world. His help and support have been invaluable.

The photographs in Hard Rain are sourced from Still Pictures, the London bureau of a unique worldwide network of photo agencies with well over a million images available to publishers, NGOs, governments and UN agencies. Our combined collection, which includes the photo archive of the United Nations Environment Programme, has earned a reputation as the leading source of images that illustrate environment and development issues, nature and wildlife. Special thanks to our key partners: Catherine Deulofeu at BIOS in France, Peter Arnold at Peter Arnold Inc in the US, Steve Jackson at UNEP in Kenya and Hartmut Schwarzbach and Peter Frischmuth at Argus in Germany.

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## Lost

It's July 20th, 1969 – Apollo 11 mission to the moon. Buzz Aldrin's planting an American flag in a lunar crater. I'm lost in the Sahara Desert, about to be rescued by a Tuareg nomad – an Omar Sharif look-alike who rode out of the mirage – real life imitating David Lean's *Lawrence of Arabia*.

He takes me to his people, sits me down on a rock – it turns out to be part of a fossilized tree trunk – and disappears into a tiny hut. My companion reappears with a rolled umbrella, two sticks and a cassette player. He rubs the sticks together, makes a fire, boils a pot of water, and we have a nice cup of tea. I'm unnerved by uncomplicated kindness. Then he warms the batteries in the cassette player, turns it on and Bob Dylan sings "A Hard Rain's A-Gonna Fall".

My heart sinks. I've spent three years at art school keeping out of range of Dylan's early folk albums and here I am practically a captive audience<sup>1</sup>. But the urgency of Dylan's voice, the sheer intensity of communication in the coming-together of words and guitar cut through my prejudice and I get it. In "A Hard Rain's A-Gonna Fall", Dylan lifts the heart of popular music from sheer entertainment to art.

I'm in the front row of an astonishing concert of human contradictions, sitting on a tree turned to rock by a change in the climate millions of years ago.

The crew of Apollo 11 are sending back photographs of the earth from space. We had the whole wide world in our hands. The newspapers wrote about our fragile, lonely, blue planet while we trashed it with no thought for the future.

I'm surrounded by dignified, graceful people from another age, warmed against the surprising chill of the night by a fire lit by friction – our first step to a scientific, industrial society, to putting men on the moon. And to changing the climate.

Bob Dylan's song of love and death and dying life is burning into me. As Dylan piles image upon image, I have the idea to illustrate each line of the lyric.

In the following years I travelled to over 150 countries to photograph our headlong collision with nature. And here it is – Bob Dylan's piercing words as I saw them in the viewfinder of my camera, completed with pictures by my friends.

*Mark Edwards*

London, July 20th, 2009

<sup>1</sup> What a stick-in-the-mud I was in my early twenties. I discovered Dylan on *Highway 61*, writing and singing like no one before or since. I wanted him at the frontier, live and dangerous – not singing weird old songs. I was just like the folk-music purists who wanted him for themselves, safe within the confines of their tradition. How fortunate for us all that Dylan stayed true to his own imagination.

# A Hard Rain's A-Gonna Fall

Oh, where have you been, my blue-eyed son?  
Oh, where have you been, my darling young one?

I've stumbled on the side of twelve misty mountains



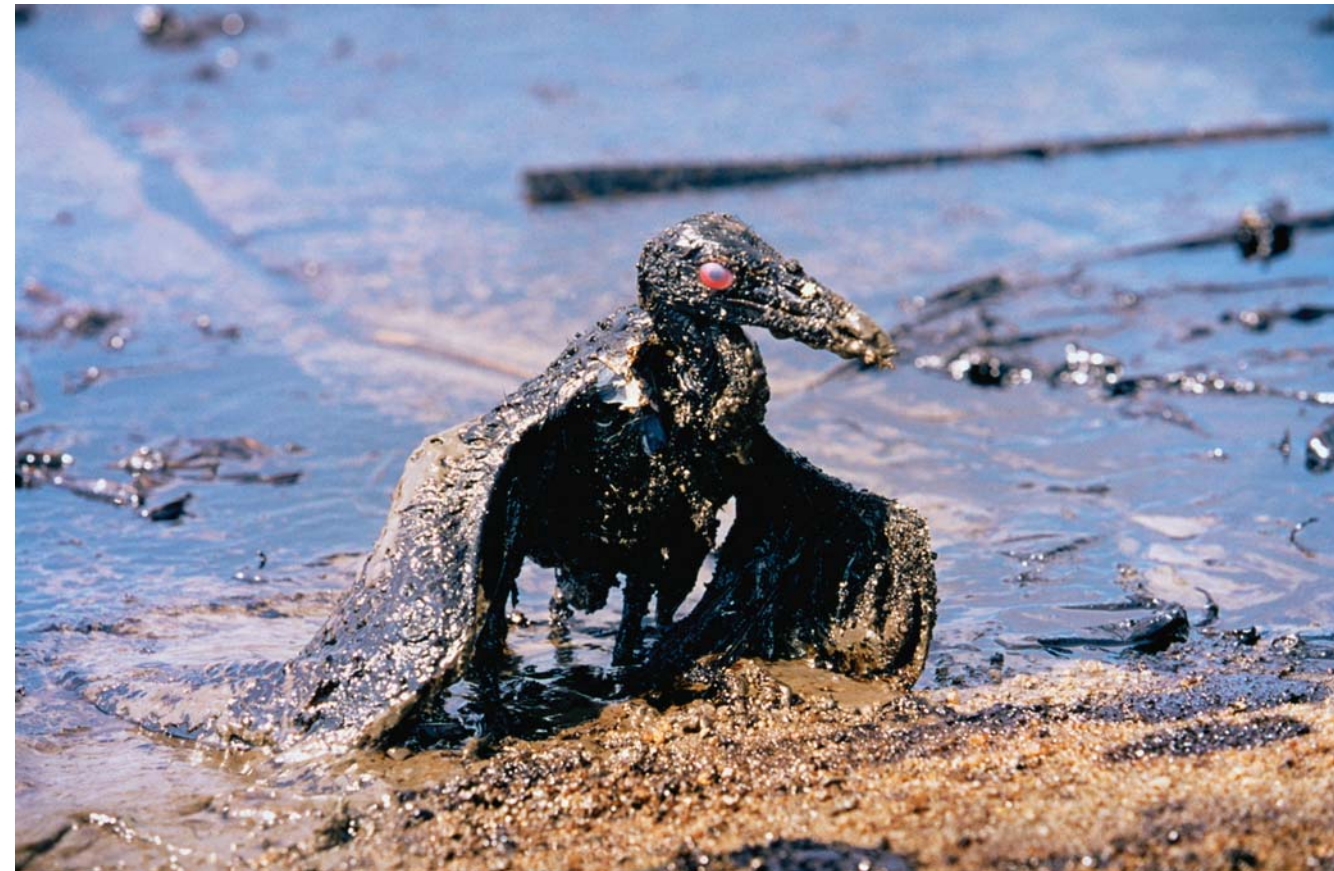
I've walked and I've crawled on six crooked highways



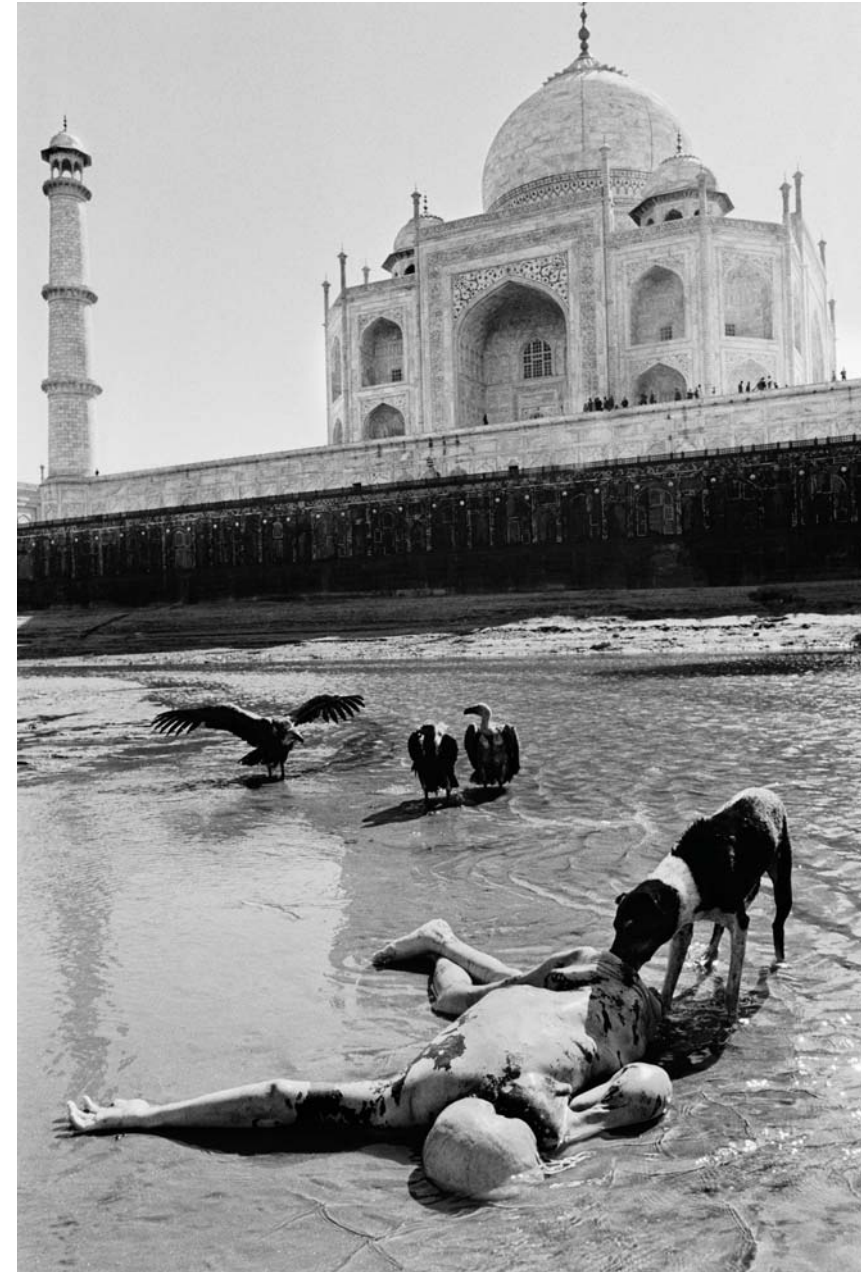
I've stepped in the middle of seven sad forests



I've been out in front of a dozen dead oceans



I've been ten thousand miles in the mouth of a graveyard

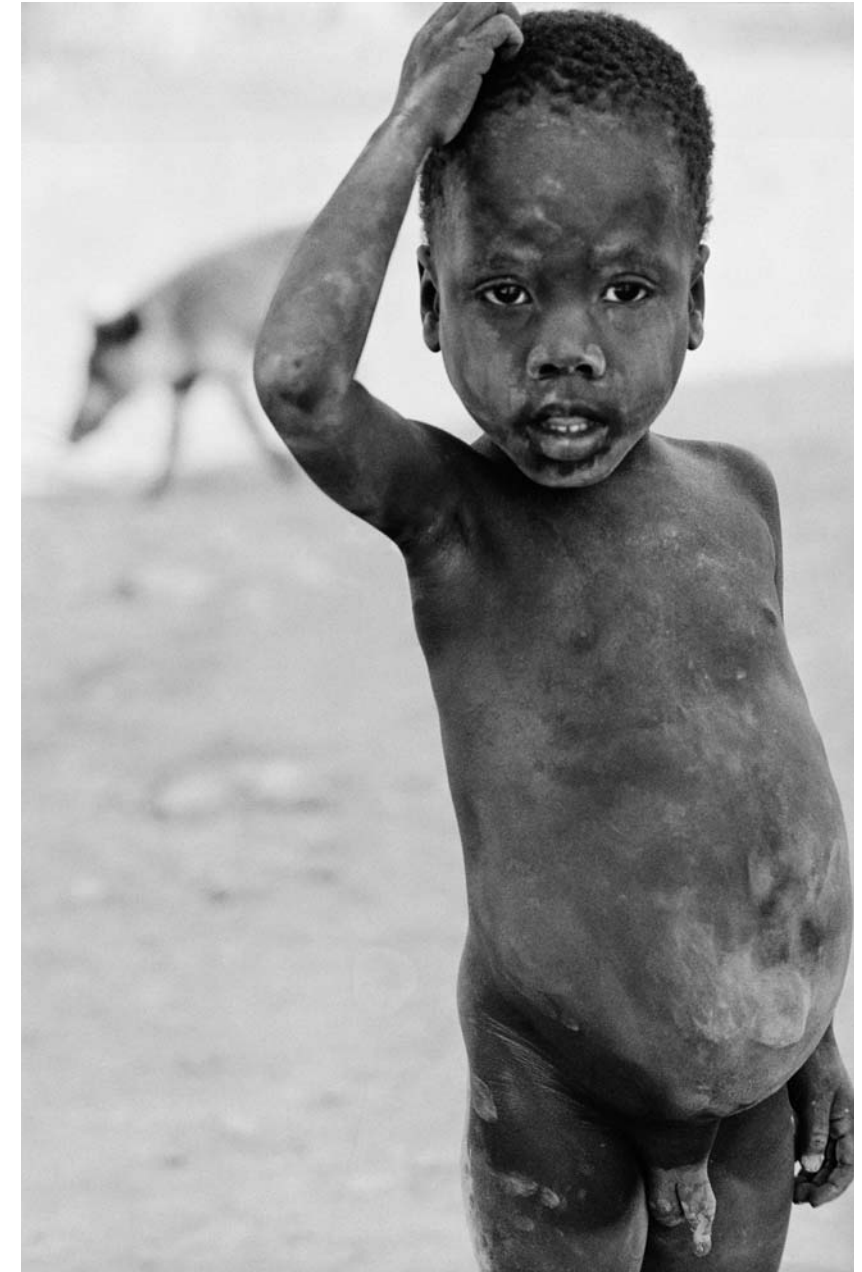


And it's a hard, and it's a hard, it's a hard, and it's a hard,  
And it's a hard rain's a-gonna fall.



Oh, what did you see, my blue-eyed son?  
Oh, what did you see, my darling young one?

I saw a newborn baby with wild wolves all around it



I saw a highway of diamonds with nobody on it



I saw a black branch with blood that kept drippin'



I saw a room full of men with their hammers a-bleedin'



I saw a white ladder all covered with water



I saw ten thousand talkers whose tongues were all broken



I saw guns and sharp swords in the hands of young children



## COMMENTARIES

*“I wrote it at the time of the Cuban crisis. I was in Bleecker Street in New York. We just hung around at night – people sat around wondering if it was the end, and so did I. Would 10 o’clock the next day ever come?... It was a song of desperation. What could we do? Could we control the men on the verge of wiping us out? The words came fast – very fast. It was a song of terror. Line after line, trying to capture the feeling of nothingness.”*

Bob Dylan

“A Hard Rain’s A-Gonna Fall” is our most powerful reminder of the fear Dylan’s generation experienced at the prospect of life ending in nuclear war. But as Clinton Heylin writes in *Behind the Shades*, Dylan has been at pains to point out that this song has a broader sweep, a wider meaning, one appropriate before, during and after the Cuban missile crisis.

The environmental crisis is just as desperate and just as threatening as nuclear wipeout. Dylan’s question, only slightly reframed, is exactly right: can we influence the people in power to deal with our problems?

The issues highlighted in Hard Rain – the wasteful and unsustainable use of resources by the few, debilitating poverty for the many, population expansion, habitat loss, species extinction, and the summation of our problems, climate change – are like pieces of a jigsaw puzzle that illustrate the 21st century.

If we put the puzzle together we see that there are not many problems but one problem: aligning human systems with natural systems. A few examples show how these issues are all linked by cause and effect. Unsustainable logging of rainforests opens up jungles to commercial and subsistence farmers, who burn more forest to expand agricultural land. Almost 20% of global CO<sub>2</sub> pollution is added to the atmosphere from burning forests. Much of the deforested land is used to grow soya beans to feed farm animals, which in turn feed expanding human populations. Livestock add methane – a potent greenhouse gas – to the atmosphere, which

combines with CO<sub>2</sub> from power stations and the engines that drive us and our goods around the world. These greenhouse gases are heating the planet with untold consequences. Forest destruction also accelerates species loss, damaging the web of life that we depend on for clean air, water and food.

While each of these issues is understood by decision-makers, they are typically addressed as if they were separate problems. We will be wise to look upon ourselves as a species and devise more realistic and pragmatic approaches to all our problems as a whole.

The fault is not just with our leaders – we all have to take responsibility for the colossal mess we have made in the world. We have to acknowledge that up to now we have been heralding weak and largely substanceless global accords as great achievements<sup>1</sup>. Our quiet clamour for hypocrisy and deception, for schemes that seem to promise something for nothing, has not produced solutions. We have to give governments a constituency to reinvent the modern world so that it is sustainable. This is the biggest project humanity has ever faced.

We need to act quickly. The localized climate-related disasters that we read about every day could begin to occur across the planet if a runaway, irreversible greenhouse effect kicks in. If we wait for more disasters like continental droughts (already happening in Australia), plagues of tropical diseases in places not strictly tropical, massive hurricanes and typhoons flattening major cities, then governments will panic and pass panic-inspired laws and regulations.

Democracy and diverse approaches could be early victims of global warming.

As David Skitt has commented (see pages 149–50) what this present point in history demands, according to a recent UK government report on climate change, is “unprecedented international cooperation”, nothing less than a new human mentality – one that transcends our neurotically obsessive allegiances to national interests and identity. Old ways of thinking don’t work any more. And it will need a real mental leap to change them. Are we capable of making that leap?

Political change comes only when people form a movement so large that governments have no choice but to listen. This requires a coalition of environmentalists, those in the peace movement, the faith community, those who support the campaign against poverty, and the silent majority. If you are part of the silent majority, now is the time to find your voice.

But we all need to be aware that it’s not just political action that is needed. Most of us have lost touch with nature and we need to reconnect with the natural world. Not through photographs, which however beautiful or dramatic are just signposts to reality. This is the first and last step

to a sustainable culture that we can all participate in.

The modern philosopher J. Krishnamurti makes the connection between human nature and nature in this passage from *All the Marvelous Earth*:

“There is a tree by the river and we have been watching it day after day for several weeks when the sun is beginning to rise. As the sun rises slowly over the horizon, over the trees, this particular tree becomes all of a sudden golden. All the leaves are bright with life, and as you watch them as the hours pass by, that tree whose name does not matter – what matters is that beautiful tree – an extraordinary quality seems to spread over the land, over the river... Towards evening when the western skies are lit up by the setting sun, the tree gradually becomes sombre, dark, closing in on itself. The sky has become red, yellow, green, but the tree remains quiet, hidden, and is resting for the night.

“If you establish a relationship with it, then you have a relationship with mankind. You are responsible then for that tree and for the trees of the world. But if you have no relationship with the living things on this earth, you may lose whatever relationship you have with humanity, with human beings.”

<sup>1</sup> Stephen Gardiner, “A Perfect Moral Storm: Climate change, intergenerational ethics and the problem of corruption”, in *Environmental Values* 15, 2006



### Kathmandu, Nepal, Christmas Day 1970 and the same view thirty years later

In 1970 it was mist over the mountains, now it's smog. The earth has been transformed by human activities – from a planet dominated by rural populations to one dominated by cities. Forty years ago Kathmandu had barely 200,000 inhabitants. When the second picture was taken, its population had swelled to over a million. For the first time in human history as many people live in an urban environment as in a rural one. Most new urbanites live in illegal shanty towns, where they demonstrate great ingenuity in coping with incredibly difficult circumstances.

Urbanization presents an opportunity to

tackle poverty that would not be possible in a rural setting. In cities it is easier to provide greater numbers of people with education, health services, jobs, shelter and family planning services that together could help slow population growth.

In *Hot, Flat and Crowded*, Thomas L. Friedman asks readers to imagine tapping into the creativity and innovative capacity of the world's poorest people. I've been fortunate to spend time in shanty towns so I've got some idea of the explosion of innovation we might expect in science and technology, art and literature if it were possible to provide the tools and energy people need to compete, connect and collaborate.



### Bangladeshi refugees, Calcutta, India

I took this profoundly disturbing picture of a man carrying his cholera-stricken wife during the Bangladesh war in 1971. Ten million people crossed the East Pakistan border into India to escape the horrors of this bloody war.

Photographs are a shadow of the past but they can also be a ghost of the future. If we go on trapping the sun's heat in the atmosphere by burning fossil fuels, ice on

land will melt, eventually causing sea levels to rise – potentially by 20 metres.

If the sea level rose by just one metre it would make 20 million people homeless in Bangladesh and India alone. Where will they go? Hands up the country that will take in 20 million refugees as their own coastlines are being breached by rising seas, as agriculture fails, as clean water becomes scarce, as law and order break down. There is nowhere for 20 million people to go.



### Forest destruction, Haiti

Some 500 years ago, Christopher Columbus discovered the island of Hispaniola, now divided between Haiti and the Dominican Republic. This is how he described his first view of the island:

Its lands are high, there are in it many sierras and very lofty mountains... All are most beautiful, of a thousand shapes: all are accessible and filled with trees of a thousand kinds and tall, so that they seem to touch the sky. I am told that they never lose their foliage, and this I can believe, for I saw them as green and lovely as they are in Spain in May, and some bearing fruit, and some at another stage, according to their nature.

The photograph shows what that landscape looks like today. The great forests have been cut down and much of the topsoil has washed into the sea, guaranteeing continued poverty.

In his essay in the first edition of *Hard Rain*, Lloyd Timberlake makes the link between poverty and environmental destruction and shows how rich nations keep poor countries poor: "Poor people simply

cannot live sustainably and they are forced to overuse and degrade scarce resources, whether firewood or topsoil, or water in arid areas. Countries with majorities of poor citizens cannot afford honest, effective government, infrastructure such as roads and communications systems, and healthcare. Thus they do not attract foreign investment. It is as hard for a poor country to pull itself out of poverty as for a poor person.

"The wealthier countries have actually developed policies that keep poor countries poor. They mostly come in the form of rich countries using their muscle and wealth to keep weaker, poorer countries from competing with them. The US and Europe pay their rich farmers \$300 billion a year to overproduce commodities such as cotton and sugar, thereby lowering world prices for poor farmers in poor countries. When international treaties are negotiated, rich countries send delegations of dozens of lawyers and experts, overwhelming the one or two delegates poor countries can afford or find."



### Oiled bird, Brazil

© D. Rodrigues/UNEP/Still Pictures

We learn a lot about big environmental disasters but we may overlook the pollution we ourselves cause. Lights left on in empty rooms, car journeys that could have been cycle rides, heat pouring out of badly insulated homes, shopping taken home in single-use plastic bags. Our small acts of

pollution lack the awful drama of the oil spill that trapped this bird but, taken together, they are far more destructive to the planet. Ten times more oil reaches the seas from car owners pouring old engine oil down drains than from oil tanker disasters like this one off the coast of Brazil that polluted miles of coastline and killed thousands of seabirds.

It's easy to be paralyzed by the scale of our environmental problems, but as

individuals we can act immediately to reduce our environmental footprint. This sends a powerful signal to politicians and business leaders. Edmund Burke once famously said, "Nobody made a greater mistake than he who did nothing because he could do only a little." But what a lot some people do. Wildlife filmmaker Rebecca Hosking was moved to tears by the impact of plastic rubbish on marine life when she was filming off Hawaii. When she returned home, she showed shopkeepers in her town the film she had made. As a result Modbury in Devon became the first town in Europe to be entirely free of plastic bags. Shoppers

receive their goods in 100% biodegradable cornstarch bags, recyclable paper bags or reusable cotton and jute bags, supplied by a company in neighbouring Cornwall. Working at an even larger scale, Wangari Maathai, "The Tree Mother of Africa", founded the Green Belt Movement, which has planted over 40 million trees across Kenya to prevent soil erosion. She now spearheads the United Nations Environment Programme's Billion Tree Campaign.

Governments have the key role in solving global problems but individuals – all of us – can also have significant impacts.



### Taj Mahal, India

A body washed up behind the world's most famous tomb, the Taj Mahal, built to commemorate the death of Shah Jahan's favourite wife, Mumtaz Mahal. The family of the deceased could not afford wood for a funeral pyre. Great wealth and desperate poverty still exist side by side.

Jeffrey Sachs told his 2007 BBC Reith Lecture audience: "The end of poverty – by the year 2025. It seems like an outlandish claim, an impossible dream. But it's within

reach. It is a scientifically sound objective. And it is the most urgent challenge of our generation. In fact, if we in the rich world fail to take up this challenge, we will imperil the world and ourselves. A crowded world, one that is 'bursting at the seams', cannot afford to leave millions to die each year of extreme poverty without imperilling all the rest."

Only five countries – Denmark, Luxembourg, the Netherlands, Norway and Sweden – deliver the target of 0.7% of GNP as official aid set out by the UN fifty years ago.



### Hard rain, Port au Prince, Haiti

It all begins with a few thin clouds in the clear blue sky over the Indian Ocean. They are barely noticeable at first as the wind picks up and water vapour condenses to form tiny cloud droplets, and the droplets bump into each other and coalesce. The clouds grow and darken. Thunder claps and the first giant raindrops fall on the southern tip of India. The monsoon, the planet's greatest annual weather system, has begun its magic. The clouds sweep north across the subcontinent, enveloping the land in curtains of rain and bringing relief to a parched and overheated soil. In about a hundred hours spread over a hundred days, millions of villages across India receive virtually their only rain of the year.

The rain swells rivers, floods low-lying land, fills reservoirs and irrigation canals, turns deserts green and brings crops to life. The water percolates through the soil to fill the pores in rocks beneath. In the Himalayan mountains, the rains combine with melting waters from ancient glaciers to feed great rivers like the Ganges, the Brahmaputra and the Indus. As the first rains come each June, Indians rush into the streets and party. They put on festivals for their Hindu water gods. They head for their fields to plant crops in the damp soil. They clear debris from ancient channels that divert the precious rains into ponds and lakes – anywhere that they can store the life-giving waters.

The rituals of the monsoon are repeated all across Asia. The first rains are a time for celebration and thanksgiving. In Southeast

Asia, fishermen and farmers wait for the first spring flows to revive the Mekong. In China, the Yangtze River brings waters that will feed more than a billion people. In the Americas, under different weather systems, farmers watch the skies for the first sign of storms forming in the Caribbean. In Africa, there is special nervousness. If the rains fail, it can mean famine and starvation. But everywhere people instinctively know the truth of Benjamin Franklin's famous saying: "When the well's dry, we know the worth of water."

Water is our most fundamental natural resource. We cannot survive without it. But it is also our most renewable resource. Those clouds forming over the Indian Ocean are just the latest step in a never-ending water cycle. The stuff we drink today is the same water that the first fish swam in, that the dinosaurs drank and that froze across much of the globe during the ice ages. Our planet probably has no more and no less than it has ever had. Each day some 800 billion cubic metres evaporate from the oceans or the land to keep the water cycle in motion. On average it stays in the air for ten days before falling again as rain.

But from the High Andes to the plains of India, from southern Europe to northern China, rain is becoming increasingly unpredictable. Global warming is pumping more energy into weather systems and making them more intense, and that can bring both floods and droughts. In some places, rivers are running dry as rains fail and we take ever more water to irrigate our crops. Conflicts over remaining supplies loom. In other places, warmer air is making storm clouds more intense and generating

super-storms and hurricanes. Hard rains are creating havoc.

And yet, in some parts of the world, there are times when there is not enough water. Underground reserves that farmers could once reach by dropping a bucket into a well only a few feet deep are now so empty that a borehole drilled half a mile down finds no water. The great rivers we heard about in our geography lessons in school – strong blue lines on our atlas maps – are running dry. The Nile in Egypt, the Ganges in India and Bangladesh, the Indus in Pakistan, the Yellow River in China and the Colorado

in the US are among them. It is not that nature's water cycle is faltering. Far from it. But in some countries our demands on it are increasing so much that we sometimes run out of it.

The dams and irrigation canals of 20th-century engineering are failing. Instead, many communities are going back to traditional ways of managing water. They are harvesting the rains and diverting floodwaters into wells to save it for the next drought.

*Fred Pearce*



#### **A child suffering from malnutrition, Haiti**

“How much is that doggy in the window?” Well, now we know. If it's an American dog it's equivalent, ecologically speaking, to a dozen Bangladeshi or African children. As the Derek Wall of the Green Party of England and Wales points out, cats in the rich world have more power and influence than the

poor people of this planet. Accidents of geography and genes should no longer determine who gets the fish.



#### **Melt lake, Greenland**

© Uriel Sinai/Getty Images

Warmer air temperatures are causing the Greenland ice sheet to melt earlier and faster than previously anticipated. Once the ice starts to melt at the surface, it forms

lakes and rivers. Melt water drains through the cracks, creating a layer between the bottom of the ice and the rock below, slightly lifting it and moving it towards the sea as if on a conveyor belt. Additionally, warm ocean waters are destabilizing the mouths of outlet glaciers, further accelerating their

flow. The giant Jakobshavn Glacier on Greenland's west coast is advancing towards the sea twice as fast as a decade ago at 12 kilometres per year, or over 30 metres per day. The amount of fresh water entering the oceans around Greenland has tripled in the same period. Were Greenland to lose its ice cap, an area almost as large as Mexico, the world's oceans would rise by six metres and flood large parts of just about every coastal city on the planet. If our governments don't cooperate to reduce greenhouse gases, we

will have to redraw the map of the world continually as coastlines erode.

Our modern world is delicate and finely balanced, ecologically and economically; a seemingly insignificant change could trigger a process known as positive feedback in the climate. If this happens, global warming itself would precipitate alterations in the earth's natural systems, causing additional warming, which in turn would bring about yet more changes – an unstoppable acceleration that could transform the planet.



#### **Amazon jungle being burned to expand agricultural land, Brazil**

© John Maier/Still Pictures

In the next 24 hours, deforestation will release as much CO<sub>2</sub> into the atmosphere as eight million people flying from London to New York. Deforestation accounts for up to 20% of global CO<sub>2</sub> emissions – more than all the cars, trucks, planes, trains and ships in the world.

What drives the destruction? Trees are cut down for timber and the deforested areas are turned into ranch land, or into

farms to grow crops such as soya beans to feed battery chickens and other meat-producing animals for our supermarkets. Up to 80% of the world's forests have already been lost or converted to other uses, so time is running out.

No new technology is required to reduce these catastrophic emissions from the forests. This is a victory still waiting to be claimed by politicians. They would need to negotiate a forest charter adding value to standing forests which would counter the power of rising global demand for agricultural land and timber.



**Abattoir, England**  
© Nigel Dickinson/Still Pictures

One of the 4.5 million British cattle suspected of having Bovine Spongiform Encephalopathy, almost certainly caused by BSE-contaminated cattle feed prepared from bovine tissues.

The majority of the animals raised for food live miserable lives in intensive

confinement in factory farms. They are pumped full of antibiotics, hormones and other chemicals to encourage high productivity. In the food industry, animals are often treated not as living creatures, but as food-producing machines, and are confined to small cages with metal bars where they breathe ammonia-filled air in artificial lighting or no lighting at all.



**English country church**

“And God blessed them, and God said to them, Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.”

*Genesis 1:2*

If the animals could speak, they would point out that the West has been uniquely irresponsible in the use and treatment of nature and natural resources. We treat

nature like a master treats a slave. We have forgotten that we are part of nature, that human is just a word for a species of animal.

In the damaged environment, we glimpse the limits of the modern world. We can see ourselves dependent on nature’s extraordinary diversity, which defies the elementary mechanism we have tried to impose. Our arrogant simplicity has been challenged by nature’s awesome, but delicate complexity.



**Political prisoners tortured to death by the Pol Pot regime, Cambodia**

© Mike Kolloffel/Still Pictures

This photograph is a painful reminder that there’s always somewhere in the world where cruelty by man against man is

performed with organized precision on a scale beyond imagination.

It is not enough just to respond to our environmental problems. We also need to ensure that people have the right to voice their beliefs freely without fear of abuse or punishment.



**Child with toy gun, Bucharest, Romania**

What starts out as cops and robbers or cowboys and Indians when we are kids may turn into a terrible reality when we are grown up. We’ve lurched into the 21st century – on the one hand killing and maiming and destroying and on the other trying to find a new, sustainable approach to living harmoniously with nature and ourselves. Two hundred and thirty million people died as a result of war in the 20th century. But I could say it like this: 230 million of us were destroyed by fellow humans. There is no them and us. There’s only us. If we don’t get that, we don’t get sustainability. At the heart of our environmental concern lies an unspoken challenge: to rediscover the reality of interdependence.

I was arrested for taking this photograph and taken to prison by the soldier pointing

angrily at me. As I was being handcuffed, an elderly man in ragged clothes came up to me and whispered these lines from *Measure for Measure* in my ear:

But man, proud man,  
Drest in a little brief authority,  
Most ignorant of what he’s most assur’d,  
His glassy essence, like an angry ape,  
Plays such fantastic tricks before high heaven,  
As make the angels weep.

The story ended happily when the prison authorities discovered that I had an invitation to meet Nicolae Ceausescu in Bucharest that evening. I went from prison to palace like a character in the *Arabian Nights*. Shakespeare’s lines stayed with me as I stood in line to shake hands with Romania’s dictator and they find an echo in the pictures that illustrate this book.



**Thunderstorm, Wisconsin, USA**

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I carry an Old Testament image of the moment of creation in my imagination. This astonishing, beautiful photograph brings it alive and with it the knowledge that you and I, and all of us in the rich world, are inadvertently destroying life on earth.

People aren’t sitting around saying, “Let’s destroy the rainforests, cook the planet, pollute the oceans and damage the ozone layer”. These unintended effects are a warning that we have to change how we

think and how we live. Our mastery of science has allowed us to break the first law of nature. In nature everything that dies becomes the starting point for new growth. A leaf falls from a tree, is broken down by plant cells and the nutrients are reabsorbed to become part of next year’s growth. In the last fifty years we have made materials and chemicals that can’t be broken down by plant cells, so they build up in the environment, in landfill sites, in the bodies of wild animals in the remotest parts of the world and in our bodies. Every pregnant woman has on average eight kinds of pesticide in her