



# OUR PLANET

The magazine of the United Nations Environment Programme - September 2008



## LIVING LEGACY

The future of forests

# OUR PLANET

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To view current and past issues of this publication online, please visit [www.unep.org/ourplanet](http://www.unep.org/ourplanet)

ISSN 101 - 7394

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**Produced by:** UNEP Division of Communications and Public Information  
**Printed by:** Phoenix Design Aid  
**Distributed by:** SMI Books

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\* All dollar (\$) amounts refer to US dollars.

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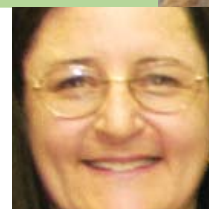
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# reflections

by Achim Steiner,  
UN Under-Secretary-General and  
Executive Director, UNEP

How might the world deal with the multiple challenges of poverty, biodiversity loss, land degradation, conservation of water supplies and climate change? Part of the solution may lie in building new financial arrangements — or perhaps even carbon market mechanisms — that address deforestation and the degradation of forest ecosystems.

The idea is not new. It was proposed and then abandoned, amidst fiercely differing opinions, when the Kyoto Protocol was agreed over a decade ago. But it has gained a head of steam since 2005 when countries and non-governmental organizations meeting in Montreal put aside their differences to give it a fair hearing. It could now become a central plank of a new, and more inclusive, climate deal when nations meet for crucial negotiations in Copenhagen in late 2009.

This change of heart is partly a measure of the magnitude of the challenge now facing the world: felling forests may cause around a fifth of global greenhouse gas emissions. It also reflects a sense that the science and the mechanisms needed to make improved forest financing or forest carbon markets work are within our grasp. And former sceptics have now recognized the many benefits that may arise.

There is now an urgent need to demonstrate in practical terms — via pilot projects on the ground — that a workable, international regime on Reducing Emissions from Deforestation and Forest Degradation (REDD) can rapidly be brought forward. This must have safeguards covering such aspects as managing payments to developing countries, insurance for REDD projects that prove less than optimal, and the interests of indigenous peoples and local communities who must benefit from the wider ecosystem services that forests generate.

UNEP, in collaboration with the UN Development Programme and the UN's Food and Agriculture Organization, has joined forces to quick-start such pilot projects with funding from governments such as Norway, as well as partner philanthropic organisations. The partnership — in support of the UN climate change convention and the current negotiations under the Bali Road Map en route to Copenhagen — is also working closely with the World Bank (especially the Forest Carbon Partnership Facility); the Global Environment Facility and donor governments, such as Australia and the UK. With just 14 months to the Copenhagen meeting, it is vital that these projects and plans both dovetail and play to their various strengths and areas of expertise.

The UNEP/UNDP/FAO collaborative programme on REDD is focussing on two main streams: working with a handful of pilot developing countries



to build the capacity and ability to develop and implement national REDD programmes, including payments systems; and international convening and support of REDD initiatives to promote coordination and coherence on key technical and operational REDD issues, such as monitoring and verification. The collaborative programme will also be working to feed successful experiences into the climate discussions with the UNFCCC Secretariat in time for a post-2012 climate deal.

There are big potential benefits in raising much-needed revenues for developing countries, by making conserving and managing tropical forests worth far more than felling them. Indonesia, for example, is estimated to be able earn \$1 billion annually — at a carbon price of just \$10 a tonne — if it cuts its deforestation to one million hectares a year.

Several outstanding issues remain, not least ensuring that all countries benefit that have the potential to do so. Nations such as the Democratic Republic of the Congo (DRC) need assistance in strengthening basic environmental laws so they can participate in potential REDD projects and manage the environmental impact of the big investments flowing into harvesting nature-based assets. Within the broader REDD programme launched in DRC and the Congo Basin, UNEP has launched a project to support the DRC's efforts to put in place environmental legislation, and similar initiatives may be needed in other countries.

This is a defining moment for the international community, including the United Nations. We have the chance to bring intelligent market-based and other financing mechanisms to bear on some of the most pressing and intractable issues of our generation. If we can help to deliver a workable and practical framework for REDD we may achieve more in eradicating poverty, conserving biodiversity and advancing the wider sustainability agenda than we have managed with traditional approaches in the past. It would also build confidence towards reaching an agreement in Copenhagen.

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paper, using vegetable-based inks and other  
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aims to reduce UNEP's carbon footprint.

Cover photo © JIM ZUCKERMAN/ Corbis. Forests cover about a third of our planet's land area. They are an essential habitat for some of Earth's richest biodiversity, and absorb massive amounts of carbon dioxide. Yet deforestation is continuing apace, accounting for 20 per cent of global greenhouse gas emissions. With forests becoming a key area in international negotiations on climate change, this issue looks at the innovative ways we can sustain and develop these ecosystems.



# five challenges

by Carlos Minc

The threat of deforestation is one of the greatest problems facing Brazil. About sixty per cent of its land, across six different biomes, is covered by forests. And society is increasingly recognising their value, whether it be for the biodiversity they contain, the social functions they provide, the goods they can generate to meet peoples' needs, or the invaluable environmental services, such as regulating the climate, that they bestow upon humanity.

The first, and main challenge confronting the country is to continue trying to achieve a consistent and permanent reduction in deforestation in all six biomes and especially in Amazonia. Since President Luiz Inácio Lula da Silva's government began, the rate of deforestation in the Amazon has fallen by a total of 59 per cent. As a result the country has avoided emitting more than 500 million tons of carbon dioxide to the atmosphere over this period, equivalent to 14 per cent of all the reductions that developed countries have to make by 2012. Nevertheless, deforestation has returned to an increasing trend since mid 2007. This demands more rigid measures from the government.

Reducing deforestation and thus reducing CO<sub>2</sub> emissions is one of the most important contributions Brazil can make to mitigating climate change. This challenge will gain even greater impetus late this year with the establishment of the Amazon Fund, a voluntary investment fund to combat deforestation and promote the sustainable use of forests, which will be

based on resources provided by countries, businesses and institutions proportionally to emission reductions. The initiative has developed the concept of giving positive incentives for cutting emissions from deforestation, using the Amazon as an example. The Norwegian Government has already declared its intention to make the first significant donation and we hope to attract additional resources to conserve the Amazon and demonstrate the viability of the positive incentives mechanism presented by Brazil at the meetings of the United Nations Framework Convention on Climate Change

The second challenge is to plant a million hectares of forest a year by 2011. This target takes into account not just the known demand for traditional forest products, but considers the future potential for new kinds of products with added value. Between 2003 and 2007 the annual area planted grew from 320 to 630 thousand hectares and the share of small producers grew from 8 per cent to 25 per cent of those who planted forests: the aim is to achieve 30 per cent in 2011.

The third challenge is to increase the area of natural forest under sustainable forest management from 3.5 million to 15 million hectares, and the best bet seems to be forest concessions — arising from the Public Forests Management Act, sanctioned in March 2006 — and community forest management.



The first forest concession will be in the National Forest of Jamari, in Rondonia, where 90,000 (or nearly 40 per cent) of its 220,000 hectares will be managed. The definition of concessionaires is done through a public auction, which involves social and environmental criteria as well as an obligation to pay for the use of the forest resources. The Union will earn money from the use of its natural resources, which will be spent on monitoring, inspecting and regulating forestry and in supporting sustainable forest activities.

Through sustainable management, the forest generates its own conservation. It is the very opposite from deforestation, where the forest is totally cut down so that the land can be put to another use. Through sustainable management products are only taken from the forest when they will not endanger its biodiversity, structure and functionality. This fundamentally conservationist strategy allows many other products besides wood to be exploited, such as fruits, seeds, resins, oils, and services, etc. We need to offer the option of buying wood that is certified and labelled as green, a measure that will help fight illegal logging.

Climate change and the demand for new forest products make up the final two challenges. Climate change is a reality, and it is fundamentally important to know its dynamics if Brazil wants both to preserve its forests and to make a sustainable use of them. Brazilian research indicates that

increasing temperatures in the Amazon region — which are predicted to rise by two to three degrees by 2050 — and the resulting reduction in rainfall, could turn 30 to 60 per cent of the forest into savannah, affecting biodiversity, human health, and the availability of such natural resources as water.

One of the highlights of the new forest products is the prospect of getting energy from forest biomass. Second generation biofuels come from the forests, as well as from agriculture. The potential demand for them represents an amazing opportunity for Brazilian forests, justifying more investment and in-depth knowledge of their dynamics.

We do understand that — if we are to preserve not just the Amazon but other important Brazilian biomes, like the Atlantic Forest and Cerrado — we need to innovate and implement creative measures that are not limited to mere command and control. We need, first, to embody the chain of production in sustainable development initiatives and to promote measures that — allied to preservation efforts — give economic options for people, mainly small farmers and land owners, to encourage them to keep our forests standing. If we do this, we will meet a great challenge, for the sake both of environmentalists and of the preservation of the planet itself. <sup>UNEP</sup>

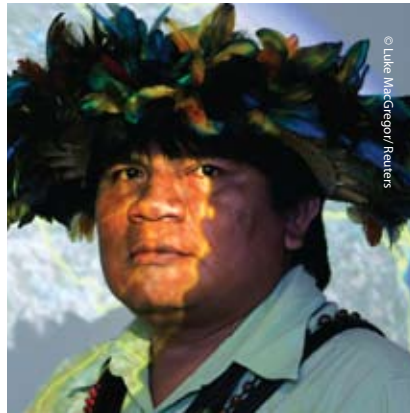
# people

Basketball megastar **YAO MING**, one of the world's most famous athletes, with a fan base of millions, has been appointed UNEP's first-ever Environmental Champion. The five-time NBA All Star has played center for the Houston Rockets since 2002, and has played on the Chinese National Team since the age of 18. With a height of 2.29m (7'6"), he is among the tallest in the NBA. At the Beijing Olympic Games, Yao Ming carried the Olympic Torch into Tiananmen Square and was his country's flag-bearer at the Opening Ceremony. But it is not just Yao Ming's athletic skills and iconic status in China that stand out. He has always been outspoken on the causes he cares about



strongly: from disadvantaged youths to HIV/AIDS. In 2006 he pledged to give up eating shark's fin soup — a popular dish in China — as part of a campaign to protect endangered sharks. In his role as UNEP's first environmental champion he will work with governments, the private sector and the public to promote the intelligent management of the environment. "As a sportsman, I believe sport has a major role to play in promoting environmental issues so I will work with young people across the world and try to inspire them to plant trees, use energy efficient light bulbs, harvest rain water and to become environmental champions in their own communities," Yao said when the news was announced.

In 2007, Amazon **CHIEF ALMIR SURUI** looked up his patch of Amazon rainforest on Google Earth and saw evidence of deforestation. He decided it was time to "put down the



bow and arrow and pick up the laptop" and asked Google to provide high-quality satellite imagery so the tribe could monitor illegal loggers on its 600,000-acre reserve and raise global awareness about the destruction of the Amazon. A partnership was born, and Google is now developing more precise satellite images of the area, and training the tribe on surfing the Web and using map data. Chief Surui's ambition is for his tribe to use computers with satellite Internet connections and high-resolution images from Google Earth to police all corners of their reservation. They can then prove to authorities that destruction is occurring and demand action, or deter loggers and miners because they will know they are being monitored. Last year, Google Earth also joined forces with UNEP to highlight before-and-after images of environmental destruction.

**PENNY WONG's** appointment as Australia's Minister for Climate Change and Water started with a bang when she accompanied Prime Minister Kevin Rudd to Bali for the international climate change talks in December 2007.



During that meeting, Rudd famously ratified the Kyoto Protocol. As the country's first-ever Minister for Climate Change, Ms Wong has the task of gearing her country to act on climate change. The issue is a crucial in Australia, now into the seventh year of its 'Big Dry'. So far, the ride has not been entirely smooth, with criticism from the opposition, industry and environmentalists as Mr. Rudd's government tries to balance cutting emissions and protecting Australia's competitiveness. But Ms Wong says the Federal Government remains committed to a 2010 start-up date for the proposed Australian Emissions Trading Scheme as the primary mechanism for achieving a long term emissions reduction goal.

Environmental organizations are known for their provocative campaigns, but not many of them feature world-famous actors. The latest television campaign by Conservation International casts **HARRISON FORD** in an uncomfortable role: he has his chest waxed on camera in order to make the point that



'Every bit of rainforest that gets ripped out over there really hurts us over here'. The move may seem surprising coming from the man best known for his whip-cracking antics as Indiana Jones and his starring roles in dozens of other popular films over his four-decade career. Yet Harrison Ford is also a staunch environmentalist who has been involved with Conservation International for more than 15 years and is now the Vice Chair of CI's Board of Directors. He has been widely recognized

for his environmental work — recent recognition includes the World Ecology Award from the International Center for Tropical Ecology and the Global Environmental Citizen Award from the Center for Health and Global Environment. He is also Honorary Chair of the Indianapolis Prize, an award for animal conservation. The actor has also donated 389 acres of his property in Wyoming for a conservation easement to the Jackson Hole Land Trust.

It is impossible to talk about forests without mentioning **WANGARI MAATHAI**, the Nobel Laureate who has propelled a worldwide



wave of tree planting over the last few years. In 1977, Prof. Maathai founded the Green Belt Movement, the grassroots environmental organization which has now planted more than 40 million trees across her native Kenya to prevent soil erosion. In 2004, Prof. Maathai became the first African woman to receive the Nobel Peace Prize for 'her contribution to sustainable development, democracy and peace'. Wangari Maathai was also the inspiration behind UNEP's Billion Tree Campaign, which met its target in November 2007 and now aims to plant seven billion trees by the 2009 climate change meeting in Copenhagen. Her latest role is as co-chair of the Congo Basin Forest Fund, an initiative launched in June 2008. The aim of the fund is to support innovative proposals to make the Congo Basin's forests worth more as a living resource than they would be cut down.

# awards and events

## Climate Change Conference, Poznan



Around 8,000 delegates from around the world will gather in Poznan, Poland, 1–12 December for the 14th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC). The conference – which follows on from the Bali meeting in December 2007 – will see UNFCCC continue negotiations on a post-Kyoto deal on climate change ahead of the key deadline of the December 2009 Copenhagen meeting. Key areas of focus include reducing greenhouse gas emissions, adaptation to climate change, the introduction of new technology and new funding sources.

[www.cop14.gov.pl](http://www.cop14.gov.pl)

The newly-launched Green Star Awards, which will be presented in May 2009 for the first time, will recognize excellence in responding to environmental disasters. Jointly organized by UNEP, the Green Cross and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the prize will go to individuals, governments or organizations that have shown exemplary efforts and initiatives to prevent, prepare for and respond to environmental emergencies and disasters, especially in anticipation of the impact of climate change. The Award will serve as a form of advocacy for environmental emergency prevention and response by generating positive attention for those who assist with missions and who provide experts on the ground. It seeks to highlight the environmental impact of natural or man-made disasters and the critical importance of humanitarian assistance in responding to these emergencies.

[www.unep.org](http://www.unep.org)

## VI World Forum for Sustainable Development



The World Forum for Sustainable Development will take place in Brazzaville, Congo, 27–31 October 2008. Among the issues for discussion is the economic devaluation of natural wealth, as in the case of the hydrological basins and forests of the Congo. These issues will be increasingly prominent in international discourse in the lead up to the 2009 climate change negotiations and the 2011 International Year of Forests, whose aim is to “promote sustainable management, conservation and development of forests worldwide”. Forest-related economic activities provide livelihoods for 1.6 billion people worldwide and forests also play a critical role in mitigating the effects of climate change and protecting biodiversity. Some 350 square kilometres of forest cover are lost every day through conversion to agricultural land, unsustainable timber harvesting, unsound land management practices and creation of human settlements, among other factors.

<http://www.un.org/esa/forests/2011/2011.html>

## IUCN World Conservation Congress



IUCN, the International Union for Conservation of Nature, will hold its World Conservation Congress in Barcelona, 5–14 October 2008. 8,000 leading decision makers in sustainable development from governments, NGOs, business, the UN and academia will participate in debates, workshops and training courses on topics including ‘A new climate for change’ and ‘Safeguarding the diversity of life’. The Congress will also elect the next IUCN President and Council.

[www.iucn.org/congress/](http://www.iucn.org/congress/)

## Green Star Awards



Tierramérica, an environmental newswire sponsored by UNEP, has been awarded the Zayed Prize for the Environment for “environmental action leading to positive change in society”. The wire’s weekly news insert and radio broadcasts are carried by 20 newspapers and 400 radio stations across Latin America, bringing environmental news to thousands of people since 1995. The newswire recently opened the Tierramérica International Centre for Sustainable Development and Environmental Defence in Manaus, a city in the heart of the Brazilian Amazon. The Centre will take Tierramérica into the areas of research and training, to reflect what Latin America has to offer in the dialogue between academics, journalists, international bodies and society in the area of sustainable development. The Centre’s Consultative Council is headed by three Latin American former environment ministers: Brazil’s Marina Silva, Uruguay’s Mariano Arana and Ecuador’s Yolanda Kakabadse.

[www.zayedprize.org.ae](http://www.zayedprize.org.ae)

## Rock and jazz festivals go green



Two top Norwegian music festivals have joined the international fight against climate change by signing on to UNEP’s Climate Neutral Network (CN Net) – the online community of countries, cities, companies and organizations that are striving to cut their emissions. The first is the Hove Festival, a rock event that this year featured acts including Beck, Duffy, and rapper Jay-Z. The second, Canal Street, is a jazz and blues festival whose 2008 edition featured legends John Mayall and the Bluesbreakers, and The Waterboys. Together, the two summer festivals believe they could become a blueprint for a green global music festival movement in partnership with UNEP. The ultimate goal is to create a network of music festivals that can learn from each other and push each other to become even more sustainable in the future – in Europe to start with, and eventually in Asia and North America as well.

[www.hovefestival.com](http://www.hovefestival.com)  
[www.canalstreet.no](http://www.canalstreet.no)

## IPCC 20th anniversary



The Intergovernmental Panel on Climate Change (IPCC), created in 1988 by UNEP and the World Meteorological Organization, marked its 20th anniversary with a special session in Geneva from 31 August to 4 September. The IPCC shared the 2007 Nobel Peace Prize with former US Vice-President Al Gore “for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change.”

[www.ipcc.ch/meetings/session29.htm](http://www.ipcc.ch/meetings/session29.htm)

## Zayed Prize for the Environment





# the greatest crime

by Kevin Conrad

Deforestation and forest degradation may be humanity's greatest crime against our planet. They give rise to around 20 per cent of the world's emissions of greenhouse gases and are its major cause of biodiversity, species and habitat loss. They change weather patterns, cloud formations and precipitation, and increase flooding and water run-off, reducing drinking water supplies. They decrease human well-being where soils are thin and poor, and cause soil erosion and desertification. They increase disease, and thus public health costs, and decrease natural pollination rates and agricultural productivity. And the list goes on.

All this has been happening for centuries, but there is now cause for hope. New markets for ecosystem services may offer a paradigm shift. But lasting success will require more hard-headed economics and less soft-headed tree-hugging!

First, we must stop the finger-pointing. Our ever-expanding human enterprise has demolished around 50 per cent of the world's forests — nearly four billion hectares — over the past millennium, mainly in the United States, Europe, North Africa, and the Middle East. In the US for example, almost 90 per cent of virgin forests have been cleared. More recently, deforestation — at the alarming rate of around 13 million hectares a year — has largely shifted to developing countries. History also shows that it can be defeated, but it must be overcome earlier in the development of tropical economies than in that of today's rich countries.

Deforestation is complex, but, put simply, it is driven by the fact that the world values forests more dead than alive. Tropical rainforests are being cut



down because we do not pay for their many valuable and diverse ecosystem services — such as climate stabilization, rainfall generation, crop pollination, soil fertility, food security, waste disposal, water purification, flood control, pest control and recreational services. Traditional economic theory, which considers ecosystem services a ‘common good’ and thus free to all, is primarily responsible.

So, with these services valued at zero, rural communities that depend on and care for forests must make a living in other ways. As they struggle to eke out an existence, keeping the land forested means sacrificing the opportunities gained by converting it to other uses. Many deforest their land so as to trade low-value commodities like timber, beef, palm oil, soy, coffee, and cocoa. And international commodity markets have hardly changed from colonial times.

These economic relics are increasingly perverse and nonsensical. The environment is devastated, rural communities stay poor, and the rich shift the blame. They cite lack of governance and corruption. But these (in both industrial and developing countries) are not drivers of deforestation, but symptoms of obsolete market constructs. Markets begin and end with demand, and this is where we need to find the levers for change. We must shift focus from symptoms to drivers, from blame to solutions.

We must empower rural communities, for the first time, to develop without deforesting. Global leaders must reinvent markets for a sustainable future. But these will not simply spring up overnight, particularly when society has been accustomed to receiving ecosystem services free. Stringent regulatory systems will be needed to underpin them to create ‘demand’ and all stakeholders will have to undergo a comprehensive step-by-step process of market development.

Many lessons can be taken from the Kyoto Protocol process. Efforts must be voluntary, inclusive, led by developing countries (and their rural communities), and must operate transparently within varied national circumstances. A ‘basket of tools’ will be required for tropical countries at differing stages of development:

- **High Forest Cover:** Very early in the development cycle; low rates of deforestation; usually low population densities; comparatively low opportunity cost (e.g. Congo, Guyana, West Papua, etc.).
- **High Deforestation:** Low to moderate development cycle; increasing population densities; low to moderate GDP per capita; increasing opportunity costs (e.g. Bolivia, Brazil, Cameroon, Papua New Guinea, etc.).
- **Forest Regeneration:** Intermediate development cycle; higher population density; moderate GDP per capita; higher opportunity costs (e.g. China, Costa Rica, India, etc.).

Such different stages carry differing analytical, capacity, legal, institutional and policy capabilities. Tropical countries, each at their own pace, will transition through specific stages of implementation:

- **Readiness and Capacity Building (Stage 1):** Analysis, institutional evaluation, legal review, and policy development along with demonstration activities in preparation for wider implementation.

- **Expanded Non-Compliance Implementation (Stage 2):** Expanded range of national, sub-national, local and/or project-level activities, designed as a step toward national carbon accounting systems and leading to measurable, reportable and verifiable emissions reductions.

- **Market-Based Emissions Reductions (Stage 3):** Measurable, reportable and verifiable emissions reductions implemented within compliance markets for ‘offsets’ and applied under a national carbon accounting system at a scale appropriate (national, sub-national, and/or project) for each policy approach and/or incentive framework.

Substantial resources must be mobilized and delivered transparently, predictably, sustainably and sufficiently. Effective implementation will be unlikely unless there is confidence that the opportunity costs associated with the forgone land-use activities will be replaced. So funding must be ramped up with each stage: beginning with ODA, then combining market-linked sources (allowance auctions, transactional fees, etc.), and finally, allowing full access to global compliance markets.


The latest estimate is that around \$20 billion a year will be needed to halve carbon emissions from deforestation. But it would be a wise investment, even for this one ecosystem service alone. Forests sequester some 3.3 billion tons of CO<sub>2</sub> annually. So, with today’s carbon prices around \$33/tCO<sub>2</sub>, the rural communities owning most of them are effectively subsidizing the carbon emissions of the rich by \$100 billion per year.

If we are to slow, stop and reverse global deforestation, we must thoughtfully design, implement and regulate new markets that fairly value tropical ecosystem services and so empower rural communities to earn a fair living by protecting their forests and surrounding environment.

The Wagu community along the Sepik River, in my country, Papua New Guinea, voted to cancel their logging concession, telling me that the forests and rivers had provided all they needed for thousands of years. But, in some ways, they now feel trapped. The old ways allowed them to survive, but did not prepare their children for an increasingly complex future. They now struggle with a school that cannot afford a teacher, a health centre with no medicine, and no outboard motors to take fish and produce to market. Yet they still remember how to live sustainably, which many others have forgotten in the rush to get ahead.

Some companies are now valued in billions simply for advertising trinkets while we surf the internet. Some countries make billions selling fossil fuels that pollute our atmosphere, others for producing low-cost consumer products that humanity does not require. Google is worth \$150 billion while the world’s last great tropical forests, left standing, are worth nothing. How can this be right?

Together, we must reconstruct our value frameworks. New environmental markets must support tropical countries striving toward sustainable development by generating ‘billions’ from rainforest ecosystem services that humanity has so far been exploiting for free.

Bold leadership is required on both sides of the economic divide to end this crime against our planet. But there is hope. By saving the forests, maybe we can relearn how to save ourselves. 



# seeking solutions

by Frances Seymour

Imagine a world in which forests remain high on the world's political agenda, and people recognize their real value in maintaining rural livelihoods and the flow of ecosystem goods and services to society. In that vision, decision making affecting forests is based on solid science and principles of good governance, and reflects the perspectives of developing countries and forest-dependent peoples. Policy makers have access to the best possible information and analysis, while forest managers in government, industry, and forest communities have the most appropriate tools and methods at their disposal.

Research can help make that vision a reality in at least four ways.

The first is by challenging the conventional wisdom on which policy and management are based. As in many areas of human endeavour, commonly accepted ideas are not always supported by the facts on the ground. Consider a number of questions important to forest management in the tropics: Do forests control flooding? Is shifting cultivation sustainable? Is poverty the main cause of deforestation? Does deforestation always make the poor worse off? Does commercialization of non-timber forest products protect biodiversity? Does decentralization lead to improved forest management?

Conventional wisdom provides a simple yes or no answer for each of these questions, but research has demonstrated that such answers can be profoundly misleading as guides to forest policy and practice in particular circumstances.

Research has shown, for example, that the relationship between forest cover and hydrology is complex, depending on soil, slope, rainfall intensity and other variables. Forest vegetation certainly helps moderate small-scale flooding, but there is less evidence to support the presumed ability of forests to prevent the kinds of massive floods that have precipitated logging bans in some countries. And planting trees can have a wide range of impacts on both the timing and the volume of water yield.

The relationship between forests and poverty is also not a simple one. Poor households play a role in converting forest margins to agriculture (and in so doing are often made better off). But research has illuminated how the underlying causes of deforestation include government policies that provide access to forests through road-building, and reward forest clearance with land tenure. In many cases, the main agents of deforestation aren't poor people at all, but corporations that clear natural forests to establish commercial agriculture, ranching or tree crop plantations.

The correct answer to most important forest management questions is thus: "it depends". Research can help elaborate the factors that give rise to the right answers, and help decision makers and practitioners to craft responses that are appropriate to each situation.

Secondly, research can illuminate winners and losers. Crucially, it can bring to light the implications of alternative forest policies and practices for equity. As forests are important to the livelihoods of hundreds of millions of poor people, any change in forest management risks making some of the world's most vulnerable communities even worse off. Conversely, changes in the way forest resources are managed can improve those communities' rights and welfare, and ensure that public assets are managed for the public good rather than private gain.

Studies have shown, for example, that many regulations designed to control the harvest and transport of forest products have the unintended consequence of making it harder for smallholders to make a living from sustainable forestry. No one stops a farmer bringing rice or corn to market, but he or she may be stopped multiple times — to be checked for permits and/or asked for bribes — when transporting wood, charcoal or other forest products. Research has also revealed how high-profile "crackdowns" on illegal

logging tend to be focussed on the little guy with the chainsaw rather than the big guy with the bank account.

The implications are that forest regulations need to be reformed to tilt the playing field back towards the poor. Research can help identify which enforcement methods are most effective in achieving policy objectives without unnecessary costs, and which regulations may not be necessary at all.

A third role for research is to generate forest assessment, decision making, and management tools that can be adapted by practitioners to a wide range of circumstances: management of natural forests for production or conservation, development of plantations for industrial feedstock, or rehabilitation of degraded forests.

One example is what research has done in developing best practices for "Reduced Impact Logging" and beyond. It has shown how relatively simple changes in planning, harvest techniques, and post-harvest management can make a significant difference in the collateral damage caused to soils, vegetation and wildlife during timber extraction. Such results can inform policies governing timber concessions, and the practices of timber companies.


Research can also help government agencies, non-governmental organizations, and private companies to adopt the most effective and equitable ways of engaging with communities as partners in forest management. It has shown, for example, how forest management approaches can have unintended negative consequences for women if policies allocate decision making roles, land or credit to "heads of households" (assumed to be men). Even the timing and structure of community meetings can make a big difference in whether or not women have a meaningful voice.

The incredible diversity of forest ecosystems and forest communities makes it even more important that managers know the right questions to ask, rather than implement specific answers that have worked elsewhere. Research can help organize those questions into "toolkits" to support inclusive decision making.

Last but not least, research can help forest policy makers and managers prepare for changed future conditions. Economic globalization and climate change are just two of the forces ensuring that tomorrow's forest management challenges will be quite different from yesterday's.

In an era of globalized trade and investment, decisions made on the other side of the world can both affect markets for forest products and the prices of commodities that compete with forests for land. Research can help us anticipate how trade and investment trends will put new pressures on forests, and what policy levers are available to mitigate them. Scenario analysis, for example, can help inform decisions about whether and where to invest in new wood processing capacity, based on the likely availability of legally and sustainably produced feedstock.

Climate change is the next big challenge on the horizon, and forest research is urgently needed to inform management for both mitigation and adaptation. Interest from forest countries and potential investors in Reducing Emissions from Deforestation and Degradation (REDD) must be accompanied by understanding of the most effective, efficient, and equitable ways to turn international financial transfers into change on the ground. Research can also help inform what should be done now to strengthen forests' resilience to the impacts of climate change, and ensure the continuing flow of forest-based goods and services to communities, national economies and the world.

Research across many disciplines is necessary to help us realize a new vision for forests. It's not just about silviculture any more. 

# verbatim



© AFP/Getty Images

**“When you look at where the oil and gas blocks [in the Amazon] are, they overlap perfectly on top of the peak biodiversity spots.”**

Matt Finer of US-based environment group Save America's Forests, commenting on a survey of land earmarked for exploration by energy companies

**“For many developing countries, avoiding deforestation is pretty much the only way they can engage in the climate change regime and reap some benefits.”**

Yvo de Boer, head of the U.N. Climate Change Secretariat

**“[The deforestation talks are] a ploy by developed countries to shy away from their commitments to reduced carbon emissions.”**

Ishaku Huzi Mshelia, head of the Nigeria-based Clean Energy and Safe Environment Initiative

**“The discovery of such a large population [125,000] of western lowland gorillas [in the Republic of Congo] is absolutely fantastic news for the sub-species and for conservationists, but we should be careful not to be too complacent.”**

Jillian Miller, executive director of conservation group The Gorilla Organization

**“We lose our identity when we're displaced. We feel lost in the big cities and it's an alien habitat for us. Our ties and traditions are with our Mother Earth. Once we leave our lands, our language and family structures begin to break down.”**

Luis Evelis Andrade, president of the National Indigenous Organization of Colombia (ONIC)

**“Indonesia will have an additional potential to absorb 2.4 million tons of carbon if the government is successful in its efforts to mobilize the people to plant 100 million trees by the end of 2008.”**

Indonesian Forestry Minister M.S. Kaban

**“The biggest challenge now for the cedars of Lebanon is climate change.”**

Nizar Hani, scientific coordinator of the Barouk Cedar Nature Reserve in Lebanon

**“The key to saving the Amazon and the rest of the world's great rainforests is actually very simple: just put a fair price on the role they play in providing a quarter of the world's oxygen, a fifth of fresh water and 60 per cent of its species.”**

Swedish millionaire Johan Eliasch, who has bought 400,000 acres in the Brazilian Amazon, near the river town of Manicore

# numbers

**30**  
percentage of the planet's land area that is forested – just under 4 billion hectares, at least one-third less than before the dawn of agriculture 10,000 years ago. — *Food and Agriculture Organization (FAO)*

**18**  
percentage of world greenhouse gas emissions caused by deforestation. — *Stern Review*

**13 million**  
worldwide deforestation rate per year in hectares – an area the size of Greece or Nicaragua. — *Food and Agriculture Organization (FAO)*

**60**  
percentage of extra carbon dioxide stored by untouched natural forests compared to plantation forests. — *Australian National University*

**700**  
amount of paper in pounds that the average American uses every year (310 kg). Average per capita paper use worldwide is 110 pounds (50 kg). — *industry figures*

**125,000**  
number of western lowland gorillas found in remote forests in the Republic of Congo on 5 August. — *Associated Press*

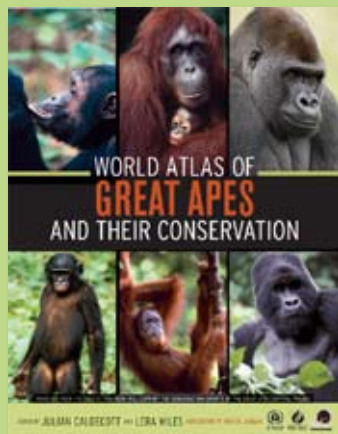
**48**  
percentage of the 634 known species and subspecies of primates at risk of extinction. Previous estimates 5 years ago put the figure at 39 per cent. — *World Conservation Union (IUCN)*

**\$21 billion**  
amount that Brazil wants to raise over the next 13 years for the Amazon Fund, launched on 31 July by Brazilian president Luiz Inacio Lula da Silva to fight deforestation. — *Reuters*

**115.55**  
height in metres (379.1 ft):of the world's tallest tree, a redwood discovered in a remote California forest which has been named 'Hyperion'. — *San Francisco Chronicle*

**45**  
percentage of all print-outs and photocopies that are thrown out before the end of the day. — *shrinkpaper.org*

## World Atlas of Great Apes and their Conservation



This sweeping atlas provides a comprehensive overview of what is currently known about all six species of great apes: chimpanzee, bonobo, Sumatran orangutan, Bornean orangutan,

eastern gorilla, and western lowland gorilla. Created in association with UNEP's Great Apes Survival Project (GRASP), the atlas has the most up-to-date and comprehensive data available on each species' behaviour and ecology, including detailed habitat requirements, the apes' ecological role, and the possible consequences of their decline. A wealth of full-colour maps and illustrations make the information accessible to a broad readership from policy makers to general readers. The atlas also gives information about the work being done by various organizations in support of great ape conservation, as well as details of where conservation is most needed and most likely to be effective.

## Plant for the Planet – The Billion Tree Campaign

UNEP's Billion Tree Campaign has generated a huge wave of enthusiasm around the planet. To date, almost 2.3 billion trees have been



planted across every continent. This 80-page booklet celebrates the thousands of people who have contributed to the campaign — from children to giant corporations, from women's groups to technocrats, dancers to diplomats, farmers to national governments.

## Togu and the Trees of Life

Part of UNEP's series of cartoon books on the environment for children, Togu takes its readers on a trip to the tropical forests of Southeast Asia. The conflict between traditional ways of life and the modern world is explored through the friendship between two children from different backgrounds who together find a solution to protecting the forest without stopping economic progress.

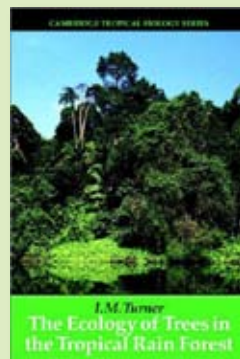


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## The Ecology of Trees in the Tropical

### Rain Forest

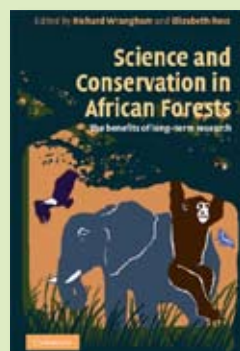
I. M. Turner  
(Cambridge Tropical Biology Series, 2008) Our current knowledge of the ecology of tropical rainforest trees is limited, with detailed information available for perhaps only a few hundred of the many thousands of species — yet a good understanding of the trees is essential to unravelling the workings of the forest itself. This book aims to summarize contemporary understanding of the ecology of tropical rainforest trees. The emphasis is on comparative ecology, an approach that can help to identify possible adaptive trends and evolutionary constraints and that may also lead to a workable ecological classification for tree species, conceptually simplifying the rainforest community and making it more amenable to analysis.



## Science and Conservation in African Forests: the Benefits of

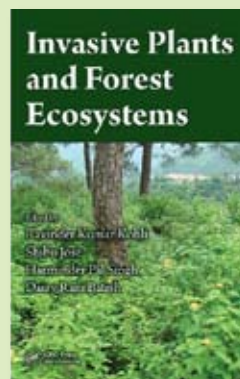
### Long-term Research

Richard Wrangham, Elizabeth Ross  
(Cambridge University Press, September 2008) This case study aims to inspire researchers and conservationists to work together to promote biodiversity through field projects. Focusing on Uganda's Kibale National Park, it illustrates how biological research has had diverse consequences for conservation. It examines the effects of research on habitat management, community relations, ecotourism and training. While the focus is on Kibale National Park, lessons learned from this project over the last twenty years will inspire researchers and conservationists to work together to promote biodiversity through field projects.



## Invasive Plants and Forest Ecosystems

Ravinder Kumar Kohli, Shibu Jose, Harminder Pal Singh, Daizy Rani Batish  
(CRC, September 2008) As the worldwide human population expands and trade becomes increasingly globalized, the transboundary movement of plant species from their place of origin to foreign regions is escalating and



is expected to continue to grow in coming decades. This book gives an overview of the ecological impact of invasive species, which incur \$300 billion annually in damage and control costs around the world, spotlighting the tremendous challenges they pose for natural resource managers.

## Wild Forestry: Practicing Nature's Wisdom

Alan Drengson, Duncan Taylor  
(New Society Publishers, October 2008) Wild forestry promotes the responsible use of forests, connects indigenous knowledge systems, and unites a great variety of local practices tailored to unique forests around the world. This comprehensive anthology provides accounts of how wild forestry is being practiced around the world, with case studies from the Amazon, Australia, Norway and Thailand, and an overview of areas including wild farming, wild crafting, adventure therapy and ecosystem restoration.



## Changing Forests: Collective Action, Common Property, and Coffee in Honduras

Catherine M. Tucker  
(Springer, 2008) Drawing on ethnographic and archival research, this book explores how the indigenous Lenca community of La Campa, Honduras, has conserved and transformed its communal forests through the experiences of colonialism, opposition to state-controlled logging, and the recent adoption of export-oriented coffee production. In spite of diverse challenges, satellite images show that forest cover has expanded since the community prohibited logging in 1987. The indigenous people have created a watershed reserve and agroforestry cooperatives, and maintain forests as part of a resilient livelihood strategy. The book merges political ecology, collective-action theories, and institutional analysis to study how people and forests have changed through socioeconomic and political transitions encompassed in three broad phases: the pre-modern period; the period of state-led logging and intervention, which caused major degradation in forest cover; and the recent period in which export coffee production transformed property rights, and people's perceptions of the forest gained new conservationist and economic dimensions.



# credit is due

by Ian Swingland



At current deforestation rates, the environmental services of the world's major forests will collapse long before the last tree has been cut or the last hectare cleared. More than a billion of our fellow human beings depend on forests and if they continue to be lost then rainfall patterns, hydrological cycles and soil productivity will be affected in countries that are now major suppliers of rice, grain, sugar, beef and other essential food supplies to the rest of the world.

Emissions of greenhouse gases from the loss and degradation of forests in the developing world are enormous both in scale and impact, representing nearly 20 per cent of the total attributable to all human activities worldwide. This is more than the worldwide emissions from burning natural gas and from all transport around the globe. Moreover, their impact over the next five years will easily offset whatever gains industrialized countries achieve in that same period under the Kyoto Protocol.

By the same token, curbing deforestation is a highly cost-effective way of reducing greenhouse gas emissions. Research has found that at most sites, deforesting activities generated less than \$5 per tonne of CO<sub>2</sub> released, suggesting that avoided deforestation could be more cost effective than other climate change mitigation activities.

The tragedy is that there is every incentive to chop a tree down in the developing tropical regions, or not even plant one, whereas there is every incentive to do the opposite in temperate developed areas! This is far from what I, and many like me, intended when we set out to make the world a better place 40 years ago. The Kyoto Protocol on reducing greenhouse gases that cause climate change was meant to address this, but developing countries were excluded, even though some are amongst the biggest polluters. Pressure groups and others skewed the rules in line with their own prejudices, excluding one of the largest sinks for greenhouse gases — forests — from the regulated carbon trading markets under the Clean Development Mechanism (where developed countries can help developing countries and gain credits for emissions reduction, such as through reforestation projects). And some governments, such as the USA, were not persuaded it would work with the rules as they were eventually agreed.

The World Bank has found that the lack of markets for the national and global environmental services offered by forests has contributed to high rates of deforestation in developing countries. There is currently no mechanism that would compensate countries for the opportunity cost of not deforesting. Plans for establishing one — giving credits for reduced emissions from deforestation and forest degradation in developing countries (REDD) — were promoted at the meeting of the UN Framework Convention on Climate Change (UNFCCC) in Bali last December. With the right policy incentives, mechanisms for encouraging REDD could greatly benefit smallholder farmers, ecosystems, and the global climate.


Scientists and economists working to address climate change are urging the European Parliament and the Council of the European Union to include forest carbon credits in the European Union Emissions Trading Scheme (the EU-ETS) beginning in 2013 and, in particular, expressly to provide for the eventual inclusion of credits for REDD. Nevertheless, the EU Commission has recommended excluding such credits from the EU-ETS in its next phase. It argues that REDD credits cannot be used reliably because they do not demonstrably represent real, verifiable, additional and permanent reductions in emissions. It also contends that the credits, if allowed, would flood the European market deterring real and permanent improvements in the EU's

production and energy infrastructure. But the best available evidence refutes these two arguments.

We now have the scientific and technical tools to measure and monitor reductions in emissions from deforestation. We know enough to establish historical reference scenarios: since the early 1990s, changes in the forest area in developing countries have been measured with confidence from space. Our ability to estimate carbon stocks in particular forests has improved greatly over the last 10 years: we have designed conservative methods to ensure that we minimize the risk of over or under-estimating them to within a margin of error of plus or minus five per cent. And new technologies and approaches are being developed that will further reduce uncertainties. So the technical challenges for monitoring, verifying and quantifying REDD have been, and will continue to be addressed, so that markets can now operate with integrity. Further investment is needed to make these tools readily available to poor countries, but there needs to be an economic incentive for doing so on the required scale.

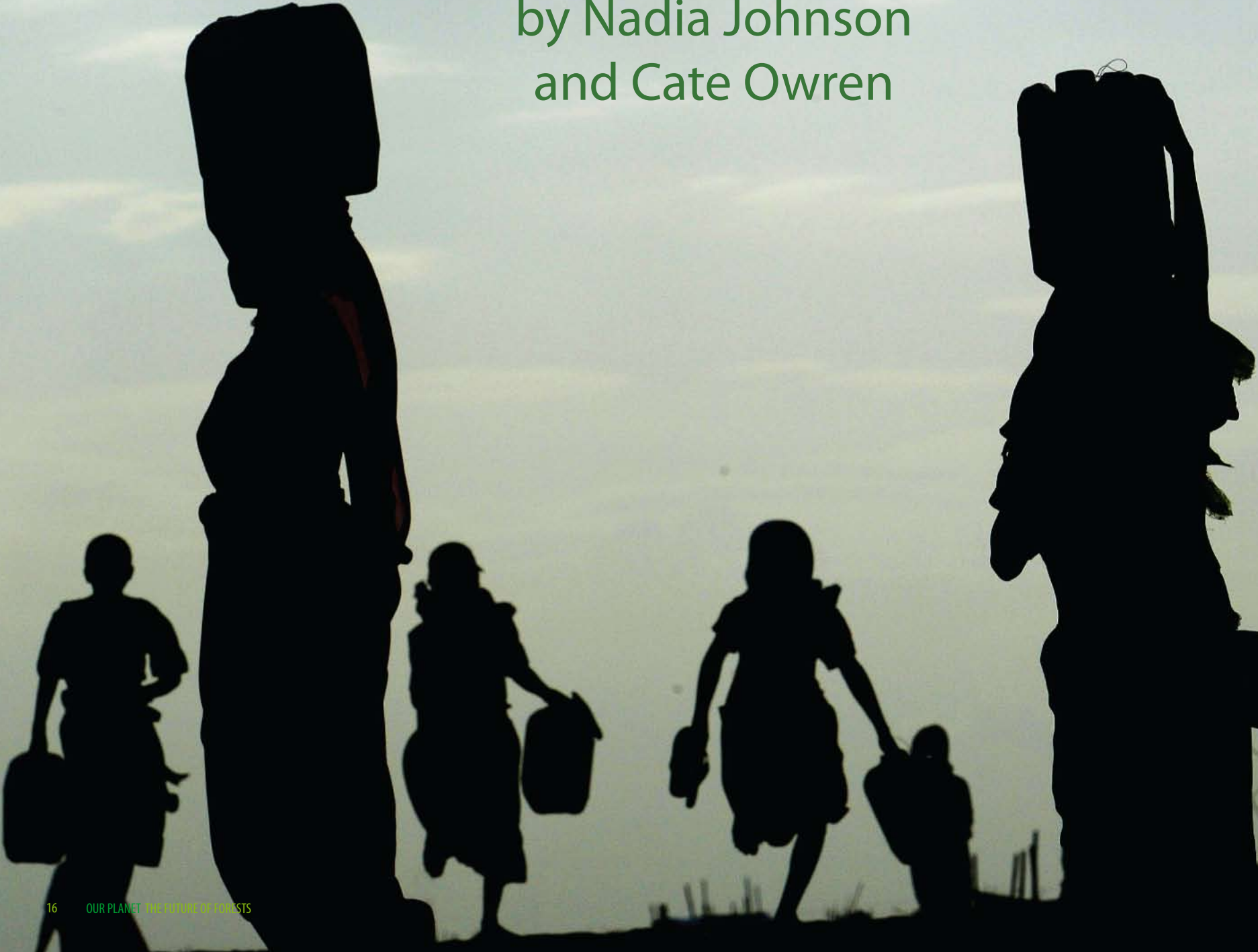
The proposed REDD mechanisms (as foreshadowed by the Bali decision) will address the problems of leakage and permanence that have plagued the discussion of crediting to date. Reductions in emissions from deforestation — if measured relative to (or close to) a national reference scenario — are, by definition, net of any in-country leakage, the only kind normally considered for purposes of the UNFCCC. And there is nothing inherently impermanent or “temporary” about REDD, so long as the actual reductions in rates of deforestation are real and the countries involved are held to a reference scenario that requires the long-term conservation of forests as a condition of earning credits in the first place. These issues, therefore, provide no rationale for excluding REDD from the EU or any other market system.

There is also no empirical support for the “floodgates” argument. Anyone who predicts that REDD credits will quickly overwhelm the European carbon markets greatly underestimates the challenges facing developing countries. Major national institutional frameworks are required, readiness mechanisms must be developed, and policies and measures effectively implemented on the ground. Moreover, the UNFCCC Parties have agreed that the “rules of the game” will be negotiated before the reduction targets are set, so the targets will reflect whatever cost-control or other flexibility mechanisms are agreed. These will almost certainly provide that only a small proportion of potential credits will be available in any one year, based on historic and predicted deforestation rates. In any case, the EU-ETS could simply cap the inclusion of forest carbon, and REDD in particular, to a specific annual volume (or a percentage of the reduction commitments of affected operators) as is being proposed in the most advanced US legislation. This is entirely within the control of the European Parliament and the Council of Ministers.

Developing countries' active participation in an eventual global climate change regime, consistent with the principle of common but differentiated responsibilities, is essential to achieving the UNFCCC's ultimate objective and has long been EU policy. The exclusion of forest carbon credits — and specifically the failure even to preview the possible inclusion of REDD in the EU-ETS — sends precisely the wrong message. Every incentive must be created now to motivate institutional reforms in developing countries to control and abate deforestation. If we lose the world's forests, we will have lost the fight against climate change — and at the same time reduced the availability of drinking water and access to energy, accelerated the loss of species and ruined the prospect of burgeoning local enterprises. 

# countless champions

by Nadia Johnson  
and Cate Owren





The Women's Environment and Development Organisation (WEDO) was named a UNEP Champion of the Earth in 2006. The award is given annually to seven outstanding environmental leaders who have significantly influenced the protection and sustainable management of the planet's environment.

Each issue of Our Planet features the views of one of UNEP's Champions. For more information on the UNEP Champions of the Earth award see <http://www.unep.org/champions/>



Women have long been champions of the earth — managing natural resources and caring for their families and communities. So when the Women's Environment and Development Organization, (WEDO) was given UNEP's prestigious award two years ago, it accepted it on behalf of the millions of women worldwide who spend countless hours a day searching for water, growing and preparing food, and fetching firewood. Now their jobs have been made even more difficult by the interlinked crises of rising food prices and insecurity, exorbitant fuel costs, and climate instability.

Forests play a critical role in these issues, supplying the food, fuel and oxygen on which communities and ecosystems depend. And they must be seen from a gender perspective. Women, in most cases, are not woodlot owners, nor do they even have the right to own land, and therefore have little say over how forests or other lands are used. This results in discriminatory policies that are doing more harm than good to the most vulnerable populations.

Women, it is well known, are the primary stewards of natural resource management for their households and communities. When food and its markets become scarce, when climatic disaster strikes, or when land is converted to accommodate large-scale biofuel production, women are the most significantly hit, both because of their unique dependence on environmental resources and through their central role in their management. As the World Rainforest Movement proclaimed, "Forests provide the vital three F's for women: food, fuel and fodder."

Let Satou Diouf, from the Village of Gadiag, Senegal give some idea of what is happening on the ground. "We the women are responsible for feeding our families," she says. "The bush has now become desert in my area and there is nowhere to go to fetch wood. It is prohibited to cut acacia trees. If caught, one has to pay a fine... One day, unable to find enough wood after a long search, I used some branches to cook. Since the wood was not enough, I cut my plastic bassinette in pieces to fuel the fire... Then I took the wooden bench where I was seated and cut it to feed the fire..."

Climate change is happening now. Its impacts are being felt most acutely by those who have contributed least to it, those who are least able to cope with it, and those who have been left out of policy making aimed at solving it. Women — the majority of the global population living in poverty — are among those most at risk and as the climate changes they suffer exacerbated feminized poverty, homelessness and starvation, threats to health with increased infectious and vector-borne diseases, and gender-specific violence. Yet their experiences and expertise have so far not been included in official negotiations to address the climate crisis. They should be.

Women are often the majority of farmers in developing countries. The Food and Agriculture Organisation (FAO) points out that, worldwide, they "produce more than 50 per cent of the food that is grown" and comprise nearly half of the world's agricultural labor force, but remain disproportionately landless. Women are also often the main purveyors of food to their families and are most significantly hit by rising food prices, caused in part by large-scale biofuel production. And while women bear the burden of land conversion, they will not reap whatever socioeconomic benefits biofuels promise. In the words of WEDO founding Board member Vandana Shiva: "Industrial biofuels

are not the fuels of the poor; they are the foods of the poor transformed into heat, electricity and transport."


The FAO recently showed that the connection between food security and climate change is directly related to the different roles of women and men, and that policy making should specifically address gender equality and gender differentiated divisions of labour. Gender equality is now widely considered a prerequisite for sustainable development, and gender must urgently be incorporated into food, fuel and climate discussions. So far, these talks have portrayed women as victims of these global problems, but women have valuable expertise to contribute.

Rare is the community that is not experiencing the effects of the food, fuel and climate crisis, and for many, deforestation is a major factor. The rural Senegalese women's group, the Regroupement des Femmes de Popenguine, living between the mangroves of the Atlantic coast and a region of stony soils inland saw the problems resulting from deforestation and exploited resources in their communities. As Gender, Climate Change and Human Security, a recent report by WEDO with a chapter on Senegal by ENDA, described, they set out to control the degradation of natural resources and to protect their environment, to regenerate the mangroves and replant part of the felled forest. Their achievements contribute to combating desertification, protecting biodiversity and mitigating the effects of climate change, even only on a small scale.

Women are finding ways to cope with their changing environments so as to feed their families, care for their communities and nurture the Earth. WEDO founding Board member Wangari Maathai led by example in beginning the Greenbelt Movement, a grassroots tree planting programme to address deforestation, soil erosion and lack of water, which has become a worldwide environmental network and a vehicle for empowering women. Rural women's groups continue to take up the task of reforestation — not just to mitigate climate change, but in common sense response to their communities' needs.

Such action, on both small and large scales, should be directly influencing national, regional and global policy making. Women's groups are authorities on these issues and must be directly consulted — and heralded and supported as leaders, and action must be taken now to reduce the threats of greater and graver impacts.

WEDO is working to bring these local lessons to the global level, to contribute to gender-responsive and rights-based climate change policy making. It is documenting best practices and lessons learned, and advocating national policies that reflect the vulnerabilities and expertise of the population. Its project MisFortune 500 is producing a series of issue briefs — starting with one on biofuels — on the corporate role in the food, fuel and climate crises from a gender perspective.

Immediate action to mitigate the greenhouse gas emissions that cause global warming is a vital to address the climate crisis that is bringing devastation to the forests and the communities that depend on them in developing and developed countries alike, especially women and other vulnerable groups. But women have to be a part of the equation. 



# more than trees

by Ian Redmond,  
Moses Mapesa and  
Aggrey Rwetsiba

Ask almost anyone what a forest is and the answer will be “a place with lots of trees”. That may be true enough, but it’s far from the whole story. Forests have expanded and contracted time and again, surviving ice ages, providing refuges for plants and animals and ensuring their evolution and recolonisation of the Earth during interglacial periods. While separated for hundreds of generations, species evolved differences which often prevented them mixing when forest patches rejoined. Closely related but distinct species thus emerged, resulting in the world’s astonishing biodiversity. Today’s human-induced degradation of forests, however, is too rapid to allow the natural ecological processes that support life to function properly. (This, incidentally, makes a mockery of the term ‘sustainable forestry’, if it is applied to a cutting cycle of a few decades in natural forests, when the trees being logged are centuries old).

Co-evolution of seeds and fruit eating animals (seed dispersal agents) has led to mutual dependency. Such seeds have evolved such a tough outer coat — in order to survive passage through an animal’s gut — that they are unlikely to germinate unless chewed, swallowed and part-digested. And, of course, the animal’s dung provides a neat package of fertiliser. A recent study in South America showed that there were far fewer seedlings in heavily hunted forests, where primate numbers were much reduced. So if forests are to survive in the long-term, protecting the trees by banning logging is not enough; hunting — and especially of keystone species such as primates and elephants — must also be stopped or at least reduced to legal and sustainable levels.

In Africa and Southeast Asia, apes are among the most important seed dispersal agents, but being large bodied, they are also favoured targets for bush meat hunters. As remote forests are opened up for logging or converted

to agriculture, these are among the first species to be extirpated. International concern over declining ape numbers led UNEP to launch GRASP — the UN Great Ape Survival Partnership — in 2001. Registered at the World Summit on Sustainable Development, it grew to include UNESCO, the environmental conventions, the governments of all 23 countries with great apes, several donor governments, conservation NGOs and some private sector interests. GRASP promotes the idea that great apes are great assets, and that poverty reduction and sustainable development can benefit from their survival. The partnership signed the Kinshasa Declaration and adopted a Global Strategy in 2005 at a UN inter-governmental meeting hosted by the Democratic Republic of Congo (DRC) — resolving to use both traditional conservation methods and pro-poor sustainable development to ensure that gorillas, chimpanzees, bonobos and orangutans continue to play their role in the forests of Africa, Borneo and Sumatra.

Apes are also our closest relatives, and few of us can fail to be fascinated by their intelligence, strength and complex social behaviour. In a few places, scientists have won the trust of wild apes, such as the mountain gorillas of Uganda, Rwanda and DRC. This has revealed intimate details of their family life in books and documentary films, and spawned a successful ape-watching tourist industry.

In Uganda, for example, gorillas and chimpanzees attract an average 20,000 visitors a year. Permits to visit gorillas and chimpanzees brought in \$4.7 million in 2007 alone. With hotels and other services, more than 70,000 jobs have been created, putting tourism top of Uganda’s foreign exchange earners, bringing the country about \$300 million per year. The communities living around the




national parks where apes are visited benefit from a revenue sharing scheme. To date, 181 community projects — including clinics, schools, community centres, bridges, roads, local community camp sites, maize mills, and a water project — have been built with 'gorilla and chimpanzee money'.

It is often been said that forests are the lungs of the planet. Modern technology now enables anyone to see that this is not just a metaphor. Global weather patterns have been simulated in powerful computers to run like time-lapse sequence films, condensing a year to a couple of minutes and making the role of tropical forests startlingly obvious. Water vapour is pumped into the atmosphere by evapo-transpiration in the three tropical forest blocks (Amazonia, the Congo Basin and Southeast Asia), generating local rain and watering crops thousands of kilometres away in the temperate zones. And water is just one of the ecosystem services they provide. They exchange CO<sub>2</sub> for oxygen, they sequester and store carbon, reduce soil erosion, provide shade and yield fruits, medicinal plants, rattan cane and other non-timber forest products. Everyone alive benefits but, so far, none of us have paid for these services. Instead we have mined the forest timber, eaten the forest animals and converted the land to agriculture. We have done so because it has been more profitable than conservation. So it is not surprising that the concept of the world paying to keep forests standing is being greeted with excitement by ecologists and forest-dwelling people alike.

It may, indeed, change the very purpose of much conservation activity, hitherto focussed on protected area networks designed to preserve a representative sample of each habitat. Such an approach might — if given sufficient resources — conserve viable populations of species and parts of

ecosystems, but probably would not save enough to retain the ecosystem services we need. Protected areas cover at best 15 per cent of a country's area. If you were visiting a hospital patient in hospital whose lung function is down to less than 15 per cent, it is likely you would be saying your final farewell. And if forests are the planet's lungs, then wetlands are the kidneys and other ecosystems play the analogous roles of other organs. Conservation's new goal must be to ensure that enough of each ecosystem survives to fulfil its function in maintaining the health of the biosphere — the thin film of gas and water that supports life on the ball of rock we call home.

Partly because of this understanding of forest function, the government of Uganda is now seeking international finance to encourage private land-owners to maintain forests in between the forested protected areas of Western Uganda. The project's overriding objective is to raise the profile of the great apes among the land owners and the government, as well as their role in enhancing local people's livelihoods such as through tourism and the ecological services crucial for economic development. Whether for carbon, water, biodiversity or tourism investment, there is now more interest in keeping forests standing than ever before. If managed well, this change in policy will not only mitigate against dangerous climate change, but will alleviate poverty among forest-dwelling people, giving them a globally respected role as guardians of the forest, while ensuring the survival of the countless species that comprise the tropical forest ecosystem.

The health of the planet depends on the tropical forests, and the health of the forests depends on the primates, elephants and birds that sow the next generation of trees. 

# marketing conservation

by Sara Scherr

Much of the world's important biodiversity exists outside protected areas, in agriculture–forest landscape mosaics, used and managed by farming and indigenous communities. Communities own or control more than a quarter of forest resources in developing countries, and in many of them this is increasing. Indeed, it is estimated that more forest resources are conserved informally by local and indigenous communities than under formal systems of protected areas, while supplies of forest products from agroforestry systems have increased steadily. These communities depend on tree and forest resources for their livelihoods, including food, medicines, products for home consumption and raw materials for farm inputs — and for providing local ecosystem services, such as clean water and the habitat for wild crop pollinators. Conserving these resources is as much a priority for them as it is for conservationists and foresters.

But if local people are to do this, it is essential that conservation confers financial benefits. More than a billion people living in the 25 biodiversity hotspots originally identified by Conservation International — mostly forest ecosystems — live beneath the poverty line: a quarter of them are malnourished. Tapping markets to sell products and ecosystem services from agroforestry systems — and farm and community forestry — can both increase rural incomes and support sustainable farm and forest management. Smallholder farmers and indigenous communities can add financial value from diverse 'niches' in their landscapes that contribute to conserving biodiversity and ecosystems — including farm fields and boundaries, private protected areas, wetlands and community forests.

Most community forestry initiatives importantly focus on strengthening the 'safety net' that forests provide for the poor. But they have generally not helped them take advantage of expanding market opportunities, although there are large untapped ones for low-income rural producers. Rural communities have real competitive advantages in supplying some forest products and ecosystem services, and success enables them to diversify and improve incomes and livelihood security.

The fastest-growing demand for wood products worldwide is in developing countries' domestic markets. These could offer significant economic opportunities for hundreds of millions of small-scale agroforestry producers in market niches where they can offer such competitive advantages as control over commercially valuable tree resources, lower cost structure, better monitoring and protection and branding for socially responsible consumers. The most promising opportunities for small-scale farmers to sell high-value timber are as outgrowers for industrial buyers or by selling wood grown in agroforestry systems to intermediaries. Farmers in forest-scarce regions near pulp mills may benefit from outgrower arrangements for pulpwood, while those near inland urban areas may be competitive in some commodity wood and woodfuel markets. Opportunities in processed wood products are mainly in pre-processing and milling to supply low-end products — niches that cannot be efficiently served by industrial-scale producers — and through contracts for selected operations in vertically-integrated industries.

Markets for ecosystem services are also beginning to offer new sources of income to smallholder farmers and rural communities. The largest schemes are now public and mainly for protecting watersheds, paying rural land users to restore vegetative cover and improve conservation practices. New "cap-and-trade" markets are being created by environmental regulation that sets a cap on damage, and then allows private trading of credits — such as carbon offsets under the Kyoto Protocol's Clean Development Mechanism or wetlands mitigation banking. But these have complex, and often rigid, rules, and so low-income communities find it hard to access, negotiate and manage them. Recent initiatives, such as those for Reducing Emissions from Deforestation and Degradation (REDD), are seeking to overcome some of these constraints.

Rapidly growing voluntary markets for carbon offsets — and for protecting water quality or biodiversity — allow greater flexibility and creativity in devising payment agreements that meet local needs and contexts. Buyers are motivated either by a clear 'business case' for financing ecosystem protection (for example, a water bottling plant or a nature tourism enterprise), or by




'philanthropic' conservation aims (like 'green' consumers, companies, or conservation organizations). Eco-certified products provide niche markets for producers who can show that their production practices provide environmental benefits. Farm and forest communities in areas of high ecosystem value can gain from these new markets, and can leverage small payments for ecosystem services to finance more sustainable and profitable production systems.

Market engagement has been critical in enabling many rural communities jointly to achieve conservation and livelihood goals in 'ecoagriculture' landscapes. For example:

- A community-based organization in the Kikuyu Escarpment of Kenya — the Kijabe Environmental Volunteers — is helping farmers to develop new markets for honey produced with forest forage, agroforestry products and eco-tourism, complementing initiatives in education and conservation management to protect a high-biodiversity local forest.
- Indigenous organizations in Talamanca, Costa Rica — including ANAI — are helping their members to develop a diverse portfolio of eco-certified timber, food and tree-crop products from their high-biodiversity agroforests, which serve as biological corridors for species protected in adjacent national parks.
- Low-income communities in an indigenous Biosphere Reserve in Sierra Gorda, Mexico, are now generating income from sustainable timber operations and receiving voluntary payments for carbon offsets and biodiversity, as part of a landscape-wide programme integrating livelihoods and ecosystem conservation.

Rural communities need support to strengthen local enterprises and to remove policy barriers, if they are to achieve significant benefits from markets. Producers must improve their market position, strengthen their organizations, and forge strategic business partnerships to develop viable market enterprises. They also need to organize into larger entities so that they can produce at a competitive volume and quality. Strategic partnerships with private business and NGOs can provide technical assistance, essential business services, education and research where necessary — and also reduce market risks. Scaling up market opportunities will require investment by governments, NGOs, market actors — and the communities themselves — to provide business services to small-scale farm producers, to invest in regional forest enterprise development to fill gaps in the value chain for wood products, and to target research, education and training.

Governments need to 'level the playing field' for small producers if they are to realize market benefits for millions of people in rural communities. This will require bringing down policy barriers that disadvantage small-scale and indigenous producers — by removing excessive regulations, creating a fair and open competitive market environment, and involving farmers' organizations in forest and market policy negotiations. Laws are needed to restore and protect communities' access, use and management rights of forests, so as to enhance their incentives or ability to conserve — as Niger has recently done in supporting local by-laws. Complex regulations mainly benefit local elites: excessive regulation in some Indian states, for example, requires producers to get ten separate permits to make a timber sale, a task many poor ones find too daunting. Rules need to be simplified so that they can participate and benefit, and flexible quality and volume requirements will also help. And, underlying all these reforms, community representatives need to have a voice in the fora that determine market-related policies. 





## Forests: Useful Links

This page contains links to websites from governments, international organizations, non-governmental organizations, businesses, media, and other groups from around the world to help you research issues related to forests. We have compiled these links from our own review of the vast amount of information available on the Internet to help you to find the most relevant sources for your research. *Our Planet* magazine does not, however, endorse the viewpoints of any of the groups to which we link, and we cannot guarantee the accuracy of the information posted on these sites. Rather, we hope to provide you with a broad range of opinions and perspectives.

### Branching out

[www.fsc.org](http://www.fsc.org)

The Forest Stewardship Council provides standards for responsible forestry. Products carrying the FSC label are independently certified to assure consumers that they come from forests that are managed to meet the social, economic and ecological needs of present and future generations.

[www.conservation.org](http://www.conservation.org)

Conservation International's mission is to conserve the Earth's living heritage and to demonstrate that human societies are able to live harmoniously with nature.

[www.globalcanopy.org](http://www.globalcanopy.org)

The Global Canopy Programme is an alliance of 29 scientific institutions in 19 countries, which lead the world in forest canopy research, education and conservation.

[www.ForestsNow.org](http://www.ForestsNow.org)

The Forests Now Declaration, which calls for the protection of forests in the fight against climate change, has been signed by over 300 high-level endorsers including leaders from across the world's great tropical forests.



### fighting for the rainforest

[www.rainforest-alliance.org](http://www.rainforest-alliance.org)

The Rainforest Alliance, based in New York City, works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behaviour. The Alliance works with people whose livelihoods depend on the land as well as with companies, from large multinational corporations to small community-based cooperatives. Its aim is to bring responsibly produced goods and services to a global marketplace where the demand for sustainability is growing steadily.

[www.rainforestfoundation.org](http://www.rainforestfoundation.org)

The Rainforest Foundation was created by British singer Sting and his wife, Trudie Styler, in 1989 in order to support indigenous and traditional people of the world's rainforests in their efforts to protect their environment and fulfil their rights. It does this by assisting them in securing and controlling the natural resources necessary for their long term well-being and managing these resources in ways which do not harm their environment, violate their culture or compromise their future; and developing the means to protect their individual and collective rights and to obtain, shape and control basic services from the state.

[www.ran.org](http://www.ran.org)

The Rainforest Action Network uses what it calls "hard-hitting market campaigns" to align the policies of multinational corporations with widespread public support for environmental protection. The organization says it has already helped convince dozens of corporations — including Home Depot, Citigroup, Boise Cascade, and Goldman Sachs — to change their practices, hence "helping to protect millions of acres of forests in Canada, Indonesia, Brazil, Chile and beyond."

### [www.unep.org](http://www.unep.org)

[www.unep.org/GRASP](http://www.unep.org/GRASP) – The Great Apes Survival Project (GRASP) Partnership is a project of UNEP and the United Nations Educational, Scientific and Cultural Organization (UNESCO) with an immediate challenge – to lift the threat of imminent extinction faced by gorillas, chimpanzees, bonobos and orangutans across their ranges in equatorial Africa and Southeast Asia. This website provides information on GRASP, ongoing activities, meetings and events.

[www.unep.org/billiontreecampaign](http://www.unep.org/billiontreecampaign) – The Billion Tree Campaign, launched by UNEP in late 2006, has catalyzed the planting of almost 2.3 billion trees around the world. The target has now been raised to seven billion trees by the end of 2009. The BTC website has the latest figures, as well as pages where anyone can pledge trees and enter their planted trees, the 'photo of the day' from one of the millions of tree planters around the world, facts and figures, tree planting tips and more.

[www.unep-wcmc.org](http://www.unep-wcmc.org) – The UNEP World Conservation Monitoring Centre (UNEP-WCMC) is a collaboration between UNEP and WCMC 2000, a UK-based charity. The centre's mandate is to evaluate and highlight the many values of biodiversity and put authoritative biodiversity knowledge at the centre of decision making. The website gives access to interactive maps, species information and computational tools.

[www.unep-wcmc.org/forest/restoration/fris/default.aspx](http://www.unep-wcmc.org/forest/restoration/fris/default.aspx) – The Forest Restoration Information Service provides an open-access internet information service to support forest restoration projects worldwide and facilitates exchange of knowledge among forest restoration projects.

[www.climate-standards.org/index.html](http://www.climate-standards.org/index.html)

The Climate, Communities and Biodiversity Alliance has established a set of criteria for forest carbon projects that minimize climate change, support sustainable development and conserve biodiversity.

[www.worldagroforestry.org](http://www.worldagroforestry.org)

The World Agroforestry Centre is the international leader in agroforestry research and development.

[www.carbonpositive.net](http://www.carbonpositive.net)

Carbonpositive is a business that develops sustainable agroforestry and bioenergy projects in non-industrialised countries and manages these Clean Development Mechanism (CDM) projects from beginning to end.

[www.cbf-fund.org](http://www.cbf-fund.org)

The Congo Basin Forest Fund, launched in June 2008, aims to support innovative proposals to make the Congo Basin forest worth more as a living resource than it would be cut down.

[www.cbfp.org](http://www.cbfp.org)

The Congo Basin Forest Partnership is a voluntary agreement between governments, the private sector, civil society and development organizations aimed at promoting the development, sustainable management and conservation of the forest ecosystems of the Central Africa region.

[www.greenbeltmovement.org](http://www.greenbeltmovement.org)

The Green Belt Movement, founded by 2004 Nobel Peace Prize Winner Wangari Maathai, began as a grassroots tree planting programme and is now a prominent women's civil society organization in Kenya.

[www.globaltrees.org](http://www.globaltrees.org)

Over 8,000 tree species, 10 per cent of the world's total, are threatened with extinction. The Global Trees Campaign aims to help conserve them through information, conservation and wise use.

[www.internationaltreefoundation.org](http://www.internationaltreefoundation.org)

The International Tree Foundation provides funds to help communities stop deforestation by planting, protecting and promoting trees at home and abroad.

[www.forestpeoples.org](http://www.forestpeoples.org)

The Forest Peoples Programme is an international NGO founded in 1990 to promote forest peoples' rights.

[www.kinome.fr](http://www.kinome.fr)

Kinomé is a French organization whose stated mission is to contribute significantly to reversing deforestation through reforestation projects and by preserving existing forests.

<http://reforestthetropics.org>

Reforest the Tropics is an applied research organization working to mitigate global warming through sustainable forestry and long-term verifiable carbon sequestration.

# products

## Trendy wind



Philippe Starck became one of the world's most famous designers on the strength of his whimsical and tongue-in-cheek products — such as Louis XV chairs made of plastic. The French designer is now moving in a radical new direction with his miniature rooftop wind turbine, the first in his new range of 'Democratic Ecology products'. Starck says the wind turbine can produce up to 80 per cent of a home's energy. Beautifully designed, its transparent plastic blades make it virtually invisible on a roof. Starck has more green products in the pipeline, including an electric car, an eco-moped and a hydrogen-powered boat. "We're seizing every opportunity to create affordable, high-technology ecology products," says Starck. "It's very, very important that they're beautiful, because ecology should be a pleasure, not a punishment."

[www.philippe-starck.com](http://www.philippe-starck.com)

## An idea whose time has come

Solar air conditioning seems like a concept so obvious it should have been developed years ago — after all, it's when the sun is shining that you need air conditioning the most. Greencore has now developed a solar-powered air conditioner that can keep a 600 square-foot room cool using a single 170-watt solar panel. The system is a hybrid, meaning it can also charge its batteries off the grid when the sun isn't shining. McDonald's and the US Navy are reportedly testing the system — a sign that the technology probably has a bright future.

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



## Ethical brew



Coffee farms in Peru are being transformed by a growing trend for certification schemes offering environmental guarantees to Western consumers. The Rainforest Alliance, an organization based in New York, runs a scheme which is helping farmers in eastern Peru return to traditional ways of farming — helping them retreat from the damaging maximum production techniques they pursued in the 1970s, when farmers deforested in order to plant more coffee plants. In addition to bringing environmental benefits, the certification scheme requires farmers to meet specific standards on payment and treatment of workers. Certified coffee sells for 15 to 20 per cent more, with part of the profits going to developing infrastructure in Peru. Currently 5.7 per cent of Peruvian coffee production is certified by the Rainforest Alliance, and the organization aims to reach 14 per cent by 2013.

[www.rainforest-alliance.org](http://www.rainforest-alliance.org)

## Waterless washing machine

A washing machine that uses virtually no water sounds too good to be true, yet British company Xeros says it will commercialize one for the UK market next year. The washing machine reportedly uses as little as one cup of water for each washing cycle, less than 2 per cent of the water and energy of a conventional washing machine. Plastic chips are used to remove dirt and stain from clothes. If the Xeros technology works and proves to be successful, it could make a huge difference to water use across Britain, where washing machine usage has risen by 23 per cent in the last 15 years. The average UK household uses almost 21 litres of water daily on clothes washing — 35 kilograms of water for every kilogram of clothes, according to Waterwise, a non-government organization focused on decreasing water wastage in Britain.

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



## Green furnishings

With consumers increasingly wise to the environmental cost of exotic furniture, the market is seeing more and more green options. Australian manufacturer Jensen Leisure Furniture is launching a new line of chairs and tables made from the tropical hardwood Ipe, from Bolivian forests certified to the standards of the Forest Stewardship Council (FSC). The company providing the wood was the first in Bolivia to earn FSC certification back in 1997. The move sparked a greening of the country's forestry industry — 1.7 million hectares of Bolivia's forest are now certified, putting the country second only to Brazil in the area of FSC-certified forestland in Latin America. FSC-certified forestry operations manage their lands to ensure their long-term viability and meet environmental, social and economic criteria. The region managed by the Bolivian company is home to giant armadillos, puma, marsh deer, endangered caiman and several species of threatened birds.

[www.fsc.org](http://www.fsc.org)



## Dance for the planet



London is having its first taste of eco-friendly clubbing with the inauguration of the Surya night club this July. The venue's most exciting innovation is the so-called 'piezoelectric' dancefloor, which uses quartz crystals and ceramics to turn clubbers' movements into electricity: the dancers' movements alone generate 60 per cent of the energy needed to run the club, using a technology also used by Rotterdam's Sustainable Dance Club. The remaining energy for the Surya club is produced by a wind turbine and solar energy system. The club also features waterless urinals, low flush toilets and automatic taps to ensure maximum water saving. And in another interesting move, the club gives free entry to anyone who can prove that they walked or cycled to the venue.

[www.club4climate.com](http://www.club4climate.com)

## Recycled cork

Time to start recycling your wine corks! As the world wakes up to the many uses that can be made of this 100 per cent natural product, community groups on every continent, from Girl Scouts to NGOs, are increasingly recycling wine corks. Cork is completely biodegradable and reusable and can be used in a thousand different ways instead of joining the world's landfill sites. Among other things, recycled cork is used for kindergarten flooring, hockey and cricket balls, place mats and coasters, shoe soles, notice boards and insulation material for walls and ceilings. It is particularly suited to floor tiles: cork's tough wearing properties provide a floor that is soft underfoot, acts as a noise insulator and is warm in winter and cool in summer. And Portugal's cork forests are used by the highly endangered Iberian lynxes to rear their young, as well as acting as a critical barrier against desertification.

[www.ecofriendlyflooring.com/cork.html](http://www.ecofriendlyflooring.com/cork.html)





# lights in the dark

by Roberto S. Waack

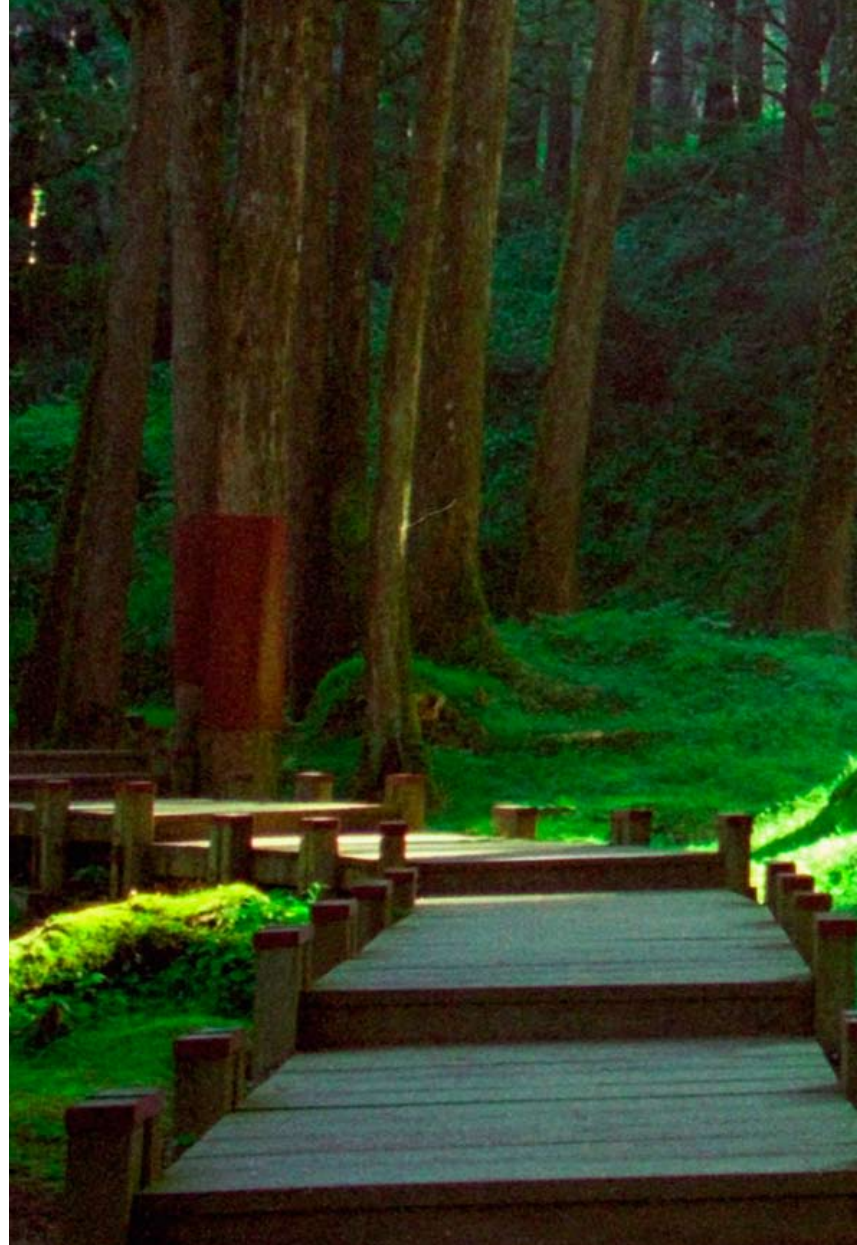
Dialogue has replaced a battlefield in the world of forestry. Companies and NGOs, once entrenched in their agendas in an attack and defense game, now focus on finding and developing common ground where the diverse and imprecise concepts of sustainability are progressively discussed. It is a paradigm change. In the almost utopian search for “consensus”, a decision making process is being built based on “consent through dialogue”, to replace the traditional consent driven by the unilateral power of governmental regulation and enforcement. It is neither a painless nor a comfortable process — and is not even perceived as efficient. Discussions seem to be indefinite and results are not easily achieved.

It's like driving in the dark on a non-paved road. Little by little people bring light. Sometimes a strong flash explodes on the eyes of the group. More often, an ensemble of little spotlights shining in the same direction illuminates the way. The negotiation processes and forums tend to be a joint effort to build the sustainability road — aiming, not at getting to a specific end, but at achieving better production processes and continuous improvement. As the road gets more illuminated, speed can be increased, more results gathered.

The impressive growth of Forestry Stewardship Council (FSC) certification of sustainable forestry, since it began almost 15 years ago, gives one measure of this progress. FSC-certified forests have grown by double digits on average over the last five years, and now extend over 100 million hectares over 78 countries, equivalent to seven per cent of the forests identified as primarily for production purposes. Companies with a combined estimated turnover of \$250 billion in wood products are committed to certification. Now more than 9000 certificate holders worldwide enjoy sales of certified products around \$20 billion a year. These achievements however, are not yet great enough to celebrate. An area the size of Belgium is cleared every year to join the half of the world's forests that have already been lost. Yet over 90 per cent of the 1.2 billion people living in extreme poverty depend on forests for some part of their livelihoods.

Any certified forest operation must comply with international, national and local laws and FSC Principles, adhere to tenure and use rights and responsibilities, respect indigenous peoples' and workers' rights, maintain community relations, generate multiple benefits from the forest, manage and limit environmental impact, compile and follow a management plan, monitor and assess forest management impact, and maintain High Conservation Value forests. And all that must be achieved assuring equitable access to the benefits of the certification, following a mechanism that ensures integrity, credibility and transparency.

The growth of new multi-stakeholder governance systems, using the FSC as a benchmark, has significantly altered the way governmental and private decisions are made. Concepts such as third party certification, verification, independent monitoring, principles and criteria have become part of strategic decisions. The new paradigm is based on a tripod that includes a new form of knowledge generation, dialogue and communication with society. Never before has so much knowledge been generated on the social and environmental impacts of human actions. Research by



organized civil society is offering a counterpoint to the academic world, and enlightening it.

There is intense discussion on the proliferation of these multi-stakeholder governance schemes. One way of explaining it relies on the inefficiency of governments to incorporate social-environmental demands into the formal legal framework in a balanced way. To make things more complicated, globalization demands governance models above country levels. Legality in international trade is no longer enough, and a demand to go beyond it is the major driving force of the new forestry multi-stakeholder models. Tropical timber provides a clear example. Sustainable management of tropical forests — reducing deforestation through creating wealth from forestry products, and thus avoiding clearing forests for other uses of the land — is probably the most powerful alternative way of consolidating the so-called economy of the tropical forests. Many countries choose to use certified timber from sustainable forestry for public procurement and for controlling imported forestry products.

A poor quality institutional environment is one of the major problems of the tropical world. The legal framework is fragile, and frequently lacks enforcement. Land use and ownership are not clearly defined, and this causes all kinds of conflicts and misuse of the forest. The FSC approach is an important element in assuring that property rights are enforced. The same applies in




implementing indigenous peoples' rights and in routinely incorporating social and environmental management systems in field operations.

The FSC Principles and Criteria show how governments and supra-government organizations are crucial for institutionalising the new social-environmental rules, but are no longer central to their creation. Agreements between FSC stakeholders are progressively replacing the previous practice of putting pressure on law making forums, leaving the Principles and Criteria broad and internationally applied. This results in a more coherent and bulky set of rules, used by governments, producers and markets.

Compensation for exposing products and brands to a multi-stakeholder scheme of certification is one of the crucial elements of this new paradigm. Different approaches try to capture the value of getting involved with these complex mechanisms. Reputation is key, as is legitimacy. The corporate world's greatest expectation is that a label will confer a premium price, and indeed FSC tropical timber can be sold in northern Europe at prices varying from 10 to 30 per cent above non-certified products. This is so despite the final consumer's lack of awareness or desire to pay more for a product that has inbuilt social and environmental components. That implies a very sophisticated communication strategy, which attempts to touch the consumer's conscience. There is little doubt that the sustainability and global

warming discussion is reaching the majority of the world's consumers, but two breakthroughs have yet to be achieved: willingness to pay a premium for a "sustainable" product and, the biggest challenge, understanding the proliferation and complexity of certification and verification schemes and labels.

Premium prices are strongly linked to reputation and legitimacy in business-to-business transactions. This is where the value is being captured not just in higher prices but as the only alternative to market access in certain situations. And, in many cases, certification serves as a differentiation strategy. The relationship with the financial sector is also important. Forestry products can be traced, monitored, verified and certified, which makes them not just more reputable but also a less risky investment. Principles, criteria, standards and indicators are translated into new productive and administrative routines, submitted to independent audits and committed to continuous improvement.

Legitimacy, reputation, diversification, risk mitigation, access to markets and premium prices are key words for sustainable forestry development, which is a crucial alternative for the forests in the tropics and a mainstream process for plantations in the South and the North's temperate forests. 

# making oil well

by Rudy Lumuru and  
Norman Jiwan

Is palm oil a blessing or a curse? Governments tend to see it as a blessing because it is exported and earns foreign exchange which, in return, buys machinery, technology and other capital goods, and supports economic and social development. It has many uses in a wide variety of products, and is increasingly used as a biofuel worldwide. On the other hand, developing its plantations has resulted in deforestation, destruction of ecosystems, loss of biodiversity, abuses of land rights, corruption, repression and the deprivation of local communities and indigenous peoples of their means of living.

Its plantations and industry are now in the mainstream of the economy of Indonesia, a country of 222 million peoples, of which 30-60 million depend on its forests. Spread over five big islands — and more than 17,000 small ones — it is home to a tenth of the world's remaining tropical forests, hosting vast biodiversity, including 10 per cent of all the world's species of plants, and 12 per cent of its mammal, 16 per cent of its reptile, and 17 per cent of its bird species.

By contrast, oil palm (*Elais guineensis*) is not a native plant. Imported from West Africa by the Dutch colonial authorities in 1848, it first took root as four seedlings in Bogor botanical garden. The first large-scale commercial plantation was established much later, in 1911, in North Sumatra. There is now a tremendous and complex web of businesses controlled by more than 32 national and multinational corporations and plantation groups, owning more than 700 subsidiary oil palm plantations in 23 provinces where it is being massively developed, making Indonesia the world's largest producer.



Oil palm is grown in monocultures, and often involves totally clearing lands and ecosystems. That is environmentally devastating, socially irresponsible and ultimately does not even benefit business. It is one of the main causes of deforestation in Indonesia, with — as a rough approximation — some 600,000 to 1,000,000 hectares being planted each year. The rapid and massive expansion of oil palm makes it hard to avoid significant impacts to remaining ecosystems, including the endangered habitats of rare and threatened species like the orangutan, Sumatran tiger, and elephant. Such deforestation also adds to global greenhouse gas emissions — as, according to recent controversial reports, does the conversion of peatland and peatland forests to plantation — undermining palm oil's claims to be carbon neutral.


By July 2008 there were 514 known continuing conflicts related to land issues and the resentment of communities against oil palm plantation developments in Indonesia. These unresolved conflicts will get worse as policies deprive further local communities and indigenous peoples of their lands and livelihoods. It is misleadingly supposed that plantations provide opportunities for employment and better jobs. In fact every 100 hectares of oil palm employs only 36 workers a year. Varying regional minimum wages fail to meet living expenses, child labour is part of the culture and strikes lasting more than three days lead to lay offs. Inadequate health and safety measures and training extend to handling and applying agrochemicals, where the reproductive rights of female workers are abused as they are exposed to biologically sensitive levels.



SawitWatch has carried out research on land acquisition for oil palm plantation developments in three provinces, in collaboration with the UK Forest Peoples Programme, HuMA (the Association for Community and Ecology-Based Legal Reform), and the World Agroforestry Centre (ICRAF), and intensely assessed the Indonesian legal framework and land acquisition policies. It revealed: laws that fail to secure the rights of indigenous peoples while encouraging the expropriation of land for commercial projects in the 'national interest'; an absence of regulations, making procedures for recognising collective community land rights unclear; weak institutional capacity, both in the national land agencies and in the district bureaucracies, which also makes recognition of customary rights difficult; and national and regional policies and spatial planning processes favouring the conversion of forests and traditional land into oil palm plantations to increase national and district revenues.

If Indonesia continues growing palm oil for biodiesel production, markets must ensure that its future development incorporates environmentally friendly measures and sufficiently takes into account respect for ratified international laws and customary rights and adherence to the principles of free, prior and informed consent. It must aim to minimise violence, and avoid its use in dealing with local communities around the plantations. It must stop the conversion of primary forests and other high value ecosystems, effectively monitor burning and enforce mandatory zero burning policy, evaluate and withdraw certificates for oil palm where land is legitimately contested by local communities, and formulate stricter provisions in favour of workers' rights and respect for gender equity.

The fundamental framework for sustainable palm oil production — and, in particular, the standards of the Roundtable on Sustainable Palm Oil — is comprised of legal, economically viable, environmentally appropriate and socially beneficial management and operations. If it is going to be sustainable, palm oil production must avoid converting intact and pristine High Conservation Values ecosystems, which include valuable biodiversity, rare or endangered species, forest landscapes and cultural identity and the basic services that nature provides, such as subsistence and local health. Conflicts over ongoing impacts and unresolved land claims can be avoided and must be resolved if local community and indigenous peoples are to consider oil palm development on their lands. Companies should ensure that all their mills and plantations operate with permission and approval of communities and indigenous peoples, under agreements that fulfil the principle of free, prior and informed consent. They must also start identifying and promoting human rights based approaches to oil palm plantation developments. It can be done, protecting and promoting the civil and political, social, economic and cultural rights of severely affected peoples.

Socially responsible palm oil production should not involve forced and child labour, illegal and discriminatory practices, or gender-sensitive issues of violation, discrimination and harassment. If such things happen, companies and mills should provide effective and positive remedies that uphold sustainable solutions to any issues of legal, social and environmental practices. And any sustainability standards and certification schemes should harness market forces to work in favour of businesses, the environment and poor people. 

# STING



Twenty years ago this summer, Gordon Matthew Thomas Sumner — a milkman's son from the North of England — became one of the first celebrities to take up environmental campaigning. Many have followed him, but few have done so much to turn their words into action. For Sting, as he is universally known, set up the Rainforest Foundation, which now works in 20 countries, and has helped indigenous and local communities protect more than 100,000 square kilometres of some of the most important ecosystems on Earth.

"It grew out of a childhood thing", he recalls. "I was always fascinated with South America in geography classes at school."

That was in the 1950s where he grew up in a flat over a sandwich shop in Wallsend on Tyne near the city of Newcastle, a working-class boy in what he describes as "a rigid caste system", with "no social mobility". Bright enough to go to university, he dropped out after just a term, and worked as a ditch digger, bus conductor, filing clerk and, finally, a teacher.

Meanwhile he played with local bands, turning up on stage one night in a black and yellow hooped sweater that had been knitted for him by a girlfriend. The other members of the band decided he looked like a bee and called him 'Sting'. The name stuck and became known worldwide in 1977 when his 'New Wave' band, The Police, burst onto the scene. Over the next six years it released five

chart-topping albums and won six Grammy awards — and since going solo Sting has sold over 50 million records.

He had long been concerned about the environment, development and human rights, narrating a rainforest musical, releasing songs about hunger and participating in two Amnesty International world tours. But it was only in 1988 — when he and his wife, Trudie Styler, were invited to Amazonia — that his childhood fascination came to fruition.

"I was in Brazil. I was on tour. I really had no interest in going to the jungle, but Trudie wanted to go, so I said 'OK'. And we met a tribe there and they heard I was a singer, and asked if we could help them protect their land. I didn't know how to do that. So Trudie said: 'Well, let's start a foundation!'"

The tribe was the Kayapo and Sting and their chief, Raoni, toured 14 countries in 28 days to publicise the cause. "They really are exceptional, extraordinary people" the singer said at the time. "Before I went to the jungle I had the same preconceptions as everyone else, that we're civilised, they're primitive. But they are highly evolved people, to the extent that they can live there and not destroy it. We're not civilised at all. We're stupid. We burn down the kitchen and then expect to eat the next day."

By 1993, the Rainforest Foundation had helped win legal recognition for over 27,000 square kilometres of Kayapo land. "To actually demarcate a huge piece of land and protect it gave us the confidence to carry on," says Sting. Annual benefit concerts have so far raised \$25.8 million.

The Foundation concentrates on both human rights and the environment, insisting that the best way to protect rainforest is to enable its indigenous peoples to control and manage their land. More recently it has also focused on deforestation's contribution to climate change.

Both Sting and his foundation have recently been criticised, the singer for the size of his own carbon emissions; the organisation for being slow to disburse money. Sting has promised to "work to reduce" his footprint, and there have been changes at the Foundation.

"We are fighting a battle, and it's never over", he says. "It's been 20 years of struggle, but we are still here." GL.



[www.unep.org/ourplanet](http://www.unep.org/ourplanet)