

Supporting a Healthy Environment

A fresh approach to our work on the environment



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1. Executive Summary

We all depend on a healthy environment – rich and poor alike. But today, the global environment is under increasing strain. From the impacts of climate change to deforestation. From overfishing to the pollution of our vital water supplies. These and other factors combine to degrade and damage our planet.

The poorest people in the world's poorest countries are least responsible for this degradation but have the most to lose. They are often the most dependent on the environment and natural resources; both for their survival today and as a springboard for their future prosperity.

Climate change and the degradation of the environment are already undermining the natural resource base on which millions of people depend. They threaten to reverse the global progress that has been made in reducing poverty, and the success of the UK's investments in development. New and innovative approaches are needed to ensure economic growth and rising prosperity, while protecting and enhancing the environment. There are tremendous opportunities arising from innovations in technology, in ways of managing the environment, and from harnessing the power of the private sector – leading firms are increasingly aware that their profits and long-term survival depend on a healthy environment.

The UK is taking a fresh approach to environmental issues. We will take forward an ambitious and coherent agenda to ensure all that we do is compatible with environmental sustainability, and support specific programmes that will protect forests, restore water sources and protect food supplies. We will support national and international efforts to quantify the value of natural resources and use this information to influence key decisions. We will deepen our partnerships with the private sector to help ensure the sustainability of key supplies for business and deliver real benefits to poor people who depend on the land. We will seek to make use of new technologies and innovation to tackle climate and environment challenges. We will support transparent and open access to information to help communities fight corrupt abuses of their forests, fisheries and farmland. In short, we will act on the evidence that shows that economic growth, poverty reduction and protecting the environment must go hand in hand if our world and all the people who live in it are to prosper.

This publication outlines the principles that will guide the UK's new approach to supporting developing countries. It highlights the results, impact and value for money we are achieving through some of the key climate and environment programmes the UK is supporting. It also describes how we are working with partners to scale up results.

Results we will achieve include:

- Helping provide nine million people in southern Africa with increased flood protection and 3.5 million with improved water services.
- Helping protect 39 million hectares of forest, avoiding billions of tonnes of carbon (CO₂e) emissions.
- Helping reduce the number of poor people short of food in southern Africa by five million and reduce malnutrition in children by 50%.
- Supporting at least five developing countries to include the value of natural resources in their national plans and budgets by 2015.

2. Introduction

The environment underpins our well-being and survival. It is our life support system. Yet humanity's rising demands risk undermining the ability of the environment to provide the 'goods' – such as food, water and energy – and the 'services' – such as disease management, flood control and climate regulation – that we depend on for our lives and economies.

Climate change is one of the most urgent environmental challenges facing the world today. Human activity has already pushed up the global temperature by 0.8 degrees above pre-industrial levels and we must act now to avoid the devastating effects further warming could have.

We all depend on a healthy environment, but it is the world's poorest people and the world's poorest countries – those who are also least responsible for environmental and climate change – that have most to lose from climate change and from a degraded environment. Girls and women will be hit particularly hard as the search for food, firewood and water becomes harder, impacting on their health and limiting their opportunities to pursue an education, or to engage in other activities.

Key facts

- More than 1.3 billion people depend on fisheries, forests, and agriculture for employment – close to half of all jobs worldwide.¹
- 400 million people in Africa and South East Asia rely on fish and other marine foods like seaweed to provide half their essential protein and minerals.
- The Amazon provides 10 million poor forest dependent people with between US\$500 million and US\$1 billion a year from the goods they catch and harvest.²

The importance of the environment to poor people, poverty reduction and growth

The environment underpins many economically productive activities (e.g. agriculture, hydro-power) that are essential to poor countries achieving their growth and development goals. A healthy and predictable environment allows for healthy growing economies.

Poverty, climate change and the environment are closely linked

The inter-relationships between poverty, climate change and the environment are complex. We need to recognise the potential for vicious circles where poverty and environmental degradation feed on each other – but also the potential for a positive outcome where better environmental management and rising incomes can reinforce each other. For example, the clearing of forests for fuel wood by people too poor to access other sources of energy degrades the environment. Supporting poor people to access renewable clean energy helps avoid this forest degradation, frees up girls' and women's time for more productive pursuits as well as removing smoke pollution from the home which improves health and reduces carbon emissions.

By improving the way we work with the environment, we can ensure strong benefits for both poor people and the climate. Simple changes such as building small stone terraces to reduce water run-off on sloping farmland helps replenish underground and soil water reserves, prevent the erosion of valuable topsoil, and limit water that can contain farming chemicals from reaching rivers. This helps to improve the soil, minimise the amount of chemicals needed and maintain healthy water courses. This also improves our climate as the soil stores large amounts of carbon which can be released when it becomes degraded.

¹ FAO (2004). *The state of Food and Agriculture 2003-2004: Agriculture Biotechnology - Meeting the Needs of the Poor?* Food and Agriculture Organisation of the United Nations, Rome

² Shepherd, G. 2011. *Livelihoods and Landscapes Strategy*. IUCN

Climate and environmental change present risks for poor people

The poorest members of society are reliant upon renewable natural resources, such as forests, fisheries, fresh and marine waters for their livelihoods. Climate variability and environmental change which damages or degrades these resources can increase vulnerability and reduce social and economic options.

These extremes can be catastrophic for both communities and national economies. The impacts link directly and indirectly to management of natural resources.

Research shows that damage to fish breeding grounds from climate change induced ocean warming and acidification as well as overfishing is likely to reduce fish catches in the tropics by 40% by 2055 which will directly affect the livelihoods and wellbeing of millions of fishermen and women.³

Environmental changes also make poor people more vulnerable to natural and human disasters as many poor people live in areas already degraded or threatened (e.g. slum settlements) or of high vulnerability (e.g. flood prone areas). Poor people also lack the institutional and financial safeguards (such as insurance) that could help them cope with stresses and shocks.

Environmental and climate change can also exacerbate other social and economic factors leading to greater risk of civil unrest, conflict, displacement and migration⁴. Climate change affects rainfall patterns which affects water availability. As the demand for water is projected to increase by 140% by 2030⁵, the real risks of exhausting groundwater resources threaten prosperity and livelihoods increasing the risk of conflict between those with competing claims.

Key facts

- The monsoon floods of 2007 killed at least 4,000 people, disrupted the livelihoods of 70 million people in India and Bangladesh and destroyed over seven million hectares of cropland.
- In Kenya it is estimated that the average annual costs of climatic variability are 2.4% of GDP today and that this is likely to rise to 3% of GDP by 2030.

G.M.B. Akash/Panos



³ Lauren Morello, How Coral Bleaching Could Lead to Famine in Scientific American <http://www.scientificamerican.com/article.cfm?id=how-coral-bleaching-leads-to-famine&page=2> accessed 04 04 2012

⁴ Migration and Global Environmental Change: Future Challenges and Opportunities. Final Project Report. Foresight Government Office for Science. 2011.

⁵ McKinsey Global Institute Resource Revolution: Meeting the world's energy, materials,

But the opportunities are huge

The UK's fresh approach to development, climate and environmental challenges is maximising opportunities arising from new technology, better markets, improved knowledge and a global shift in thinking towards the achievement of sustainable development and green growth.

Technology, such as mobile phones and satellite information, offer tremendous potential to improve accountability and help the shift towards more open societies, where people are aware of issues, are consulted on the solutions, and where the rule of law is accessible and enforced.

To promote better environmental management, we must ensure that the economic value of enhancing the environment – and the costs of damaging it – are better understood and integrated into decision making and into designing the right incentives facing individuals and firms.

We know that people value environmental services – and many of the poorest depend on them – but often there is no system to pay for their protection. The private sector also has a huge role to play responding to consumer demands for socially and environmentally responsible products. We are working closely with businesses to support their efforts.

The breakneck pace of urbanisation also provides new opportunities. Cities already house over 50% of the global population and generate almost 80% of global Gross Domestic Product (GDP). As the world's population grows to eight billion by 2030, and nine billion by 2050, virtually all the extra people are expected to live in cities - adding up to 70 million new residents in urban areas each year. Now is the time to make the environmentally friendly investments in water supplies, clean mass transport and clean energy needed to serve the cities of the future.

Real opportunities are also presented by the growing global support for 'green growth', that is growth which is environmentally friendly, resource and energy efficient and works to benefit the poor. In this way, green growth can help countries meet existing growth and poverty reduction goals.

This is a key theme at the UN Conference on Sustainable Development (Rio+20) taking place in June 2012. Green growth offers the potential to expand and deliver higher productivity in agricultural and industrial sectors through efficient use of natural resources. It will also prioritise better infrastructure, including in cities, because it will focus on the long-term and prioritise investment in renewable energy, public and low-carbon forms of transport – often cheaper and more accessible for the poorest households than alternatives such as oil based vehicles.

Achieving economic growth AND environmental sustainability

Over the last 50 years it has become increasingly clear that as we seek to grow our economies and boost our prosperity, we need to do so in ways that enhance the environment on which future growth, prosperity and the eradication of extreme poverty all ultimately depend.

There is growing consensus that it is both necessary and possible to achieve economic growth, reduce poverty and protect the environment at the same time. We must learn to work in a way that is better able to achieve these outcomes. We can't look at problems or solutions in isolation as they all affect each other. The UK is actively working at home and abroad to ensure that we deliver on this ambitious agenda in a more integrated way.

3. Key principles that guide our work on the environment

Our fresh approach is based on the following key principles:

- All UK aid interventions should be guided by the latest research and evidence on environmental impact, risk and opportunities. Environmental concerns are key to all development interventions and must be taken into account when planning investments and designing policies.
- Improving transparency and accountability, and zero tolerance of corruption are critical to protect the environment. Local people have the ultimate interest in protecting their basic environmental needs. Giving them knowledge and a voice in development will allow them to maintain their environment.
- Global challenges require global approaches. We will work actively through the international conventions to secure ambitious actions on global problems such as biodiversity loss and climate change.

We base this on an understanding that:

- Climate change is the most serious environmental challenge facing humanity, and we need urgent measures at scale to avoid dangerous global warming. The world's poorest countries cannot wait for a global deal and so we should help them to adapt to the impacts of climate change and to grow and prosper in a way that reduces or avoids climate emissions.
- Good management of the environment can underpin effective responses to climate change impacts (e.g. protecting forests both increases carbon storage and protects people against increased environmental threats arising as a result of climate change).
- The full value of the vital services that the environment provides must be taken into account when governments make policies, when firms make investment decisions, and when donors decide how to spend aid.
- Cleaner technology and innovation offer tremendous opportunities for poor countries to achieve growth and reduce poverty reduction while protecting the environment.
- The private sector has a critical role to play by making sustainable and responsible investments – and managing long-term supplies of raw materials in a sustainable way.
- Public investment, including aid, is crucial to finance research, knowledge-building and demonstrate the viability of new and innovative approaches, to support the poorest communities and countries to develop and implement policies conducive to the environment, and to leverage private investment.

4. What we are doing

In this section, we outline our fresh approach in several areas key to protection of the environment and provide specific examples of programmes which are helping developing countries to tackle these issues.

Key features of this fresh approach are to:

- Recognise the value of natural resources
- Support innovation and smarter use of technology
- Work to unleash the positive potential of the private sector
- Use knowledge and evidence to inform policies and approaches

Green growth and valuing natural resources

A green growth pathway must have innovation and entrepreneurship at its heart. For example, the spread of telecommunication services has led to stronger growth performance in Africa, whilst at the same time reducing the natural resources required to produce units of output. With green growth, governments and the private sector will have stronger incentives to invest in new, collaborative business models or service-based industries, or industries that extend non-renewable resources such as recycling. These could provide new employment opportunities for the poor. Countries could also build up their economic diversity, growing sectors that do not rely directly on depleting natural resources and thus building up their ability to respond to economic and environmental shocks that can damage growth.

We know that the economic value of the environment is huge – but also that it is often invisible.

The value of these services is often only appreciated once they have disappeared. They have been

treated as “free” goods and their value has not been reflected when decisions have been taken. This leads to problems like the collapse of the Newfoundland cod fishery in the early 1990s. No monetary value was placed on the fishery, resulting in insufficient efforts to prevent over-fishing. Tens of thousands of jobs were lost at a cost of at least US\$ 2 billion in income support and retraining.⁶

Changing the way governments value natural resources can help address this problem. The UK has supported **The Economics of Ecosystems and Biodiversity (TEEB)** initiative which is helping governments to calculate the economic value of environmental assets and assist them when making decisions that impact the environment. Following a TEEB assessment, the Indian government decided not to develop a floodplain on the Ganges as the value of services, including water filtration, animal food, fishing and recreation, were shown to outweigh the financial benefits of development. These services would have had to be found and paid for elsewhere if the floodplain had been lost.

Some of the services we get from the environment:

- The service that honeybees provide as pollinators for agriculture crops in the UK economy is estimated at £200 million a year. The retail value of what they pollinate was valued closer to £1 billion.⁷
- In American Samoa, mangroves, which cover less than 0.5 km², have an estimated total value of about US\$50 million a year and reefs have a total value of US\$318 million a year in flood protection, fish breeding grounds and tourism.⁸
- Forests and trees regularly contribute between 20-30% of rural household incomes, and are worth about US\$130 billion annually to the rural poor.⁹

⁶ Millennium Ecosystem Assessment Synthesis

⁷ The health of livestock and honeybees in England, National Audit Office, 4 March 2009

⁸ Spurgeon and Roxburgh, 2005

⁹ Shepherd, G. 2011. Livelihoods and Landscapes Strategy. IUCN

The UK is also supporting the **Wealth Accounting and Valuation of Ecosystem Services (WAVES)** programme, managed by the World Bank, which aims to improve the information available to decision makers to help them integrate the economic benefits provided by ecosystems into their national accounting systems. The expected results of this programme include:

- Natural capital accounting undertaken in at least five countries and incorporated into policy analysis and development planning;

- Internationally accepted and standardised guidelines developed for the implementation of ecosystem accounting;
- The promotion and widespread adoption of natural capital accounting beyond the pilot countries.

The UK has supported the **United Nations Poverty and Environment Initiative (UNPEI)** which aims to help governments integrate environmental considerations that affect the poor into core government policy and planning.

Case study:

In Rwanda research undertaken through the UNPEI discovered that wetland and forest degradation was causing a 167% rise in the per capita cost of electricity due to falling water levels in the lakes and hydropower reservoirs downstream from the Rugezi wetland.

The economic analysis showed that Rwanda was spending \$65,000 every day to cover the cost of diesel generators needed to meet electricity demand. The economic analysis also showed the detrimental cost of the wetland degradation on local communities' livelihoods. As a result of this study, the wetland has been restored to its former condition with the resulting benefits to electricity generation and local livelihoods.

Forests

Forests are the green lungs of the world, sucking in carbon dioxide and exhaling oxygen. They store a vast amount of the world's carbon and remove 2.4 billion tonnes of carbon from the atmosphere every year (equivalent to one third of annual emissions from burning fossil fuels¹⁰). Some 1.2 billion people depend on forests for their livelihoods. Forests contain more than half of all land-based plants and animals.

Forests also play a major role in regulating water flow – acting as giant sponges that store water when it rains and releasing it slowly when the weather is dry.

In Bangladesh, mangrove forests provide shelter for coastal fishermen and women and thus help save lives during hurricanes and sea surges.

The contribution of forests to health and energy in many countries is huge. For example, the Uganda Energy budget for 2011 was \$514 million,

while forests contributed three times as much in fuel wood. Uganda spends \$38 a head on health annually, while every rural Ugandan gets \$27 worth of protein, vitamins and minerals and \$7 worth of herbal medicine annually from forests.¹¹

Protecting forests is one of the most cost-effective ways of reducing CO₂ emissions. The United Nations helps developing countries implement policies and measures to protect and sustainably manage their forests in order to **Reduce Emissions from Deforestation and Forest Degradation (REDD+)**. The UK is supporting a range of REDD+ programmes:

- The UK, together with other development partners, supports the **Forest Investment Programme (FIP)** (one of the Climate Investment Funds) which will make investments needed to protect forests in Brazil, Mexico, the Democratic Republic of Congo, Burkina Faso, Ghana, Indonesia, Laos and Peru. Funding will be used to tackle forest fires, establish tree nurseries, plant trees in degraded pastures

¹⁰Pan et al. A Large and Persistent Carbon Sink in the World's Forest. Science. 14 July 2011

¹¹Cross-Country Forest Study. Gill Shepherd, IUCN/UNFF. May 2012.

and help farmers manage their woodlands more sustainably. The programme is expected to save millions of hectares of forests and increase the incomes of people dependent upon them.

- The **Forests Governance, Markets and Climate programme** will build a global partnership of developed and developing countries, businesses and civil society to reduce illegal logging and deforestation. Over the next ten years, this global partnership will protect 39 million hectares of forest, avoiding billions of tonnes of carbon (CO₂e) emissions, protecting the livelihoods of tens of millions of forest dependent communities and

increasing the incomes of 50 million men, women and children reliant on farming.

- The World Bank **Forest Carbon Partnership Facility** is helping 37 countries to put in place the plans, systems and institutions they need to reduce emissions from deforestation. For example, in Ethiopia, the Facility has helped to build consensus amongst forest communities, Government and farmers who had conflicting views on the best way of managing forests more sustainably. This resulted in the Government agreeing on the importance of putting local communities at the centre of this effort.



Sven Torfinn/Panos

Case study:

The UK is funding the **Forest Footprint Disclosure Initiative** which supports voluntary disclosure by companies of how they are reducing the impact of their investments on forests. 74 financial investors currently endorse the forest disclosure request letter that the initiative issues to companies annually. These institutions collectively manage about \$7 trillion of financial assets and are actual or potential shareholders which creates an incentive for companies to comply.

Last year, 87 companies that invest in commodities such as soy, timber, cattle products, palm oil and biofuels detailed how they would reduce their

deforestation footprint. For example, British Airways introduced measures to help its business ensure the paper it uses in its printers, the beef, soy and palm oil it uses in its catering and the leather it uses in shoes, belts and bags are from sources that do not damage natural forests. Other companies profiled as taking similar actions in the Forest Footprint's annual disclosure review 2011 include Nike Inc, J. Sainsbury plc and Marks & Spencer plc. The initiative enables investors to identify the sustainable businesses of the future – and creates a strong financial incentive for companies to show their potential investors that they are taking the necessary action to protect the forests on which their businesses depend.

www.forestdisclosure.com

Biodiversity

Biodiversity is the number and variety of living things. It is a good indication of the health of ecosystems. We depend on the diversity of plants, animals and insects for many of the things we use everyday, particularly food and medicine. Many medicines are based on plants and billions of people globally depend on the food pollinated by insects. All life depends on other species, the fewer species that exist, the less adaptable we are, and the more vulnerable we become to shocks and other changes. Biodiversity is also vital in making sure ecosystem services, such as water and air purification, continue to function.

The UK has supported the **Darwin Initiative**, led by Defra, to deliver projects that manage biodiversity in a way that benefits the poor. Darwin Initiative projects aim to strengthen the role that biodiversity plays in safety nets for the poor, encouraging sustainable use and focusing on the economic benefits to local communities. For example, work is underway in eastern India to ensure that local farming systems protect native pollinator plants in a way that also benefits the local communities. In Ethiopia, new ways of involving local people in managing the forests are enabling poor communities to protect the wild coffee forests while using them sustainably for their needs.

The UK is a major contributor to the **Global Environment Facility (GEF)** which unites 182 countries in partnership with international institutions, civil society organisations and the private sector to address global environmental issues while supporting national sustainable development initiatives. Today the GEF is the largest public funder of projects to improve the global environment.

The GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and pollution. Since it was founded in 1991, the GEF has invested \$9.2 billion in grants, and leveraged \$40 billion in co-financing providing an excellent

example of public-private financing. This is helping developing countries address their sustainable development objectives.

For example, the GEF-funded biodiversity work in Columbia has helped local organisations reintroduce native species, establish biodiversity corridors, and develop water supply and distribution schemes as central components of water conservation strategies. This has strengthened the species base in the area, improving the long term resilience of the ecosystems and people to changes and problems. The water supply schemes have improved reliable access to clean water which supports healthy communities.

Water security

Water is essential for life. Historically societies have developed close to sources of fresh water. Building prosperity depends on managing water well; harnessing it as an input to productive activities, such as agriculture, industry, energy and transport as well as for drinking and sanitation, whilst limiting its destructive potential through floods, droughts, land-slides and erosion.

For many people in developing countries droughts and floods are ever present risks. The 2010 floods in Pakistan affected 21 million people, caused losses and damages of US\$10 billion and reversed GDP growth. Drought in the Horn of Africa has affected over 12 million people in 2011/12.

Water scarcity and pressure upon water resources is increasing as a result of population growth, increased consumption patterns, urbanisation and climate change. These pressures mean that by 2025 two-thirds of the world's population could be unable to access the water they need¹². Some 40% of the world's populations live in river basins that straddle more than one country so trans-boundary water management is an important challenge – and a focus for the UK.

The strength of political, legal and economic institutions largely determines a country's ability to manage water resources effectively. The UK works with a range of partners – from global to local level – supporting efforts to improve water security through improved data and evidence, strengthening institutions and increasing public and private investment in water resources management.

Tackling water insecurity typically delivers multiple benefits. Improving water resource management

through water storage facilities increases the potential for irrigation to increase crop productivity, for energy production through hydro-electric power and for balancing downstream flows to maintain ecosystems, prevent flooding and increase climate resilience.

The UK works to promote water security across its development programme.

Examples of UK support include:

- The **Nile Basin Initiative** which promotes co-operation between nine member states and contributes towards improvements in the lives and well-being of the 232 million people living within the Nile catchment area. Less than 10% of Nile Basin residents have access to electricity and under-investment in water resources infrastructure is a major barrier to reducing poverty. By promoting co-operation and capturing shared benefits, the initiative has already leveraged investment of US\$1 billion in hydropower generation, transmission and trade and plans to leverage a further US\$5 billion through pipeline investments.
- Bangladesh is amongst the most vulnerable countries to climate change. The **CHARS programme** is helping to develop climate resilience through improved water security, including support for 84,000 households to protect their homes from flooding. It is expected to benefit 340,000 people by 2016.
- UK support for the **Southern Africa Development Community's programme on trans-boundary rivers** will indirectly benefit up to 95 million people through improved water resources management. The results will be nine million people benefiting directly from flood protection and some 3.5 million from improved water services.

¹²UN World Water Development Report – Managing Water under Uncertainty and Risk 2012

¹³What are the projected impacts of climate change on food crop productivity in Africa and S Asia? DFID Systematic Review J.W. Knox, T.M. Hess, A. Daccache and M. Perez Ortola 12th April 2011

Ensuring poor people have sufficient food

Nearly a billion people will go to bed hungry tonight, and many more are at risk of hunger and poor nutrition. It is predicted that the world will need to produce 70% more food than it does presently to feed nine billion by 2050. Population growth and changes in consumption are putting increased pressure on the world's resources that sustain food production. The expansion of agriculture onto forest lands has also contributed to the loss of forests and biodiversity, and poor practices have led to soil erosion and land degradation. Agriculture globally directly accounts for 14% of carbon emissions – or 31% if the indirect impacts via deforestation and land use changes are included. Irrigation uses 70% of the world's increasingly scarce world's freshwater.

The poorest people are dependent on agriculture for their livelihoods, and are the most vulnerable to stresses and sudden shocks. Smallholder farmers and their communities are already at risk from existing climate variability. Climate change is expected to increase the risks of droughts and floods, and to decrease crop yields and increase hunger. By 2050, global yields may be about 7% less than they would have been without climate change¹³, and for some regions yields could be 20% lower by 2030. This could in turn result in 25 million more children being malnourished.

The UK is responding to these human and

Anne Wangaalachi/CIMMYT



environmental challenges by increasing its support to smallholder farmers with investments in climate smart agriculture (CSA) programmes that:

1. Support the livelihoods of smallholder farmers and build prosperity
2. Produce the food farmers and consumers need
3. Improve people's nutrition – especially that of women and children
4. Help farmers adapt to existing and future climate risks
5. Sustain the health of the land and increase its productivity
6. Avoid the loss of forests and biodiversity
7. Store carbon in the soil and reduce emissions of greenhouse-gas from agriculture.

These investments are underpinned by long term funding in agriculture research.

Examples of UK support include:

- UK-funded research has supported the development of drought tolerant maize by the **International Maize and Wheat Improvement Centre**. This research has enabled more than two million smallholder farmers in sub-Saharan Africa to grow the new varieties, resulting in improved harvests worth about £100 - 130 million per year.
- The UK has also supported research by the **World Agroforestry Centre**, which has been used in sub-Saharan Africa. In Zambia, 160,000 farmers are using conservation farming and

agroforestry practices to increase their crop yields and restore the health of their soils. In West Africa, about eight million hectares of land are using agroforestry systems to help re-green the Sahel whilst increasing millet and sorghum yields by up to five times.

- The UK is building on these successes by developing new agriculture programmes. The regional **Climate Resilient Agriculture in Africa** programme will support two million farmers and by 2020 is expected to have helped reduce the number of people short of food in southern Africa by five million and reduce malnutrition in children by 50%.

The environment and human health

It is not only livelihoods and income that depend on a strong natural resource base, our health does as well. Human wellbeing and disease are directly linked to our surroundings. The World Health Organisation estimates that environmental factors contribute to more than 80% of all diseases reported globally. Nearly 25% of all deaths globally are estimated to be attributable to the environmental factors, rising to 33% in children¹⁴.

Disease caused by environmental factors disproportionately affects poor people. The infant death rate from environmental causes is 12 times higher in developing than in developed countries, reflecting the human health gain that could be achieved by supporting healthy environments¹⁵. Exposure to smoke from traditional cookstoves and open fires – the primary means of cooking and heating for nearly three billion people in the developing world

– causes two million premature deaths annually¹⁶. Recent developments in the production of solar energy panels¹⁷ and more efficient cook-stoves¹⁸ have the potential to bring electricity to some of the 1.3 billion people who don't have access to electricity today and help reduce these health problems.

The UK's support to the Global Alliance for Clean Cookstoves will contribute to their target to catalyse a global market for clean cookstoves that will see 100 million homes adopt clean and efficient cooking stoves and fuels by 2020. Our active engagement will help influence the partnership and encourage a solid, evidence-based approach. Specifically, our contribution will trigger an initial package of priority research on: the business models, social marketing and consumer finance that could deliver clean stoves at scale; and a step change in the understanding of the health (indoor air pollution) and climate change impacts of clean cookstoves.

Example of UK support

In Madhya Pradesh (one of the poorest states in India), families mainly depend on wood as fuel for cooking. Women walk hours daily to fetch wood and buy what they can't carry. As the surrounding forests become depleted, women travel further and further each day. A UK funded project has installed a biogas generator that uses local animal waste to help communities use local resources in more sustainable ways. Now local women burn clean fuel that doesn't pollute the air, damage the forests or harm their health and the health of their children.



DFID

^{14,15} How Much Global Ill Health Is Attributable to Environmental Factors? Kirk R. Smith,¹ Carlos F. Corvalán², and Tord Kjellström

¹⁶<http://cleancookstoves.org/overview/issue/>

¹⁷A report quoted in the New Scientist (February, 2012) notes that production costs of solar panels in India came down by 50% in 2011, and are now 25% of what they used to be in 2008.

¹⁸<http://cleancookstoves.org/overview/issue/>

Humanitarian interventions and disaster risk reduction

The urgency of saving lives in humanitarian emergencies can mean that environmental considerations are not taken into account and lead to unnecessary environmental pressures. This can add to the plight of those already suffering from conflicts or disasters; the very same people the humanitarian intervention seeks to help.

The UK recognises the need to integrate climate and environmental concerns and longer term thinking into our humanitarian interventions. We are developing indicators to measure the environmental impact of these interventions which will help to better inform our future humanitarian responses.

The UK's disaster risk reduction programmes are increasing the resilience of local people to natural disasters, both to help prevent disasters from happening and to strengthen peoples' ability to cope when they do happen. People, particularly in low-income urban areas, are made even more vulnerable to climate change and hazards by factors such as climate change, overcrowded living conditions, the lack of adequate infrastructure and services and unsafe housing. These conditions can easily turn a natural hazard into a disaster, with impacts including the loss of basic environmental and other services, damage or destruction of homes, reduction or loss of livelihoods, the rapid spread of water- and vector-borne diseases, disability, and loss of life.

Examples of UK support:

In Rwanda, the UK is supporting the **Government's Vision 2020 Umurenge Programme** which makes direct cash transfers to households, provides employment for poor households with an able-bodied member through public works programmes, and provides access to subsidised credit. The public works projects aim to reduce exposure and sensitivity to natural disasters – for example improving soil productivity and increasing the amount of land that can be cultivated.

In Pakistan, the UK is supporting the **mainstreaming of disaster risk reduction in school recovery programmes** by the Health and Nutrition Development Society, Save the Children and other organisations. This includes developing safety plans in schools, direct work with communities on awareness and training for how to respond to disasters. Other support includes helping farmers plant seeds resilient to flooding, mapping community vulnerabilities and providing flood-resistant seed storage so that communities can maintain food self-sufficiency.

5. Who we work with

The UK works with a wide variety of partners, including partner country governments, multilateral organisations such as the UN, multilateral development banks and the European Commission, civil society, community based organisations and think tanks, and the private sector. These partnerships enable us to share our experiences, get the best value for money for our investments and encourage others to improve their performance.

Working with partner governments

In the countries in which the UK has bilateral aid programmes, DFID's offices engage in dialogue with their host governments on a wide range of environment and climate issues. This helps to ensure that UK aid supports our partners' own efforts to achieve environmental objectives. Many of the examples in this paper are the result of the strong partnerships built between partner governments and DFID country offices.

Working with poor communities and the organisations that support them

The UK understands that poor communities are often the best judge of what is needed and what will work to help them lift themselves out of poverty and to protect natural resources they depend on for food, fuel and water. Civil society and community based organisations play a key role working with disadvantaged groups and in remote or neglected areas.

The UK works with organisations such as non-governmental organisations (NGOs), think tanks, trade unions, faith and diaspora groups, social movements and community groups to address environment and climate challenges.

For example, the UK is supporting the **Rights and Resources Initiative** which is helping forest-dependent communities, governments and businesses clarify forest rights and improve the access of communities to more secure tenure and markets. It has helped 13 countries, including Nigeria, Burundi, Democratic Republic of Congo, Central

African Republic, Liberia, Gabon, Mali, Rwanda, Burkina Faso and Cameroon, to change their laws formalising access to trees on farms and in forests.

The UK is working with three internationally renowned British **Think Tanks** to generate and disseminate knowledge on specific climate and the environment issues: the Overseas Development Institute (ODI), the International Institute for Environment and Development (IIED) and the Institute of Development Studies (IDS). This research includes: improving the impact of climate finance delivered by donor institutions and its use by national governments, supporting stronger enabling environments for inclusive green growth, improving urban resilience and natural resources management, and improving knowledge, evidence and mechanisms for climate adaptation in the most climate challenged countries.

Our engagement with multilateral organisations

The UK is providing significant support for environmental protection through major international climate funds. These multilateral funds include:

The **Climate Investment Funds (CIF)** which support at least 45 developing countries to implement large scale investments. Funding is delivered through multilateral development banks, such as the African Development Bank, Asian Development Bank and the World Bank. Examples of CIF programmes include:

- In Bangladesh, the **Pilot Programme for Climate Resilience** is helping to provide storm and cyclone proof housing, emergency shelters, coastal defences and improved water and food security in 12 vulnerable coastal communities, potentially benefitting over one million people.



Abbie Traylor-Smith/Panos

- In Vietnam, the **Clean Technology Fund** is helping reduce national energy consumption by 5% to 8%, develop an urban public transport system, and dramatically scale up use of biomass, hydropower and wind power.
- The **Scaling-Up Renewable Energy Programme** is supporting energy sector transformation, creating economic opportunity, and increasing clean energy access in six low income countries. Approved investment plans to date are expected to provide over two million people with energy access and stimulate installation of around 750 megawatts (MW) of renewable energy (both grid and off-grid).

The UK is drawing on our experience of working with multilateral organisations to play a leading role in the design of **Green Climate Fund**, a major new international fund to support developing countries in tackling climate change.

Our partnership with the private sector

Private sector engagement in tackling climate and environmental change is critical for several reasons:

- The public sector has insufficient resources to tackle climate and environmental change alone. The International Energy Agency estimates that the total investment required by 2030 to reduce emissions by 50% by 2050 is around \$750 billion per year¹⁹. Only the private sector can deliver this kind of volume of finance. The UK is therefore

using public finance strategically where it can best mobilise private finance.

- The private sector can bring innovative ideas and solutions to problems, whether low energy lighting technology or new agricultural methods. They may be more efficient, both in terms of cost and speed, in delivering change.
- Many goods and services are delivered only by the private sector so they need to adapt. For example, the construction industry may need to revise the way it builds houses. Passing regulations is not enough in countries where compliance is generally poor. Reductions in the use of ozone destructive chemicals and lead in petrol were achieved in close cooperation with the private sector.
- Climate and environmental change is a key risk to the private sector. Many large international businesses have realised the need to make changes in their business methods and supply chains, building sustainability into their business. If they do not manage these risks, firms in developing countries may find that their supplies dwindle and their business fails. Business failure will set back the achievement of development goals. For example, the UK is working with coffee and tea farmers in East Africa to adapt their business models as well as looking at supporting insurance products to cover businesses in natural disasters.

We will be deepening our partnerships with the private sector and consulting them on the problems they encounter doing business in developing countries and on our proposed programmes to address these.

Examples of UK support include:

The Climate Public Private Partnership (CP3) aims to demonstrate that investments in climate friendly projects are not just ethically responsible but give good financial returns. The UK is the key investor in two funds set up by professional private equity fund managers which will raise money from the public and private sectors. The funds will invest in renewable energy, energy efficiency, clean technology, forestry and resources. The expected results of this initiative are that more than 7,000 megawatts (MW) of clean, reliable energy

is generated – equivalent to 66% of the current UK renewable energy capacity – and 40,000 jobs created. In total, the initiative should avoid at least 265 million tonnes of CO₂ over the lifetime of the projects – the same amount of energy as 66 million European cars emit in a typical year.

The **Asia Solar Guarantee** aims to catalyse the expansion of the small-scale solar industry in India by supporting a guarantee mechanism for bank loans. It is expected that this programme will result in the mobilisation of an estimated £265 million private sector investment, corresponding

¹⁹International Energy Agency Energy Technology Perspectives Part 2 2010

to approximately 130 MW of solar power capacity and 4.9 million tonnes of CO₂ equivalent avoided over 25 years.

Results Based Financing Initiative (RBF):

Through an RBF Energy initiative in sub-Saharan Africa, businesses will be able to bid for top-up subsidies to supply energy for the poor, such as solar lanterns, cook-stoves, and bio-gas. This programme is expected to result in improved energy access for at least 2.5 million people, through at least 50 enterprises, avoiding 900,000 tonnes of CO₂ equivalent. The programme will support microfinance institutions to become familiar with low carbon lending and with local businesses so that the supply of the products remains financially viable after the project concludes.

Renewable Energy and Adaptation to Climate Technologies (REACT):

The UK uses challenge funds to stimulate business ideas and development. REACT is an East Africa based fund that provides grants or reimbursable loans for business ideas that help communities to cope with climate change and increase access to low cost clean energy. By 2015, it is estimated that this programme will have helped to deliver clean energy or technologies to 200,000 households and 50,000 small to medium enterprises and that 200,000 small scale farmers will be using climate resilient products and services, with 700,000 tonnes of CO₂ equivalent avoided – the same as boiling 11.7 billion full kettles.

Working through the international conventions

The UK Government seeks to advance international dialogue on climate change and environmental protection through the international climate conventions, including the United Nations Framework Convention on Climate Change, the United Nations

Conference on Sustainable Development, and the Convention on Biological Diversity.

The UK remains at the forefront of the international effort to agree a global climate deal by 2015, which is essential if the world is to achieve the goal of limiting the global rise in temperature to two degrees and hence avoid potentially dangerous climate change.

Rio+20 Meeting, 20-22 June 2012

This United Nations Sustainable Development conference is being held 20 years after the original Earth Summit that resulted in the Climate Change and Biodiversity Conventions. The UK strongly supports a positive outcome at Rio and we are working hard to achieve results in the following areas:

- Achieve political commitment on green growth in the final declaration to make it clear that sustainable growth requires efficient use of natural resources, reduction of carbon emissions, and eradication of poverty.
- Reach agreement on developing a tightly focussed set of Sustainable Development Goals (SDGs) to

guide and galvanise international and domestic efforts on major sustainability issues.

- Value natural resources more appropriately by building environmental valuations into national accounting and reporting practices of governments and businesses.
- Action in key sectors of agriculture, water and energy; setting out steps to tackle food security, water security and to provide access to sustainable energy.

Advancing cross-sector partnerships and private-sector led initiatives, such as efforts to improve and increase transparent sustainability reporting.

6. Basing what we do on knowledge and evidence

It is essential that climate and environmental policies and investments are based on the highest quality knowledge and evidence. The UK uses research and evaluation to contribute to more effective and efficient delivery of results from its policy and programming work and globally.

Research, knowledge and evidence – getting it where it is needed

We support research that aims to confirm what works and what doesn't work for the poor in terms of responding to climate and environment change including identifying the best climate change adaptation measures for dry-land agriculture.

We support research to test the effectiveness of policies that will help scale up climate and environment interventions. These include which policy incentives will better ensure that markets for environmental services (e.g. carbon markets) also benefit the poor.

We support innovation where there are significant opportunities. For instance, the use of improved cookstoves by girls and women, and development of better low carbon energy technologies for the poor.

Evaluation

Delivering and maximising results and value for money requires the development of robust systems to facilitate the tracking and monitoring of delivery against expected results and targets; and rigorous evaluation efforts to build a strong evidence base on which interventions work, which do not and why for decision-making at the policy, portfolio and project level. This is particularly important given the limited focus to date on assessing the environmental and developmental effectiveness of interventions designed to deal with the causes and consequences of climate change.

The UK is developing a comprehensive monitoring and evaluation framework to guide our programmes. We will engage with others to share lessons and experiences and strengthen our respective approaches.

Examples of UK support include:

- **Ecosystem Services for Poverty**

Alleviation: This research programme will provide knowledge and tools to address the rapid deterioration in ecosystem services (i.e. the goods and services that the environment provides) in a way that also benefits the poor. It is working to improve understanding, valuation and management of ecosystem services, such as water conservation and carbon capture and storage, and how to improve the resilience of the poor to shocks and stresses. For example, on Kenya's coast, a project called Swahili Seas – co-led by a top Kenyan ecologist – has struck a deal to sell carbon storage from conserved and restored mangrove forests. As the first 'carbon credit' project for mangroves, the project taps a

new source of funding for community-based conservation and will provide a stream of financial benefits to communities as well as providing a model for replication in other mangrove systems worldwide.

- **Climate Development Knowledge**

Network (CDKN): To assist decision makers in developing countries to design and deliver climate and environmental policies and programmes, they need access to the best available information, research and advice, such as climate impacts data and cost benefit analysis of adaptation approaches. The CDKN is a five year initiative that aims to support 30 developing countries to build their knowledge and capacity. For example, CDKN is supporting the Government of Kenya to implement its National Climate Change Response Strategy.

DFID: Becoming a climate SMART organisation

DFID is committed to integrating climate and environment concerns into all of its development aid.

All UK aid programmes over £400 are subject to a **Climate and Environment Assessment (CEA)**, which aims to ensure that potential environmental impacts are understood and that programmes are designed in an environmentally sensitive way. These assessments are monitored throughout the life-span of programmes.

DFID has significantly increased the number of its accredited professional Climate and Environment Advisers. There are now 70 advisers in DFID's country offices and in the UK. They ensure climate

change and environmental concerns are integrated into all UK aid programmes, design and monitor climate and environment programmes, and offer policy, strategic, technical and practical advice to partners around the world.

Together, the CEA process and our increased technical advisory capacity is helping DFID identify and design a number of interventions in a way that more proactively incorporates climate and environment risks and opportunities.

The UK is sharing its experience with our bilateral and multilateral partners and through the OECD-Development Assistance Committee. We are encouraging others to take more account of the environment in their aid programmes – and to learn from them so we can continuously improve our performance.



Mark Henley/Panos

7. Conclusion

We have set out our new approach to supporting developing countries with their sustainable development goals. We have provided examples of the initiatives and actions that we are undertaking that will contribute towards delivering a healthy environment within which economic growth can be achieved and sustained.

As well as building on approaches that we know to be successful, we will ensure that we learn as we go along, and energetically explore new opportunities. We will look hard at the evidence and the effectiveness of what we and others are doing. We will constantly ask ourselves and others how we can achieve better results and value for money for poor men, women and children.

Further information

Many of the programmes mentioned in this publication are financed by the **International Climate Fund (ICF)**. This £2.9 billion fund was established by the Coalition Government to help developing countries tackle climate change and its impact. The ICF is focussing on:

- Helping the poorest people adapt to the effects of climate change on their lives and livelihoods
- Helping poor countries develop in ways that avoid or reduce harmful greenhouse gas emissions and enabling millions of poor people to benefit from clean energy
- Protecting the world's forests and the livelihoods of the 1.2 billion

For further information about the **ICF** visit:
www.dfid.gov.uk/What-we-do/Key-Issues/Climate-and-environment/

For more information on the UK Government's **Bilateral Aid and Multilateral Aid Reviews**, visit:
www.dfid.gov.uk/barmar

For more information on the **Humanitarian and Emergency Response Review**, visit:
www.dfid.gov.uk/What-we-do/Key-Issues/Humanitarian-disasters-and-emergencies/How-we-respond/Humanitarian-Emergency-Response-Review/

For more information on DFID's approach to **working with the private sector**, please visit:
www.dfid.gov.uk/What-we-do/Who-we-work-with/Business-and-the-private-sector

For more information on DFID's **support to research and evidence**, visit www.dfid.gov.uk/R4D/

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