



# Viva la vida verde

**Mexico's search for  
a sustainable future**



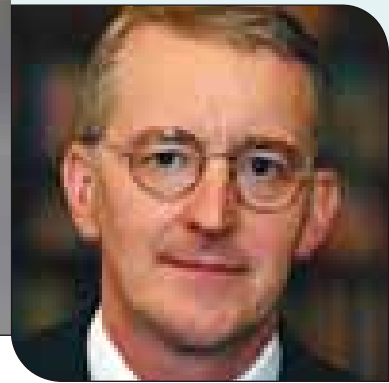
**Welcome to *Viva la vida verde*,  
our *Green Futures* Special  
Publication on Mexico's search  
for a sustainable future,  
supported by the UK  
Government's Sustainable  
Development Dialogues,  
WWF, TUI Travel PLC,  
Grupo Bimbo and Unilever.**

Mexico's sustainable future will be fashioned in its own distinctive image, reflecting the responses its leaders and its people bring to a wide range of present challenges and opportunities. For there is no other country quite like Mexico. A journey through its landscape brings you face to face with its extraordinary diversity – as was brought home to our Consultant Editor in Mexico, environmentalist and film-maker Tiahoga Ruge [pp6–9].

Our special report starts, however, with the overarching policy issue – how to put the whole country on the path to a greener life. Jonathon Porritt cuts to the chase as we consider the challenges, and the evidence that President Felipe Calderón's government is serious about tackling them. Mario Molina, perhaps Mexico's best-known environmentalist (who is also shaping new US policies on climate change as part of Obama's transition team), shares his hopes and fears for Mexico's future [pp13–14].

Jo Tuckman zooms in on Mexico City, reporting on how the world's second largest megacity is seeking to get to grips with sustainability [pp24–26]. Ron Buchanan sizes up the freshwater challenges of a country where the rain falls where the people aren't [pp18–21], and asks whether Mexico can make the transition to a low-carbon economy [pp10–11]. We consider the efforts by Mexican business to pull Mexico's poor out of poverty and improve its environmental performance at the same time [pp15–17], and Ron Mader charts the shift to a more responsible tourism offer [pp27–30].

Along the way we highlight key projects that are making a difference – from the climate action plan in Veracruz, to the butterfly conservation scheme in Michoacán, to the Mesoamerican Reef Tourism Initiative that's changing the face of tourism on the Riviera Maya [p29]. 'La vida verde' may not be here just yet, but many Mexicans now realise it's the only sensible future. Mexico's journey has begun. – *Ben Tuxworth, Editor*



# “Our Mexican partners are so enthusiastic and committed”

**Environment Secretary Hilary Benn introduces the UK-Mexico Sustainable Development Dialogue.**

As the UK Secretary of State responsible for Sustainable Development, it gives me great pleasure to introduce this special publication from *Green Futures* magazine. Mexico is a large and diverse country, and it is this richness that makes it such a significant country to work with on sustainable development. Mexico's unique position as being a newly industrialised country, with one of the highest global rates of biodiversity, plus a growing urban middle class and the changing consumption patterns this brings, make it all the more important for Mexicans to 'live the green life'.

Since its launch in 2006 the UK-Mexico Sustainable Development Dialogue has gone from strength to strength, and we are very pleased to work with such a range of committed and enthusiastic partners; some of their work is highlighted in this special supplement. With over 200,000 different species, Mexico is home to 10–12% of the world's biodiversity, and we have a project which seeks to use communities to help safeguard the natural environment. Mexico also has one of the largest tourism industries in the world, and we are working with hotels to encourage them to adopt more sustainable practices, for example by using resources more efficiently.

In this globally interconnected world, countries cannot achieve environmental protection and sustainable development alone. We have much to learn from each other, and that is why we see the UK-Mexico Sustainable Development Dialogue as such an opportunity to make progress on the commitments we made at the World Summit on Sustainable Development and on the Millennium Development Goals.

# Greening Quetzalcóatl

## Colossal riches; mighty challenges. Can President Felipe Calderón put Mexico on the path to a greener life?

**Jonathon Porritt** and **Ben Tuxworth** consider the evidence.

When Mexico hosts World Environment Day in June this year, what will there be to celebrate? The country certainly has its share of riches: ecological 'megadiversity'; an example of almost every habitat in a land touching the Caribbean, the Pacific and the Atlantic; a population of 107 million with 60 different indigenous groups, making it the second most culturally diverse in the world; bountiful mineral and fossil fuel reserves; huge renewable energy potential; and, in Mexico City, one of the world's greatest conurbations.

Mexico, of course, also faces distinctive challenges. The rising drug-related violence that's been such a regular feature of the news in recent months speaks of a nation struggling to address huge income inequalities. Absolute poverty remains a reality for around 20% of Mexicans, with income disparities between urban and rural, and north and south, and few advancement opportunities for the largely Amerindian population in the impoverished southern states.

Government figures project a further 29 million Mexicans added to the population before it stabilises mid-century. Membership of The North American Free Trade Agreement (NAFTA) and the Organisation for Economic Co-operation (OECD) has helped forge a newly dynamic economy, but this is also bringing environmental damage at an accelerated rate. In 2008, Mexico's share of global CO<sub>2</sub> emissions stood at 1.5%, the largest in Latin America, and only a little behind that of the UK. And WWF's most recent Living Planet report placed Mexico among countries in the world living beyond their ecological means, though still some way behind the excesses of the rest of North America. Water shortages in the arid north of the country, and a growing frequency of hurricanes in the south, point to the early effects of climate change. Mexico has the third highest rate of forest loss in the world (after Brazil and Indonesia) – and, despite recent improvements, deforestation, desertification and air pollution remain problematic despite recent improvements.

So can Mexico harness its undoubted advantages and create a sustainable future for its people and the world?

"Sustainability is possible anywhere in the world if public policy and changes in attitude coincide and are focused on



*Calderón: climate commitment*

this goal," says José Sarukhán, one of the founding fathers of ecological research in the country. "But it isn't easy and in Mexico we are at the very beginning. What I do feel is very important is that President Calderón has put sustainable development at the heart of his priorities. Not just promises of environmental improvements, but sustainable development as a vision, and this is the first time I have seen a president do that."

There are certainly promising signs that the Calderón administration, which took office in December 2006, is taking its environmental and social responsibilities seriously. Of course, there were foundations to build on. As long ago as 1989, with help from the World Bank, Mexico established a National Commission for Energy Saving. Measures including greater use of natural gas, energy efficiency, and reductions in deforestation have helped curb growth in the country's CO<sub>2</sub> emissions by around ten million tons per year since 1990. The Environment Ministry had already put in place a whole host of agencies with the mandate to guard Mexico's rich natural resources, including the National Forest Commission and the National Water Commission. And, although renewable energy is still in its infancy, a target for generating 8% of electricity from renewables by 2012 was set under the then President Vicente Fox's 2005 law on the Exploitation of Renewable Energy Resources.

But there's no doubt that things have moved up a gear since Calderón's inauguration. Among his first visitors were the UK's then Foreign and Environment Secretaries, Margaret Beckett and David Miliband; on the agenda was joint work on sustainable development, and the President was receptive to British arguments for urgent action. A series of major measures have followed [see box], notably on enshrining sustainability as a priority in the national development plan, setting out plans to curb greenhouse gas emissions, expanding sustainable forestry, protecting biodiversity and boosting wind power. But there is plenty still on Calderón's 'to do' list, and it's essential that environmental protection is seen as part of the solution to Mexico's many problems, rather than a brake on its development.



© istock

As the international economic crisis deepens, it would be easy for Mexico's relatively new environmental agenda to be blown off course. Sarukhán fears that an entrenched culture may be part of the problem. "The unions... and other private interests that have benefited from the way things are done are particularly resistant to change. The petrol workers' union, for example, has an interest in blocking a more sensible use of resources. I think they are going to change, but the question is how long it is going to take, and each year that passes without much progress leaves an even harder problem to solve."

Though public awareness of sustainability issues is still quite low in Mexico, expectations of the social role of business are high. Combined with a growing band of international and homegrown NGOs now engaging with Mexican corporations to help raise their game on sustainability, business has a new mandate for action.

To help build the business case for action, the UK Government is supporting a study by the Universidad Autónoma de México on the economic impacts of climate change. Modelled on the UK's Stern report, this aims to set out the arguments for action on climate change from an economic perspective. Major Mexican and foreign companies with bases in the country are responding well, ramping up their efforts on sustainability, building on a strong tradition of philanthropy and paternalism on social causes [see pp15-17].

### Calderón's key steps so far

- National Development Plan 2007-2012 puts environmental sustainability among five priorities.
- National Strategy on Climate Change sets out action on emission mitigation, with Commission on Climate Change straddling seven ministries.
- Target of halving greenhouse gas emissions by 2050 announced by Environment Minister at December 2008 Poznań Climate Conference, to be followed in early 2009 by unveiling of plans on how to meet this goal.
- ProÁrbol campaign aims to plant 250 million trees in the next ten years, and expand sustainable forestry by 2.6 million hectares a year.
- 100-megawatt La Venta wind farm in Oaxaca set to increase capacity tenfold over next six years.
- New National Fisheries and Aquaculture Law that calls for much greater accountability in Mexico's fishing industry.

But can sustainable development really be the answer to some of the crushing social and security problems facing the rural poor, including the surge in drug-related crime? Sarukhán is optimistic: "Helping people in rural areas make a living by using their natural capital would be a huge change and an enormous sociological and psychological advance. It might mitigate the social destruction caused by drug traffickers." He cites the evidence coming from countless small-scale projects in Mexico's rural areas. "In

Mexico, 75% of the forests are communal property. We have always considered this as an obstacle but in fact it's a solution. Mexico is already the world number one for community forests certified as sustainable, preserving natural capital and providing an income for the communities that live there. We need concerted government effort to reproduce these schemes, because if the owners of natural capital don't see any value in it, then they will destroy it."

Mexico's emergence as a major global economy and a bridge between the US and the rest of Latin America brings a new responsibility – for leadership on sustainable development. With many of the right policy commitments in place, it's now time to turn promises into reality.

*Jonathon Porritt is Founder Director of Forum for the Future and Chair of the UK Government's Sustainable Development Commission. Ben Tuxworth is Communications Director of Forum for the Future. Additional research by Jo Tuckman.*

© Anthony B. Rath/WWF-Canon



# Mangroves, monarchs and the end of a world

© Arturo Núñez Contreras

**On a journey through Mexico's landscape, Tiahoga Ruge brings us face to face with the country's diverse environment – and its challenges and opportunities.**

As I write I am travelling on a three-week adventure through Mexico, from the US border, or 'La Linea', as Mexicans know it, through the northern deserts and on to the southern rainforest of the Yucatán peninsula. Leaving San Diego and crossing into Tijuana, it's at once intriguing and charming to see US law and order blend into the mixture of chaos and beauty that characterises so much of Mexico. Dry and dusty... rich and poor, but always alive and, these days, always booming.

'La Linea' begins as a high wall, but as you travel east and follow the line, the wall turns into a fence and, finally, hardly an obstacle at all. For the seven million or so illegal immigrants from Mexico now estimated to reside in the US, the border has been the starting point for a new life. Forced out of their home towns by poverty, lack of employment and environmental degradation, half a million jump the wall every year as the first part of a long and dangerous journey in which many die of thirst, exhaustion and fear of being hunted down.

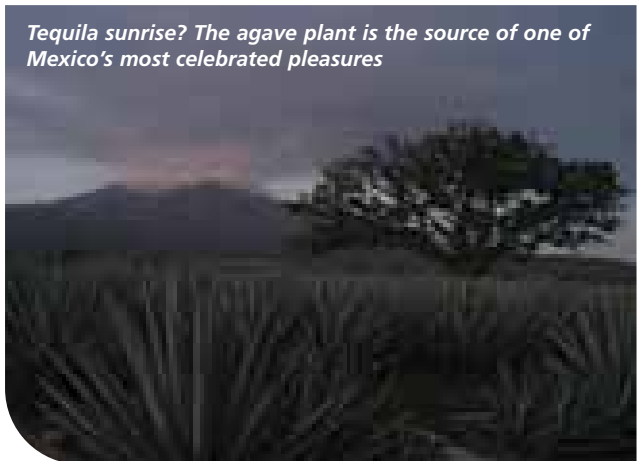
## **The landscape and the light**

Bridging the gap between rich and poor is one of the greatest challenges facing Mexico on its journey to becoming a sustainable country. In this border country it's easy to forget there are plenty of others. Though air pollution and water shortages are still a problem, much of the smog and smoke that blighted the area even a few years ago have diminished. Along with rising awareness of environmental issues, environmental policies, law enforcement and education have all been brought together in the US-Mexican environmental border programme, with impressive results. The rubbish that used to lie along the

highway has disappeared, and big signs alert drivers to the fines for fly tipping and littering.

So as we drive along the Sonora-Chihuahua border it's now possible to focus on the sheer beauty of the landscape and the light. The great planes and big skies remind me what a vast country Mexico is, its green and yellow rocky bones poking through and turning pink in the sunset, and the air filled with fresh smells of the earth and flowering plants and the sounds of invisible creatures.

Turning south towards the city of Chihuahua, where the Mexican Revolution started, we pass through the arid territory of northern Mexico. It's hard to imagine how these dried out rivers and dams will fill up for a short while and turn the yellow desert green. When it rains, the flora and fauna bloom and grow, and you can see why Mexico is the



*Tequila sunrise? The agave plant is the source of one of Mexico's most celebrated pleasures*

© Arturo Núñez Contreras



© South American Pictures/Marion Morrison

*Power to the people: a fresh breeze blows through Chiapas*

*“Energy reforms could open the door to solar and wind power”*

fourth most biodiverse country in the world. Nearly 12% of the country is now protected, with a total of 164 separate sites in the national system co-ordinated by the National Commission of Natural Protected Areas. The Commission’s professional teams oversee the conservation and sustainable management of these areas, in a strategy that has proved an effective means of slowing the loss of habitats and diversity. Encouraging ecotourism, building local capacity and creating sustainable economic activities have been the mainstays of the approach.

In central Mexico the landscape supports a larger population, and agriculture and crops have led in many places to overexploitation of the aquifers. Agriculture is the main consumer of water in Mexico. Water extraction is increasingly difficult and expensive in energy terms, so joint efforts between the Agriculture Ministry and the National Water Commission are being directed towards more efficient irrigation systems and alternative energy sources. Pumping and transporting water is still largely powered by fossil fuels, although Mexico’s newly approved energy reforms also include laws promoting sustainable energy. This should open the door for small-scale power generation based around solar power and wind, as well as the development of biofuels; the jatropha plant that recently fuelled one of the engines of an Air New Zealand jet is now being cultivated in Mexico.

A new scheme of payments for environmental services has proved an effective conservation tool in the Sierra Gorda Biosphere Reserve in Querétaro. Here, 18 years of community education and partnership work by local conservation organisation Grupo Ecológico Sierra Gorda and its commercial arm Bosque Sustentable have helped regulate logging and develop microbusinesses based in the forest, showing how sustainable development can be achieved [see p22–23].

As we continue our journey south we climb high mountain ranges covered with pine trees, and I’m surprised

and delighted by the sight of millions of monarch butterflies flying like golden streams against the sun. Saving the monarch means halting illegal logging in the forest, and repairing the damage done. Although the forest looks healthy now, it’s been a huge effort to get it to this state, with decades of legislation and resource required to create a new balance between nature conservation and an expanding human population. Much of the work has been done by the National Forest Commission and through ProÁrbol, the national reforestation campaign launched by President Calderón to mitigate climate change and reduce soil erosion [see p5]. With millions of trees planted by NGOs, businesses, schools and community groups, this kind of collective effort gives me hope that together we can restore what’s been lost in Mexico.

**Crucial coastlines**

The road south takes us through Mexico City, then on to Veracruz, Oaxaca, Tabasco and Campeche. The wetlands and mangroves that once lined the Gulf of Mexico have been in retreat for decades. Their biological value as nurseries for marine species and the sponge effect they offer when hurricanes hit is at last being recognised by public policy, with mangrove protection at the heart of new legislation.

Achieving such protection has been difficult, with the powerful tourism industry seeing mangrove coastline as the perfect place for development, on the sun-drenched stretches of the Pacific and Caribbean coasts. Alternative development models have started to offer a new approach to managing these areas in a sustainable way, such as in La Ventanilla on the coast of Oaxaca, where local communities have developed new ways to combine mangrove restoration, capacity building and ecotourism – a vision which has at last caught the eye of the mainstream industry.

On to Cancún, where the beautiful turquoise ocean laps against white sand beaches. Hundreds of hotels have turned

*“Mexicans know nature is worth more than money”*



*Clockwise from above: Jungle jam: a Mayan woman plants a fruit tree in a Travel Foundation-backed local income generation project  
Solar clearing: policy favours PV  
Turquoise attraction: Tulum's tourist gem*

the Riviera Maya into one of the most popular destinations for millions of US and British tourists, and also for countless Mexicans, who head here to join the booming tourist economy. South from Cancún are ecotourism resorts and developments including Xcaret and Xel-Ha, offering a new way to enjoy the natural and cultural diversity of Mexico [see p30]. Mayan archaeological sites such as Chichen Itza and Cobá bring tourists inland, sometimes as far as the higher rainforest where older Mayan sites such as Palenque, Bonampak and Yaxchilan also hold the key to the conservation of the surrounding rainforest, with natural and cultural heritage jointly protected.

Beneath the Yucatán Peninsula lie the largest underground freshwater reserves in Mexico. Conserving this fragile resource requires co-ordinated efforts over a vast area, including action to protect what remains of the rainforest above. As previously untouched forest succumbs to 'environmentally friendly' development all across the land between Cancún and Tulum, the area left as the main provider of environmental services for the region is shrinking fast. As in so much of Mexico, the challenge to retain what is best and yet provide for the population is both urgent and enormous.

But not impossible. Rising awareness, through formal education in schools and large environmental campaigns by NGOs and mass media, the growth in clean technologies, better design and planning, enforcement of environmental law, the trend towards sustainable tourism and agriculture, greater public participation and, above all, sustainable social and economic policies, can still make the difference and put Mexicans on the path to sustainability. Mexicans know that nature is worth more than money: the trick is to start living in a different way.

My journey ends on the beach in Tulum – one of the most beautiful places I have ever visited. I snorkel through the crystal waters to the gap in the reef through which the Maya first passed to settle this paradise. The Mayan calendar ends its 5,000-year cycle in the year 2012, when the Katun prophecy forecasts the end of the world.

Is the world ending, or is it just the end of the world as we know it today? In September last year, President Calderón announced that Mexico would be hosting World Environment Day on 5 June 2009. This is a fabulous opportunity for the country to set itself on track to become an exemplar of sustainable development, and show how a new world can begin.

*Mexican environmentalist and film-maker Tiahoga Ruge is the former Director of Mexico's Centre of Education and Training for Sustainable Development, (CECADESU) and Consultant Editor of Viva la vida verde.*

## A sanctuary for butterflies



The monarch butterfly is one of nature's most remarkable long-distance travellers. Each spring, the insects migrate in their millions from their winter home, the Butterfly Biosphere Reserve in Mexico – and although those who depart will never return, their descendants arrive back eight months later, after a journey that takes them as far as eastern Canada. Their Mexican home was discovered in 1974, when researchers traced the butterflies' flight path south to Michoacán. There, butterflies cling to oyamel trees in such numbers that branches break under the weight. The spectacle made the covers of *National Geographic* and *Scientific American*, inadvertently prompting a tourism boom in the small rural towns in the area.



While the monarch butterfly is not endangered, its amazing migration is – because logging operations and land-use changes have damaged vital forest sanctuaries. So, in 2000, WWF and partners helped set up the \$6.75 million Monarch Butterfly Conservation Fund, which rewards communities whose land is not degraded by logging – and also pays for conservation activities such as ecotourism and reforestation.

Results are impressive. Michoacán has been included in the list of UNESCO's World Heritage Sites since 2003, and the Fund has transferred nearly \$1.8 million to 32 landowners in the 'core zone' of the reserve. While rates of forest degradation in properties not participating in the fund have increased ninefold, degradation in funded properties is down by some 56%. There is also more effort to use tourism as a catalyst for regional development, with visitors asked to purchase tickets and contract a local guide. WWF has also been working with Telcel, Latin America's largest mobile phone company, along with the Government, to offer better alternatives to logging to local inhabitants. "Conservation of the area is in the hands of local communities," explains Omar Vidal, Director of WWF-México. "What we have to do – the government, social organisations and the private sector – is offer economic alternatives; you cannot ask people to conserve the forest and die of hunger." – Ron Mader and Chris Alden

# More energy... less carbon

**Climate change is not the only problem facing the world, but it holds the key to the future of Mexico's economy.**

**Ron Buchanan** looks at the country's efforts to kick the high-carb habit.



*Cycle city: the capital's mayor leads the way*

Mexico's environment secretary, Juan Elvira Quesada, made headlines when he announced at the Poznań Climate Conference in December 2008 that his country aims to slash its emissions of greenhouse gases in half by mid-century.

Yet the announcement hardly came as a surprise to those who have followed Mexico's recent efforts to fight global warming. Since President Felipe Calderón came to power two years ago, the struggle to improve the environment, together with the war on organised crime, has been a major driving force of his administration [see pp4-5].

Even the President's political adversaries have joined in. Marcelo Ebrard [above], the leftwing mayor of Mexico City, is a fierce critic of many of Calderón's pro-business policies. Because of their political differences, Ebrard stayed away from the recent ceremony at which the President unveiled Mexico City's first suburban electric railway line – cutting literally hours of travel time for commuters travelling in from the north of the huge megacity. But the concern that both leaders are showing for the environment, and the new emphasis on public transport, has already been reflected in a marked

When the hurricane hit



© Luis Acosta / AFP/Getty Images

improvement in air conditions in the notoriously smog-bound capital. Cars still account for more than half of its carbon dioxide emissions – but in December 2008, Ebrard inaugurated a second, east-west line of the Metrobus mass transit system. Intersecting with the original Line 1 which opened in 2005, this will not only help further reduce local air pollution, but also make a significant contribution to cutting greenhouse gas emissions.

Guadalajara, the nation's second city, refuses to be left behind. Its own Macrobus rapid transit system is negotiating the international sale of credits for the carbon emissions it saves. It's doing so under an accord with the multilateral Andean Development Corporation, which has already clinched sales of carbon bonds for the TransMilenio high-speed bus system in the Colombian capital, Bogotá.

Calderón is taking his campaign for a better environment on to the world stage as well, pressing for the establishment of a Green Fund for the reduction of emissions, to which all nations will be invited to contribute.

### **Ambitious targets**

Mexican officials are concerned that the country's geographical location, its fragile biodiversity, the poverty of much of its population and the dependence of its emerging economy on oil production make it vulnerable to a wide range of environmental disasters. Already Calderón has said that recent severe hurricane and flood damage, particularly in southern states, is a warning of what the future could hold as the planet warms.

Yet not everyone supports his ambition to play a leading role in the fight against climate change. Manuel J Jáuregui, an influential newspaper columnist, recently noted: "Mexican companies – above all, those in the petrochemicals industry – are going to have to absorb the cost of major investments that many of their competitors will not be obliged to make." Jáuregui emphasised that he was not calling for indiscriminate pollution. "Rather it's a case of having to strike an intelligent balance between the country's economic outlook, the state of its industry – and the issue of the environment."

Which is just what Juan Mata, Director General of Climate Change Policy at the Environment Ministry, is aiming to do. He is currently working on ways of delivering the long-term commitment to halve carbon emissions that was promised by his boss in Poznań. Specific targets will be announced by Calderón early in 2009, he says. The main one has yet to be defined, but it could be as much as a reduction of 70 million tonnes of carbon emissions by 2012.

"It's an ambitious target and it cuts across the whole economy," Mata says. "The electricity sector, for example, will have to put more emphasis on renewables and clean fossil-fuel technologies. The oil industry will have to reduce flaring of natural gas in association with oil production. Mexico is building about 700,000 new homes a year. So we could offer 'green mortgages' that encourage the incorporation of energy-saving measures. And there is much more that can be done. We could have more, and more efficient, public transport... solar power for water heating... energy-saving lightbulbs... boost programmes of reforestation... the modernisation of farming... water recycling... the list goes on."

## **Veracruz climate action plan**

When floods swept across the coastal state of Veracruz on the Mexican Gulf in 2005, the country had a taste of what a warmer world might hold. Sea level rise and disrupted weather patterns are a threat to a number of the state's main towns, along with its freshwater system, electricity supply – and 600km of beach front, which includes the tourist honey pots of the Costa Esmeralda and Veracruz Boca del Río.

Now with support from the UK Government's Global Opportunities Fund, and resources from the National Institute of Ecology, Veracruz is the focus for Mexico's first state-level plan of action on climate.

Launched for public consultation in November 2008, the plan sets out a list of costed actions for adapting to and mitigating climate change, based on an inventory of greenhouse gas emissions and scenarios for the effect of global trends on its climate and landscape. Speaking at the launch in Xalapa, Veracruz Governor Fidel Herrera emphasised his government's commitment to act in the short, medium and long term to address climate change and achieve sustainability. British Ambassador Giles Paxman welcomed the state government's commitment to action, and argued that the international financial crisis should not become a barrier. "We need bold action now, or future generations will face greater costs," he said. Since Veracruz began its work other states including Nuevo Leon, Mexico City and Baja California have begun their own climate change action plans. – Ben Tuxworth

*"Hurricanes and floods warn of a warmer world" – Calderón*

Another proven approach is to get companies to share – and therefore reduce – resources such as energy, water, materials and facilities. The UK-Mexico Sustainable Development Dialogue is working with businesses in the Toluca-Lerma region through the National Industrial Symbiosis Programme. One of the 90 ‘synergies’ under way is expected to save 75,000 tonnes of CO<sub>2</sub> in one year. The project has identified just under 1,000 business opportunities in the region and there is interest in starting similar programmes in three other states.

Calderón wants the private sector to take a prominent role in the plan by providing companies with access to finance that will help them to update technology and reduce pollution. Mexico already has a voluntary register of greenhouse gas emissions whose contributors include several leading companies in such energy-hungry industries as cement and steel, as well as the state oil monopoly, Pemex.

Officials are keen to pursue international funding for carbon reduction projects, such as that offered by the Clean Development Mechanism (CDM). To exploit this to the full, they want to encourage more co-operation between the private and public sectors, and within the different levels of government. “If you have a CDM plan to cut energy consumption for public lighting in one city, for example, why not get neighbouring towns to join in? That way you magnify the benefits,” says Mata.

### **The elephant in the room is across the Río Grande**

On the international front, he adds, Mexico supports efforts to set carbon reduction targets, so long as they are on a voluntary basis for developing countries and without prejudice to any benefits that might accrue to the country from the CDM. “Mexico wants reductions in carbon emissions that are accompanied by economic mechanisms that can help developing countries to pay for the necessary new technology. That’s what lies behind the Green Fund initiative.”

The Fund would be based on the principle of shared responsibility. It would not be a traditional scheme in which the industrialised nations finance projects in the developing world. “Everyone would take part, though contributions would be in accordance with the economic ability of each country and benefits would be greater for those in greatest need.” Nor would the Green Fund replace existing initiatives. “The idea is that it should coexist with, for example, the World Bank’s current efforts.”

Mexico, however, opposes the imposition of any binding commitments that some industrialised nations are seeking for Kyoto 2. “Obviously that’s an issue that’s going to have to be negotiated,” says Mata. “Mexico doesn’t favour loose targets, but it wants commitments to be voluntary,” albeit with an incentive for compliance. “Countries that meet their targets should be rewarded with access to new sources of finance.” Such a scheme, Mexican officials argue, could be more amenable to developing countries, whose needs and aspirations vary greatly.

The elephant in the room is, of course, Mexico’s neighbour and main trading partner, the United States. The electoral victory of Barack Obama points to a “very promising future,” says Mata. “We hope that the US will now take a leading role on climate change.” But here change is not only coming in Washington. “We’ve seen a lot of progress at state level. And Mexico and US border states have already agreed on joint efforts to mitigate climate change.”

*Ron Buchanan is a Veracruz-based freelance journalist.*

## **The smokeless tortilla**

Around 95% of rural households in Mexico still cook over wood fires. This is hardly a recipe for sustainability: forests are literally being burnt to cook supper, while women and children suffer from the effects of inhaling wood smoke at close quarters, day in, day out.

It’s a particular problem among Amerindian communities up in the Central Highlands, where thousands of micro-enterprises run by women produce hand-made tortillas cooked over open fires for long hours each day.



*The stove that cleans kitchens*

© Ashden Awards

A cleaner – but still environmentally damaging – option would be LPG-fuelled stoves, but for these one-woman businesses, they are an expense too far. Now, a local NGO, the Grupo Interdisciplinario de Tecnología Rural Apropiada (GIRA), has developed a simple, affordable cookstove, specially designed for tortilla production as well as general household cooking.

The ‘Patsari’ stove, as it’s known, uses just one half of the fuelwood of the traditional variety and, just as importantly, is 70% less polluting, thanks to improved combustion and a better chimney, which dramatically reduce the amount of smoke emitted. Studies show that among women who use the Patsari stove, there are 50% fewer eye infections, and 30% fewer incidences of respiratory disease, compared with those using the traditional variety.

The stove was developed in consultation with the local women themselves, which, GIRA believes, explains its rapid adoption across the region. Its triple success in boosting quality of life, reducing pollution and curbing deforestation helped win it a prestigious Ashden Award for Sustainable Energy in 2006.

– Martin Wright

# “We are ready – we cannot wait any longer”

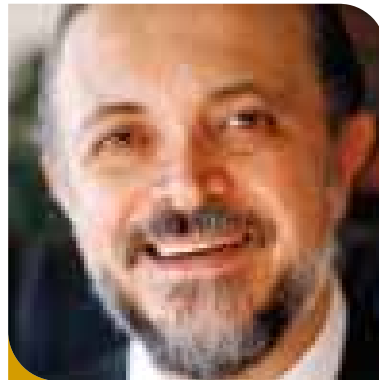
**Mexico can lead the developing world towards a new deal on climate change. So says **Dr Mario Molina**, the Nobel prize-winning scientist who now advises both the Mexican and the US presidents.**

**Green Futures:** What do you see as Mexico’s role in the global effort to tackle climate change?

**Mario Molina:** As a leader among developing countries. First of all, we can take the measures necessary to reduce emissions – and also show that this can be done at the same time as reinforcing economic development. It’s as simple as explaining that more efficient energy use is good for the economy and that the measures to make this happen need to be implemented now.

As part of the National Strategy on Climate Change announced by the Mexican Government in 2007, we are currently developing a special programme specifying the projects that will be carried out, when they will start, and what regulations have to be changed. [The programme is expected to include commitments to early and dramatic carbon cuts.] We are in a hurry to get this programme out early this year, even though it won’t contain all the details, because we want it to make an impact in time for the next round of international negotiations in Copenhagen [in December 2009].

Mexico is also showing leadership on international financing mechanisms for climate change action. The Green Fund proposed by President Calderón would make resources from Mexico and other developing countries available internationally – a major change from the old perception that developing countries will only act to the extent that they receive funds from the rich world. Of course, the expectation is that much of the funds [provided by developing countries] can be recovered because actions will reduce emissions. The existing funding is actually very limited, and is not



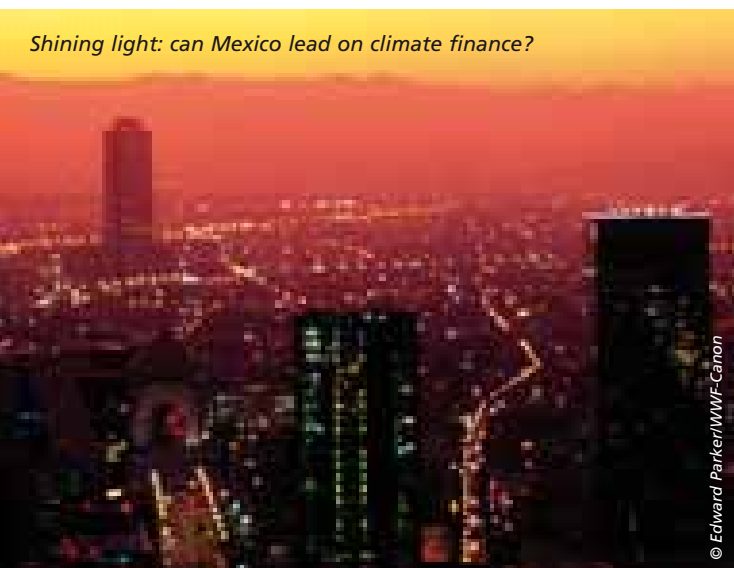
Mario Molina shared the Nobel Prize for Chemistry in 1995 for his work on CFCs and the depletion of the ozone layer. Long associated with efforts to improve air quality in megacities, he has more recently become an internationally recognised voice on climate change. A member of WWF-México’s Senior Advisory Council, he is involved in shaping current Mexican policy on this issue. And, as Professor of Chemistry and Biochemistry at the University of California at San Diego, he has also joined US President Obama’s transition team, heading a group on science and technology policy.

working very well; the so-called CDM and carbon bonds are designed just for specific projects, so they have all sorts of difficulties providing incentives for governments to make policy changes.

**GF:** But is Mexican society ready to take on a global leadership role on this issue?

**MM:** We still have a difficult task in convincing wider society of the need for these changes. But I believe we are ready; we cannot wait any longer. We can start with government officials and investors – and at the same time communicate to the wider public that this is a very serious problem that we need to address. The message is three-pronged. First, the consequences of climate change can be very dramatic: Mexico is very vulnerable to flooding, for instance, in places like Tabasco, and to droughts in the north. Second, if Mexico contributes actively, we can help convince the rest of the world to act too. Thirdly, we can do this without delaying economic growth. This last point is very important because poverty in Mexico remains such a major problem.

*Shining light: can Mexico lead on climate finance?*



© Edward Parker/WWF-Canon

**GF:** Is the Mexican business elite also showing environmental leadership?

**MM:** We still have a lot to do on that front, I think. Some industries are indeed leaders, particularly those with a truly international outlook: our cement industry, for instance, competes globally and is very aware of the environmental issues. But we still have our work cut out to get it across more widely that we have a real problem. And the business world is lagging behind on this. That would be true in the US and Europe too, but in Mexico we are further behind.

**GF:** How do you think the world economic crisis will affect the climate change issue?

**MM:** It is certainly a problem. The financial crisis may delay the raising of funds for new technologies – but, on the other hand, [recession] will slow the rate of growth of greenhouse gases. And it will underline the importance of using energy more efficiently. It is widely recognised that we shouldn't wait for the economic crisis to be over [before taking action on global warming] – not least because many of the actions we are considering result in net economic gains. [We can see that] in the US, where the new administration's stimulus package includes some environmental measures. For example, we want buildings to be more energy-efficient. This is cheaper to do through new buildings, but the economic crisis means there is not so much new-build as before. We can still talk about retrofit, however – and that requires a lot of manpower. So we can address the two issues at once – creating jobs, and doing something to mitigate climate change.

**GF:** What are the most pressing bilateral environmental issues affecting Mexico and the US?

**MM:** We have done relatively little about air quality in the border region, which is one important problem area. Another relates to the disposal of old cars, trucks and buses. It doesn't make sense if US regulations on vehicle efficiency merely lead to the export of the old ones just across the border into Mexico; they should be [dealt with] in the US.

Bilateral issues aren't always just about problems, however; they can be about opportunities too. There's the possibility of setting up a common carbon trading system for all of North America, for example; in some cases it could be cheaper to reduce emissions in Mexico [than in Canada or the US].

Water availability is a very important issue, too... There are bilateral agreements [governing water use in border areas] which I think we could re-examine. But we must try to tackle the issue together. We have common ecological systems along the border, and issues with fisheries that need consideration. Desalination, which is now less expensive than it used to be, may also be an opportunity worth exploring.

**GF:** Is Mexico ready to host World Environment Day?

**MM:** I think we will be, in the sense of having made commitments to move in the right direction, rather than having actually implemented many projects. Climate change is, of course, a very important challenge – perhaps the most serious that humanity has faced. But there are other environmental issues with which we need to concern ourselves too; biodiversity, for instance, and sustainable development in general. We need to work very hard to really open a window and show the world that we are serious.

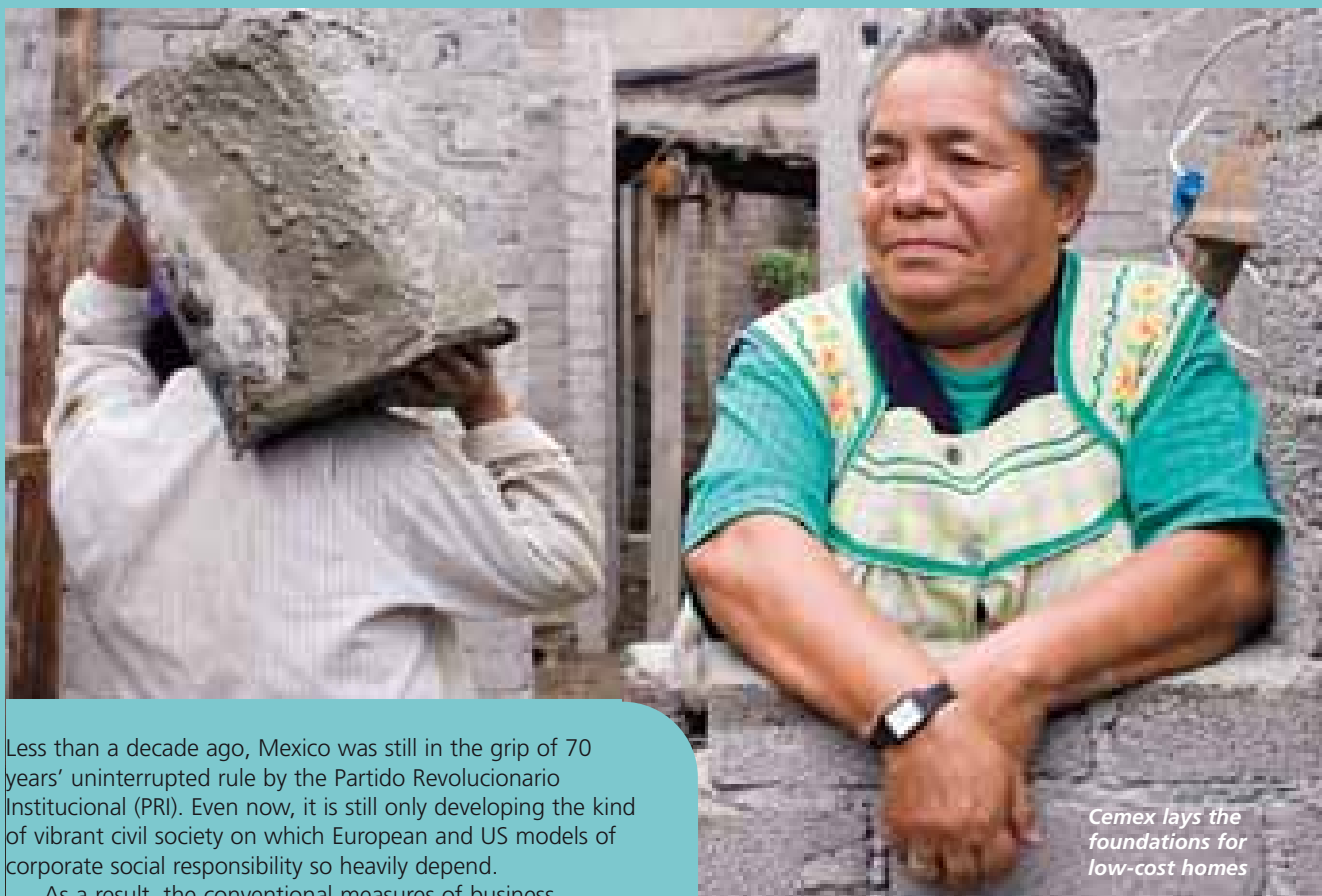
*Mario Molina was talking to Tiahoga Ruge and Jo Tuckman.*



© Stringer/AP/Getty Images

# Doing business with the poor

**As Mexico climbs the ladder of rich nations, can business bring the poor out of poverty without destroying the environment? Ben Tuxworth gets engaged with the corporate culture.**



*Cemex lays the foundations for low-cost homes*

© Keith Dannemiller/Corbis

Less than a decade ago, Mexico was still in the grip of 70 years' uninterrupted rule by the Partido Revolucionario Institucional (PRI). Even now, it is still only developing the kind of vibrant civil society on which European and US models of corporate social responsibility so heavily depend.

As a result, the conventional measures of business sustainability suggest that Mexican companies still have a long way to go. KPMG's 2008 corporate responsibility survey found that, of the 100 largest companies in Mexico, only 27 published any kind of corporate social responsibility (CSR) report in 2008, and that, of these, only five involved third parties in comment or assurance. Oil and gas company Pemex, and mining giant Industrias Peñoles, were among just six Mexican companies (compared with 48 from Brazil) to file CSR reports with the Global Reporting Initiative – although both did distinguish themselves by garnering A+ ratings.

But things are changing fast. A survey in May of 2008 by Vivian Blair and Associates showed a growing appetite from consumers for action by business and government, with 73% saying their expectations of businesses' responsibility are not being met, and 37% claiming to be willing to change their buying habits to support a worthy cause. Numbers like these explain why consumers are at last getting a voice with which to apply pressure to business.

Alconsumidor is one of two independent consumer organisations established in Mexico in the last few years.

Like such groups everywhere, their aim is to help consumers make better choices, support them when things go wrong, and ultimately to encourage business and government to raise standards. Alconsumidor has a strong public face, with their website encouraging consumers to share their stories of corporates – good and bad – online, and founder Daniel Gershenson taking on the issues of the day in a blog hosted by the respected Mexico City daily newspaper, *Reforma*. Meanwhile, rival group El Poder Del Consumidor has recently joined forces with civil society network Red Puentes and others, including Oxfam Novib, to form the Centro de Información del Comportamiento Empresarial (Corporate Behaviour Information Centre). This will act as a corporate observatory, providing and supporting campaigns against companies with poor social responsibility practices.

All of which will serve to drive change. But in one respect at least, a lack of a strong third sector has not stopped action by business. To some commentators, Western eyes misinterpret the Mexican social responsibility scene.

In emerging economies, people expect business – particularly state-owned businesses – to provide the social welfare not yet offered by government. Jean Logsdon of the University of New Mexico sees a distinctive history of social contribution by business in Mexico, much of it filling a void left by government. “While the role of NGOs has not been as important in promoting CSR as in other countries, Mexican firms have undertaken a social role for historical and cultural reasons, based on Mexico’s religious and political history... While in other contexts corporate citizenship metaphorically treats the corporation as a citizen, in Mexico corporations are literally treated by Mexican society as real citizens, with responsibilities to match.”

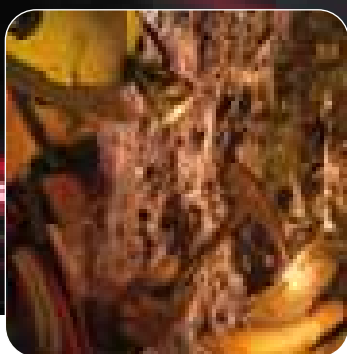
With such a large proportion of the population living in poverty (Mexico has a median annual household income of

exemplar bottom-of-the-pyramid offer. After carrying out research in deprived communities in Guadalajara, Cemex concluded that housing construction was hampered by lack of resources and knowhow, with poor customers unable to keep contractors working, and materials wasted because of lack of storage space.

### Points of light

In response, Cemex developed Patrimonio Hoy. It allows low-income families to order construction materials in small quantities in the right sequence, paid for with microfinance from Cemex. The typical cost for a family is about \$16 per week, most of which goes on the materials, with the remainder covering access to advice, a guarantee on fixed prices, storage and delivery. By May 2008, 205,000 Mexican

*A new perspective on responsible business: [inset, left to right] Tizapa’s miners pioneer a new approach; Pemex comes clean on carbon*



\$7,297), Mexican businesses seemed to notice C.K. Prahalad’s ‘fortune at the bottom of the pyramid’ (the idea that millions of low-income consumers provide an ideal market) well before he did. For a century or more, a wide range of businesses have been finding ways to sell things to the poor, with a mixture of commercial, philanthropic and development goals. Today, there’s more activity than ever.

Entrepreneur Ricardo Salinas recalls his grandfather saying “if you want to get rich, sell to the poor”. His Grupo Salinas is now a huge empire of companies selling consumer electronics (via his Grupo Elektra), broadcast media (via TV Azteca) and the financial services to pay for it all – via Salinas’s Banco Azteca, one of a number of new microfinance operations reaching low-income consumers. With loans averaging just \$247, Azteca has helped countless low-income consumers get a slice of material affluence, from DVD players to motorbikes. But with an APR somewhere between 55% and 100%, it’s also turned out to be a hugely profitable model. Azteca, and others like it – including Compartamos Banco and FinComún – have attracted criticism for selling the poor and uneducated loans they barely understand and, in reality, may not be able to afford.

Though Salinas’s business practices have landed him up in court in recent years, there are many who defend the microfinance route, and other companies have found much more approval in Mexico by offering something to the poorest consumers. With a severe housing shortage affecting over 20 million people, in 1998 building materials giant Cemex started work on another scheme that has become an

families had used Patrimonio Hoy, borrowing the equivalent of around \$94 million, and building around 105,000 10m<sup>2</sup> rooms. Cemex claims that 99% of these loans have been paid back. The scheme has won awards from Business in the Community among others, has been extended to Colombia, Venezuela, Nicaragua, and Costa Rica, and may now be rolled out in other countries in the Cemex global empire.

Pemex and Industrias Peñoles make contrasting examples of how homegrown Mexican business is rising to the challenge of sustainable development. To Juan Felipe Cajiga, who leads on corporate social responsibility at the Centro Mexicano para la Filantropía (CEMEFI), Industrias Peñoles is an exemplar of community engagement. Made up of more than 50 companies, it is the world’s largest producer of silver, alongside a range of other metals and minerals; it operates in nine states in Mexico, and employs nearly 10,000 people.

Peñoles’ largest mine, Tizapa [above left], lies in the municipality of Zacazonapan – about 200km west of Mexico City – and provides employment to around 20% of Tizapa’s 4,000 inhabitants. Since 1999, representatives of the community, Peñoles and the local state have been meeting as the Committee for Development of Zacazonapan. This has work teams on education, health, ecology, culture, sport and infrastructure, and supports the local authority in these areas. Peñoles has been taking its lead from the committee in the Tizapa mine, pursuing a strategy of sustainable development, which, according to Cajiga, has helped both Peñoles and the people of Tizapa overcome “the pre-existent paternalistic culture, in which authorities and business... create

dependence and apathy". Where the traditional model was simply to provide community demands, Peñoles has become an enabler, helping the community access development resources from government and NGOs.

The results in Zacazonapan have been significant. Along with a new health centre, sports arena, school bus, and waste management infrastructure, are new phone lines, ambulances, a TV network and a wide range of events, educational programmes and a public market. The work has also helped Peñoles build trust with its employees, show leadership and enhance its reputation.

Pemex, the state-owned company created by nationalising 17 foreign oil companies in the 1930s, and now the biggest enterprise in Latin America, is on what might seem a more conventional track. A high tax burden (Pemex is

*"In Mexico corporations are treated as citizens, with responsibilities to match"*



the largest taxpayer in Mexico, contributing about a third of government revenues) and falling oil prices have put the squeeze on, but Pemex has been reporting on its social and environmental performance in different ways since 1999, finally gaining its Global Reporting Initiative's (GRI) A+ status in 2008.

Though it might seem odd for a state-owned company with no competitors, and little need for external investment, to bother with such thorough reporting, this seems to reflect a more general need within Mexican business to be trusted. Certainly the Pemex reports try hard to demonstrate this trustworthiness, with claims backed up by Transparency International and GRI itself – and results include a programme of energy saving within the company which has already reduced its emissions by about 11 million tonnes of carbon a year.

#### **Local business, global standard**

As a culture around sustainability and social responsibility develops in Mexican business circles, homegrown initiatives are emerging to help formalise their response. CEMEFI and the Alliance for Corporate Social Responsibility now run a socially responsible enterprise award scheme, recognising companies operating in Mexico that show a "fundamental social vision in both policies and programmes that allows them to go beyond their legal obligations... achieving success in their businesses while at the same time having a positive impact on the communities in which they operate". The scheme evaluates firms against four criteria: quality of the work environment; ethics and governance; links with the

community; and care and preservation of the natural environment. Over 400 companies are now on the CEMEFI track.

Meanwhile, transnational corporations and NGOs from the US, Europe and elsewhere are bringing their CSR culture to Mexico. The World Business Council for Sustainable Development and the World Resources Institute were behind the launch of the Greenhouse Gas Protocol in Mexico in 2004. By 2008, more than 50 major companies were tracking their CO<sub>2</sub>, giving policymakers access to data on 35% of the country's industrial emissions, and giving companies access to profitable offset schemes through the Kyoto Protocol's Clean Development Mechanism. Mexico is also the best-represented Latin American country in the UN's Global Compact, with 367 companies signed up to its voluntary corporate social responsibility initiative.

In 2008, the Mexican subsidiaries of Coca-Cola, Philips, Natura, Wal-Mart and Unilever got together to form Grupo Transforma, a new collaboration for sustainable development. Their first project is to commission a mobile exhibition on sustainable development aimed at children, to be hosted first by Mexico City's Museum of the Child. But their aim is ultimately much grander: recognising the colossal economic impact of North American companies they have set out to raise awareness and generate action on the big issues like climate change, in partnership with the growing band of national and international NGOs in Mexico.

*Ben Tuxworth is Communications Director at Forum for the Future.*

# Fresh water



© Garuda Dassa/EFECorbis

**Lots of water where people aren't, not much where they are, and a historic blunder by the conquistadors have left Mexico with a freshwater crisis. Ron Buchanan welcomes a boost to water treatment budgets – but it's time for fresh thinking too.**

It was all so different half a millennium ago. As the Spanish conquistadors first gazed down on Tenochtitlán, today's Mexico City, they gazed in wonder. What was then probably the world's largest city was built on a huge lake, a glittering Venice of the New World.

The chronicler Bernal Díaz del Castillo described a white city "embowered in trees and surrounded by the blue waters of the lake sparkling under a tropical sun, a lake that was alive with a multitude of canoes passing and repassing to the other white cities on its shores, and in every direction the horizon was closed with a splendid panorama of forest-covered hills, while to the southeast the eye always rested with delight on the beautiful slopes and snow-covered peaks of the two great volcanoes."

## **Unequal distribution**

When the 16th-century Spanish colonial urban planners decided to drain the lakes, they unwittingly condemned all future generations to a constant battle to get rain and liquid waste out of the city. Today only vestiges of the lake remain, and Iztapalapa, a town at whose gardens Díaz del Castillo marvelled, has been swallowed up by a polluted megacity of more than 20 million inhabitants. And with the population

explosion of the 20th century came the additional crisis of overexploitation of the underground aquifer that once supplied all the city's clean water needs with ease. Water no longer abounds. In some of Iztapalapa's hardscrabble neighbourhoods, people depend on tanker trucks for supplies, and spend up to 20% of their wages on bottled water.

Water – or lack of it – is one of modern Mexico's most pressing problems. Its distribution is unequal in every sense. Rain falls almost exclusively in summer, leaving long months of drought. The relatively undeveloped south of the country gets 80% of the rainfall – but economic development has been out of kilter with nature. Industry, much of it linked to the US economy, is heavily concentrated on the arid centre and north. 77% of the population lives here, producing 87% of GDP – and putting the underground aquifers under extreme pressure. Yet, while electrical power flows hundreds of miles to Mexico City from huge hydroelectric dams in the state of Chiapas, one in four of the latter's population lacks potable water. In southern states such as Guerrero, that proportion is as high as four in ten.

The treatment of wastewater, as officials freely admit, is another issue on which not enough has been done in the

# for all

*“In parts of Iztapalapa, people depend on tanker trucks for supplies – and spend up to 20% of their wages on bottled water”*

## How much water is enough?

past. “The level of development of Mexico’s economy, internationally speaking, bears no relation to the extremely low level (40%) of wastewater treatment,” says José Luis Luege, head of the National Water Commission, the CNA. “A lot of countries with economies similar to ours, in South America and Europe, treat 100% of their waste water. As a nation, we’ve built up a huge backlog.”

At least this is being tackled now. “We have opened 92 wastewater treatment plants in the last two years,” says Luege – evidence of the Calderón administration’s commitment. The CNA will be a beneficiary of Calderón’s resolve to fight recession by boosting public spending on infrastructure. Some 70% of its \$2.4 billion budget for the next year will be spent on improving access to potable water and the construction of more treatment plants.

Among the bids it will be inviting is a massive project at Atotonilco on the outskirts of Mexico City, to build nothing less than the world’s largest water-treatment plant. A scheme with a series of failed precedents, and a current projected price tag of more than \$2.3 billion, Atotonilco is part of a drive to ensure that both the capital and the country’s second city, Guadalajara, have the capability to treat 100% of their wastewater. And it comes not a moment too soon, argues Cecilia Tortajada, Vice-President of the Mexico-based Third World Centre for Water Management. “Only time will tell if the project will be completed,” she warns.

The picture Tortajada paints of Mexico City gives serious grounds for concern. “The groundwater table is rising by around one metre each year,” she says. “Subsidence of several parts of the city has resulted in extensive and costly damage to both surface and below-ground infrastructure, including water supply and drainage.” And, she adds, “the

According to J. Eugenio Barrios, Director of the watershed management programme for WWF-México, there are now 101 ‘overexploited’ aquifers in Mexico – i.e. those from which more water is used than is replenished by rain. In the late 1970s there were only 32. So, in three vital river basins – Río Conchos, Copalita-Zimatán-Huatulco and San Pedro-Mezquital – WWF and the Foundation Gonzalo Río Arronte have defined the ‘environmental flow’, or the amount of water a basin needs to help aquifers recover and maintain river habitats. Then, WWF has worked with charities and communities to help conserve what water is left.

In the low-income community of San Miguel Suchixtepec, in Copalita-Zimatán-Huatulco, they have helped local people conserve water – by supporting not only sanitation projects but also reforestation, to help mitigate the impact of storms or droughts. Barrios says four measures made the scheme a model for others of its kind: “community agreement on forest and water conservation; feasible solutions to improve water services; enough investment to promote commitment from community members; and clear improvement in living conditions”.

– Chris Alden



## Fishing for good

It might sound surprising, but the Chihuahuan Desert in northern Mexico is home to one of the richest and most complex fish fauna in the world. The 30 native fish of the Río Conchos include extraordinary species like the Julimes pupfish, known as the 'hottest fish in the world' thanks to its adaptation to inhabit hot springs of up to 47°C, and such rarities as the Conchos trout, of which there are only around 100 left, inhabiting a stretch of river only a kilometre or so long.

WWF has focused its efforts on helping secure habitats for these species of fish – and at the same time ensuring the sustainable development of local communities. For the Julimes pupfish, it worked to establish a non-profit organisation of landowners and residents, Friends of the Pandeño Springs, to help conserve water and create a protected area for the fish. And for the Conchos trout, it worked with local Raramuri communities to build a cattle enclosure around the habitat and hire a watchman for the area. "Under the supervision of WWF, 22 young trout were collected to establish breeding stock to aid in reintroduction efforts," adds Mauricio de la Maza, Director of the Chihuahuan Desert programme for WWF-México.

The NGO is also working to give ocean fishermen the means to be better stewards of the country's fishing stocks. WWF's marine programme is collaborating with the National Fisheries Commission and fishermen's organisations to introduce a radically new approach to fisheries; rights-based management. Starting with pilot fisheries in the Gulf of California – home to more than half of Mexico's fisheries production – WWF aims to make fishermen active shareholders in the future of their fishery. – *Chris Alden*



## Mending the Big bend

© WWF Mexico/Jenny Zapata

The Big Bend of the Río Grande/Bravo – the stretch of river along the border between the US and Mexico – is one of the icons of the North American landscape. A rich but fragile desert ecosystem, it is home to cacti, black bears, geckos, falcons and cougars. Due in part to diversion of the river, however, this boundary ecosystem has become severely degraded – and there is even a 150-mile-long 'forgotten reach' just upstream of Big Bend where the river disappears altogether from view.

Today, 75% of flows come from the Río Conchos basin in Mexico – which is, in turn, under threat from overexploitation, deforestation, habitat destruction and pollution from agrochemicals, not to mention 12 years of drought between 1994 and 2006.

That's why WWF-México focused its attention on 'integrated river basin management' in the Río Conchos – which aims to reverse the deterioration of the ecosystem by 2050, and increase the quality of life of the basin's indigenous residents.

"Irrigated agriculture accounts for more than 90% of the water use in the basin," explains WWF-México's Mauricio de la Maza. Now, at Delicias – the biggest irrigation area – farmers and the government have worked together on a conservation scheme which has cut water use for irrigation by 200<sup>3</sup> hectometres a year – almost one-fifth of total water use. – *Chris Alden*

perception that the quality of tap water is not suitable for drinking purposes has an enormous impact on the economy of the country." Per capita consumption of bottled water in Mexico is the highest in the world, and nearly twice that of the United States.

### Promising pipes

Over the years, the response to the growing demand for water has been to build new infrastructure. Today the Federal District (known as the DF, and comprising the centre and southern suburbs of Mexico City) imports about a third of the water it uses from outside the valley. Now, however, achieving self-sufficiency in water is a major element of the DF's 'Plan Verde' [see pp24–26]. "We have to change the way we think about the water we consume; we have to start treating it like money in a bank account, and use only what we have," says local Environment Minister Martha Delgado. "Not to do this is very risky for the city. We can't depend on negotiations with

other states whose own water needs are expanding quickly." The Plan promises to completely replace a network of underground water distribution pipes that currently loses about 13m<sup>3</sup> a second. But a lasting solution to Mexico's water problems must be more than merely technical. So the Plan also foresees a drive to reduce consumption, and to encourage the capture and use of rain water for household use. There are also pledges of unprecedented efforts to stop land invasions in green areas on the semi-rural southern fringe – green areas that are essential to replenishment of the underground water basin.

Mexico may never recover the sparkling, forest-cradled waterscape which greeted the conquistadors – but if plans like this succeed, it will at least escape the fate of being rediscovered by archaeologists, centuries hence, as a concrete ruin in a desert dry as dust.

*Additional material by Jo Tuckman.*

## Monterrey magic

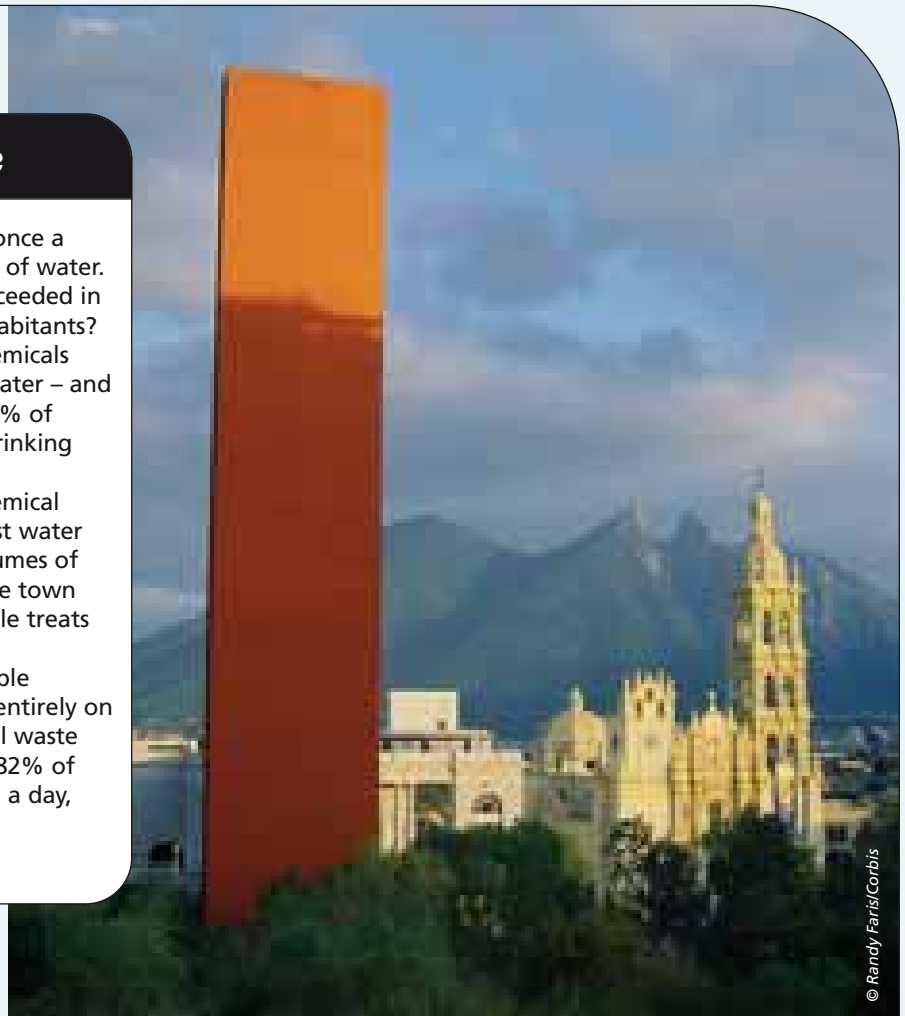
Just next to the US border, Monterrey was once a dusty horse wagon station next to a stream of water. So how has one of Mexico's driest cities succeeded in providing clean water for its 1.1 million inhabitants?

It's thanks to thriving brewing and chemicals industries which depend heavily on clean water – and a handful of visionary engineers – that 99.6% of Monterrey's residents now have access to drinking water.

Back in the fifties, local textile and chemical conglomerate CYDSA built the country's first water recycling plant because it needed large volumes of the stuff for its cellophane works. Today, the town reuses 100% of its water – Mexico as a whole treats only 40%.

The city also leads the way on renewable energy, running its light rail system almost entirely on methane. The gas, extracted from municipal waste and burned to produce electricity, supplies 82% of the Metro's demand, moves 180,000 people a day, and cuts one million tons of carbon a year.

– Hannah Bullock



© Randy Farkis/Corbis

*“We have to start treating water like money in a bank account, and use only what we have”*

## Work in progress

As one of the ten most biodiverse countries on the planet, Mexico has been vital to the success of WWF's global mission since it began working there in 1968. Since this first project, WWF has expanded its work to cover freshwater, marine and terrestrial issues across the country, establishing partnerships and strengthening local and national conservation strategies.

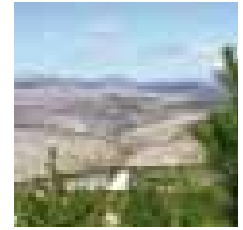
However, with nearly half of Mexico's population still living in poverty and almost 15% lacking access to clean water and sanitation, social and economic development is urgently needed by millions of Mexicans. In recognition of this, WWF is working with local communities, government agencies, and the private sector to forge a new path towards environmental, social and economic sustainability.

*[Right] Empty promises: WWF places a giant water bucket in front of HSBC's energy- and water-efficient offices, to draw attention to the shortcomings of the World Water Forum held in Mexico in 2006*



© Brian Thomson/WWF-Canon

# Bringing back the trees



**Forest destruction has been the curse of modern Mexico. But the threat of climate change could help drive some ambitious reforestation, reports Ben Tuxworth.**

Nearly half of Mexico's original forests have fallen victim to logging and changes in land use since the 1950s. In the tropical south, less than a quarter of the original rainforest remains. Around 600,000-800,000 hectares are being lost each year, much of it through the expansion of extensive cattle ranching. But, according to the Mexican Government, the climate change mitigation potential of the nation's forests is still enormous: around 107 million tonnes of carbon in 2010, a mainstay of the nation's climate change strategy. So maintaining and restoring forest is a key priority for the country.

Forest conservation can be dangerous. Landowners, corrupt local officials and business interests are often ranged against grassroots leaders in a very unequal power battle, and several forest activists who have stood up to illegal logging operations have been murdered in recent years. But action to save the forests is building. Conservation groups have sprung up all over the country, many of them with women in the driving seat. Take the Organisation of Women Ecologists of the Sierra of Petatlán (OMESP), for example, which was founded in Guerrero State in 2001 by Celsa Valdovinos, the wife of forest activist Felipe Arreaga. OMESSP promotes sustainable and organic agriculture, reforestation, recycling, and water and soil conservation – and has planted more than 175,000 red cedar trees with help from a nursery run by the Mexican army. OMESSP members have also found there's a living to be made from reforestation, with some earning \$3,000 annually from selling tree seeds.

Some groups now manage substantial assets. Pati Ruiz Corzo founded the Grupo Ecológico Sierra Gorda (GESG) in 1987, and the organisation now manages 383,000 hectares



*Planting hope: over 50 million seedlings have been distributed as part of a national regeneration scheme*

of the Sierra Gorda Biosphere Reserve, about 400km north of Mexico City in Querétaro. With jagged mountains, cloud forests and semidesert areas, the reserve contains astonishing biodiversity including more than its fair share of endangered animals such as black bear, jaguar, Humboldt butterfly and military macaw. It's also home to 93,000 people living in over 600 communities. Corzo moved to the area 25 years ago, looking to live closer to nature, but she found that Sierra Gordo had lost much of its natural vegetation. She set about

mending things, bringing back soil fertility, vegetation and water, and recreating thriving habitats that now attract ecotourism and vital employment for local people, who provide accommodation and craft goods.

### Growing ambitions

It was largely through Corzo's efforts that the Government declared the Sierra Gorda region a protected area in May 1997. Corzo remains its most passionate advocate – with GESG now backed by a wide range of local and international sponsors, from HP to the Earth Island Institute. Speaking at the World Economic Forum in Dubai in November 2008, Corzo said: "We want to remind you that the vital services which allow life to go around come from ecosystem services, which come from the land of extremely poor communities. How can we help local people to develop, and enjoy wellbeing, as well as be ecosystem service providers? If we understand this, we will turn poverty into wealth for rural communities."

With around 40% of men still leaving the area to find employment in the US, GESG is now using the forest to raise money on the carbon market. Via its commercial operation Bosque Sustentable, GESG has been selling carbon offsets in the voluntary market since 2006, the first sale being to the United Nations Foundation. Cash raised from offsetting is used to plant more trees and create sustainable jobs for local people. Corzo has commissioned estimates that suggest trees in Sierra Gordo may be worth over a billion dollars as carbon

sinks, and the hope is that this resource will ultimately provide sufficient income to keep the men from leaving for the US.

The Government, too, is getting in on the forest protection act. As part of his administration's new commitment to the environment, Mario Molina joined President Calderón to launch the ProÁrbol campaign in 2007, with a plan to plant 250 million trees in ten years, using indigenous species of pine, cypress, agave, yucca and oak.

Prompted by ProÁrbol, a group of companies including bakery giant Grupo Bimbo [see below], Santander Serfin, HP, the Wal-Mart Foundation and online retailer Sam's Club, a division of Wal-Mart, have established Reforestamos México. This new NGO is building public support and action for reforestation and climate change more generally, with programmes on tree planting, forest management, community development and forest culture, and a website where Mexicans can calculate their carbon emissions.

By August 2008, the National Forest Commission claimed that 50 million seedlings had been distributed around the country, and they were aiming to reach their 250-million target by the end of the year. And it's not just in rural areas that trees are coming back. Because Mexico City loses around 400 hectares of greenfield land each year to development – mainly through squatting and illegal logging – the campaign has also targeted urban areas. Three million trees have been planted in 25 communities over in the city's rural southern zone.

## Green shoots

Bakery giant Grupo Bimbo started putting Mexicans' daily bread on the table back in the 1940s. And as far back as the 1980s, it has helped bring trees to the people, too. One of the founders of Reforestamos México, Bimbo has been involved in planting an extra 4.5 million trees across the country – both in Mexico City's green belt and as far afield as the rare butterfly haven La Reserva de la Biósfera de la Mariposa Monarca [see p9]. The project includes a scheme to train over 50 indigenous communities, such as the Mixteca, Mazahua, Tepehuano and Tarahumara, in sustainable forestry, teaching them the importance of forests for quality of life, and involving them in replanting.

One of the largest food corporations in the world, the company is determined to green the way it produces its range of 5,000-plus baked goods, savoury snacks and confectionery products, as well. Its 'Committed to the Environment' programme includes stretch targets on energy, water and waste. Smart factories maximise natural light and are fitted with solar panels and heat recovery units. Water from the production process is treated and reused to wash vehicles and water fields. Over a quarter of Grupo Bimbo's 83 plants have been certified as 'environmentally friendly', with two winning the government's 'Excelencia Ambiental' award.

Last year the company reduced overall waste by 37%, and halved non-recyclable waste, compared to



*Planting the future with Reforestamos México*

2007. It has made a bold move to reduce its own packaging waste by introducing degradable packaging – the first Mexican company to pioneer the 'd2w' material that breaks down into organic matter within three to five years.

"We are very proud of this step that we are taking in our country," comments Operations Director Ramon Rivera. "Normal plastic can take as long as 100 to 400 years to break down," he explains. Starting with the regular *Pan Blanco Bimbo*, the company will eventually use the packaging for all its products across Latin America. – Hannah Bullock

# Green revolution in the city of palaces



© José Huste Ragalzeña/Corbis

“We are starting the transformation of the city to fit a completely different model.” So says Martha Delgado, waving a copy of the so-called ‘Plan Verde’, which she says will make it all happen.

The Plan is a top priority of Mayor Marcelo Ebrard, and Delgado is the Environment Minister in the local administration. Its geographical scope, if not its ambition, is limited; it refers only to the Federal District. Known as DF, this covers the city’s centre and southern semi-rural fringe, and accounts for about 45% of the 20-million population of the Mexico City metropolitan area – but not the remaining areas which spread out into Mexico State and, to a lesser degree, Hidalgo State.

The consequent difficulties in co-ordinating policy are further complicated by the fact that the DF, Mexico State and the Federal Government are run by three different political parties. Nevertheless, a first draft of a metropolis-wide Sustainability Strategy, supported by the UK Government through the UK-Mexico Sustainable Development Dialogue (SDD), is expected before the end of the year.

The Green Plan’s go-it-alone ethos does worry activists like Gustavo Alanis, Director of an NGO called the Mexican Centre for Environmental Law. His main fear, however, is that what he calls “a novel and very ambitious plan with excellent intentions” will fall foul of the yawning gulf that traditionally exists in Mexico between political rhetoric and policy action, and between legislation and enforcement. “The problem is that we have a lot of environmental deficits that are extremely difficult and complex to reverse,” says Alanis, “and we need more than good intentions. We need implementation.”

Perhaps the most serious ‘deficit’ dates back to the Spanish colonialists’ decision to drain the lakes on which the city stood, which means that, 500 years on, the DF imports about a third of the water it uses from outside the valley. So the Green Plan’s stated aims of self-sufficiency in water by 2022, and restoring the health of the aquifer [see pp18–21], are among the boldest of its targets.

A healthy aquifer should also help slow the dramatic rate at which the capital is sinking as the spongy lakebed contracts. This reaches 30cm a year in some places. The

**Think of a list of potentially sustainable cities around the world. Would you include the Mexican capital? It might not spring to mind as a prime candidate – but the city’s current administration claims that soon it will be an automatic choice, says Jo Tuckman.**

consequences go beyond structurally unsafe buildings and cracked pipes in an earthquake-prone city; they also put the whole drainage system at risk. The reversal of the slope of a major 19th-century canal, which used to ferry storm run off and sewage out of the city, has put an excessive burden on the deep drainage system built to complement it in the 1960s. Last year experts warned that the danger of a malfunction was real, and that this in turn could leave the city centre under three meters of dirty water for months. Since then, the central deep drainage canal has received its first round of maintenance for 12 years. Construction of a deeper canal is due to start shortly.

The Green Plan’s claim to change Mexico City’s environmental paradigm falls short of reversing the whole drainage model established by the Spanish conquistadors

and reinforced by succeeding generations of city authorities. It does, however, promise to start treating the waste water it dumps on its neighbours, much of which irrigates farms growing food consumed in the capital.

The local authority also has ambitions for reducing air pollution. Two decades ago, ozone and particulate levels regularly soared to emergency levels. Today, this is a rare occurrence, although air quality still frequently falls short of acceptable standards, and the city is filled with wheezing children. The gradual improvement is closely tied to a programme that forced all cars over ten years old off the streets for one day a week. The Green Plan extends this to include Saturdays. It will also oblige private schools to provide transport, and promises to retire all old taxis [below right] and buses from the roads.

*“We need more than good intentions – we need implementation”*

**Cleaning the chaos**

But the crux of the city government’s anti-pollution drive, along with the core of its claims to be active in tackling climate change and its efforts to get the city moving again, rests on major new investment in public transport.

This is a big challenge. The existing metro built in the 1960s has long been outgrown, leaving a chaotic surface bus network to compete for space with four million cars – an already unsustainable number which has been growing by 400,000 a year.

*Clockwise from below: Mexico’s Metrobus; Streams of traffic; Capital’s cabs aren’t as green as they look; Rubbish gives way to recycling*



© Metrobus, istock



The Environment Minister insists she can do nothing to stop the explosion in the use of private cars. What the city is doing, however, is to provide better collective alternatives – and hope that frustration of car drivers at going ever slower will persuade Mexico City’s middle classes to overcome their deep reluctance to travelling with the *hoi polloi*.

The first line of a new Metrobus network, introduced in 2005 to replace 372 regular buses along a main north-south artery, was hailed as a great success abroad, although within the city itself chronic overcrowding puts off many potential users. A massive expansion, with a new network of modern buses with dedicated lanes, is already underway, however [see also p11]. A new metro line is planned, too, and an electric tram along a central avenue singled out for regeneration, within a project promoted as ‘the zero emissions corridor’. An important part of the capital’s own Climate Change Action Plan, released in June 2008, this project is one of the initiatives being supported through the SDD.

Most radically for a city that has never seen cycling as an option, the local authority is also preparing a 400km network of cycle lanes, with the help of consultants from bike-friendly Bogota and Copenhagen. A glimpse of what could be is already in evidence in the weekly closure of the central Reforma boulevard, which brings out thousands of cyclists every week for a wheeled equivalent of a traditional *paseo*.

Water, pollution and transportation aside, the DF’s most immediate challenge to its dreams of sustainability is the

question of what to do with the 12,000 tonnes of solid waste it produces every day. Currently this goes to a single overstretched dump, whose imminent closure is at the centre of political wrangling. With no sustainable longer-term solution in place ahead of time, this leaves little choice at first than to send the waste to several privately owned dumps in Mexico State – which are also beginning to fill up. But the Green Plan promises to build the first of several recycling centres that will harness the energy potential of the waste. At the same time, it is set to launch a major campaign promoting rubbish reduction and separation. Until now, Mexico City has relied on *pepenadores* rooting through rubbish to collect recyclable bottles in return for cash. PET plastic is then recycled at the world’s largest plant of its kind, just 40 miles from the capital, which is run by a conglomerate of drinks companies including Coca-Cola.

But there isn’t much of a culture of recycling among Mexico’s middle classes. Precedent does not bode well. Four years after legislation was introduced obliging Mexico City residents to separate their organic waste, only about 3% of households comply with the law.

Not that such challenges deter Delgado from promising a sustainable future. “The people who live in Mexico City have witnessed the deterioration of the urban environment and they are now worried about it,” she says. “What we have to do now, is to move from this new consciousness to action.”

*Jo Tuckman is a freelance journalist based in Mexico City.*



# Sun, sea... sustainability

**With holidaymakers increasingly central to Mexico's economy, can the industry ever become truly sustainable?**

**Ron Mader and Ben Tuxworth scan the horizon.**



© Justin Lewis/Getty

Mexico – there's nowhere like it for a holiday. Good transport links by land, air and sea. A world famous cuisine, with more uses for corn than Peru can manage for potatoes. A showcase of the world's ecosystems. Small wonder that tourism is one of the country's top income generators. Mexico is the number one destination for tourists in Latin America. In 2006, tourism provided 14% of the country's employment, with 21.4 million visitors generating \$12.17 billion. And when tourism suffers, so does the rest of the economy, as witnessed in the southern state of Oaxaca, where social protests in 2006 led to a loss of tourism in succeeding years, with disastrous consequences for local *artesanos* and other businesses.

Though at times tourism and conservation seem stranded on either side of an unbridgeable divide, they are slowly learning to tread the same path. 'Ecotourism' has been an important part of that transition, and for a range of operators in Mexico it is increasingly profitable. Environmentalists do take issue with the way the term is often used to describe any type of nature-based tourism. But there's no doubt that even these holidays do encourage environmental conservation and local participation.

"Ecotourism is not your typical market," says Kenneth Johnson, owner of the EcoColors tour company based in Cancún. "It's not like conventional business where the main concern is profit, profit, profit. Yes, money is one of

the components but it's not the only focus. You have to take care of the environment people are visiting or you end up screwing your business."

Of course, nature tourism is not new to Mexico. Individual travellers have long raved about the country's natural wonders – and in the 1990s they were followed by the packaged tours. Whether to watch birds or whales, people began visiting the great outdoors to experience the diversity and beauty of nature. Tourism providers discovered the accompanying economic benefits of offering natural history tours, and host communities began to see that ecotourism offered the potential to diversify their income base.

But the need to protect the natural wonders from the tourists themselves initially gave ecotourism something of a bad name, with conservationists rejecting an unappealing commoditisation of wildlife, and tour operators dismissing the more complicated and less marketable eco-trips as nothing more than utopian whimsy.

"One problem is that 'ecotourism' is too often confused with adventure tourism – sporting activities in a natural setting which usually offer limited benefits to poor rural communities and pay little attention to conserving the natural environment," says architect Hector Ceballos-Lascurain, the man credited with coining the term in the 1980s. "Another drawback in Mexico is that many of the ecotour operators are addressing the domestic market and

hardly trying to attract international ecotourists, thus missing out on the possibility of attracting large amounts of foreign currency – something which is badly needed in our country.”

Until recently, most of Mexico’s protected areas and biosphere reserves, covering 12% of the country, were simply off-limits to tourism. The Government tried to keep these areas free of visitors, due to the lack of qualified park guides and adequate protection for their fragile ecosystems. It didn’t have to try too hard: many of the protected areas were too far from the main tourism corridors to attract many visitors anyway. Now, however, it’s changing tack, and starting to open protected areas to tourism.



Two sides of tourism: traditional pleasures [top] are increasingly being complemented by social engagement [below]



Given the diversity of Mexico’s wildlife and natural attractions, a broad approach to tourism in the country makes sense. Since 2002’s International Year of Ecotourism, development is increasingly financed by various governmental and non-governmental institutions. “We have advanced a great deal in the past ten years,” says Johnson. “We are finally recognising that it’s not just about doing more, but doing things better.”

Recent achievements reflect a slowly but steadily maturing understanding and engagement. A revitalised



© Shutterstock; The Travel Foundation; TUI Travel PLC; ECOSUR

## Eco in Ochovenado

This community project in Oaxaca is one of Mexico’s newest rural tourism developments. It consists of communities whose inhabitants are keen to share their perspectives and insights with visitors. Located on the Pacific coast, the initiative had its origin in conservation efforts and projects which had been running for over a decade – long before anybody considered them as interesting from a tourism perspective.

Among these are forest reserves that serve as refuge for flora and fauna, organic agriculture using traditional seeds, and breeding projects for iguana and deer. With the assistance of a local organisation, Ecosta, the villagers started realising that these efforts to conserve some of their disappearing species can also be of interest to visitors. They now offer accommodation, wildlife tours including visits to deer breeding grounds, and a chance to learn about Mixtec culture. – Ron Mader

national association for ecotourism and adventure tourism operators, AMTAVE, is one of the first in the world to bring together small businesses to promote their shared offer. In 2008 the association launched a promotional campaign, ‘México Sagaz’ (meaning ‘Astute Mexico’). And in November, Mexico’s Tourism Secretariat announced that it would double its budget for nature-based travel and ecotourism, committing 500 million pesos to the sector and more than 100 million pesos to national and international promotion.

Baja California is making great efforts to shift its economy away from fishing and commerce towards ecotourism. Back in 2000, the state made the news when a presidential decree prevented a major salt plant from expanding into breeding areas of the grey whale. Thanks to pressure from environmental groups, more than 200 islands and inlets in the Gulf of California are now under UNESCO protection, offering great opportunities for diving, snorkelling and kayaking. The Governor made the state’s commitment to ‘environmental tourism’ official a few years ago, when he ruled that it “must be the main attraction in Baja California”.

Ecotourism is, of course, only a small part of Mexico’s tourism market, and plans such as those for Yucatán’s coastal zone have to take into account the current and

potential impacts of 'conventional' tourism. The once remote Riviera Maya in Quintana Roo now hosts colossal numbers of North American and European tourists seeking their fix of sun, sea and sand. Cruise liners ply back and forth to Cozumel island ferrying five million visitors a year, and from Cancún in the north, a strip of hotels and beach resorts lines the coast past Playa del Carmen, Tulum and on towards the Sian Ka'an nature reserve in the south. Here, the classic problems of bulk tourism pile up, with loss of habitats, unsustainable water use and pollution. Not to mention damage to the world's second largest coral reef, which, extending south to Belize, is an important part of the tourist experience.

Tackling these impacts is the Mesoamerican Reef Tourism Initiative (MARTI), a partnership of local NGO Amigos de Sian Ka'an, the Coral Reef Alliance (CORAL) and Conservation International (CI). MARTI is working on three fronts: CI is taking on the cruise lines; CORAL is re-educating marine recreation operators, and Amigos is running environmental management programmes for hotels.

CI has been working with the Cruise Lines International Association to map sensitive marine environments and add them to navigation charts, and developing a range of awareness-raising activities with passengers and tour

operators. In the pipeline are new voluntary codes of practice for the industry and efforts to get cruise line procurement to favour responsible tour operators. There will be shore excursion procurement guidelines, too, and an accompanying scorecard for cruise lines to verify that their contractors are meeting good practice standards.

MARTI is also working to reduce the water and energy use, and solid waste generation, of the 24,000 hotel rooms in the Riviera. Thomas Meller, the MARTI Project Director for Amigos de Sian Ka'an, and his team assess hotels against an exhaustive list of 225 standards, and work with the in-house green team on an action plan. By early 2009 they had registered some 30 hotels, taking the initiative past the 10,000-hotel-room mark on the Riviera Maya and Cozumel Island.

"Almost all MARTI hotels have active Green Teams implementing action plans based on our initial environmental audit and opportunity analysis," says Meller. The action plans focus on reducing natural resource use, including water, energy and materials, and improved waste management, plus environmental education. Action ranges from the familiar invocation to reuse towels, to waste separation, installing water-saving devices and training staff to ensure proper implementation.

*The Xel-Ha ecotourism development mixes tourist hedonism with green good practice*



© istock

*"We are finally recognising that it's not just about doing more, but doing things better"*



© TUI Travel PLC

## Mexican honey

At Benito Juarez, around 40 minutes from Cancún, Mayan women harvest honey from Melipona, an endangered species of stingless bee. They've been doing this for hundreds of years. What's much more recent, though, is the involvement of the Travel Foundation (TF) in their work.

Founded in 2003 by the UK Government and the outbound tourism industry, TF exists to educate customers, develop business tools for change and establish projects on the ground to improve the impact of tourism. TUI UK & Ireland encourages customer donations to TF at the time of booking, and help planning and implementing projects. Customers of First Choice and Thomson (part of TUI UK & Ireland) have raised over £1 million for the charity since its launch.

TF has a number of projects in Mexico. One priority is to enable Mayan communities to benefit from tourism rather than having to leave home in search of work in the shanties near Cancún. Instead, the project can help preserve their traditional way of life, and help to protect the natural environment. Which is how the connection with the women of Benito Juarez came about. The potential for them to maintain a source of income is good, but bringing the product to market requires training and resources.

Working with Amigos de Sian Ka'an, TF is providing bee boxes, researching methods of harvesting, and selecting the right flowers for the bees. They're also helping develop health and safety practices for honey production, and linking up with tourism operators to find a market for both the honey and the 'jungle jams' produced in a similar project in nearby Chumpon from tropical fruits like papaya and cactus. Tastings for tourists at the major resort of Xcaret have proved popular, and TF expects the first batch of jams and honeys to be available for sale in hotels later this year. The project is being extended to an additional ten communities in the area, and TF is exploring a possible ecotourism offer around flower planting.

– Ben Tuxworth

Certification is becoming an important part of the hotel offer. Promoting those that reach green standards is the focus of a new European campaign run by MARTI, WWF and the Tour Operators' Initiative (a UN- and WTO-backed group of international tour operators, including players such as TUI Travel PLC and Kuoni Travel, who are committed to the development of more sustainable tourism).

With so much new development coming on stream, MARTI is lobbying to get sustainability criteria built into local and federal legislation, and working with the State Ministry for Tourism on a guide for the sustainable siting, design and construction of hotels and resorts. WWF is also developing a national standard on tourism-related infrastructure in collaboration with the NGO Amigos de Sian Ka'an and the Environment Ministry.

### Greening the honey pots

Meanwhile, other organisations are trying to address the wide range of tourism impacts in the area. The UK Government is working with its Mexican counterpart on a scheme to improve environmental standards in 30 large hotels on the Caribbean coast, as part of the UK-Mexico Sustainable Development Dialogue. The Travel Foundation has recently teamed up with local NGO Biocenosis and the Mexican Institute of Anthropology and History to produce protection guidelines for Tulum, where growing numbers of visitors have begun to overwhelm this unique Mayan monument. And back at Cancún they're looking at a project to manage the 34 tonnes of solid waste generated each week at the airport by the million or so passengers that pass through each year. They're getting to grips with golf, too, working with Hilton and other major resort hotels on best practice on water management, herbicides, pesticides and wildlife conservation.

With the World Economic Forum forecasting Mexico's tourism industry to grow by 5% per year to 2017, the aim must be to spread these promising initiatives – and many others like them – throughout Mexico.



# WE LOVE HOLIDAYS AS MUCH AS YOU DO.



At Thomson, we're passionate about providing amazing holiday experiences, now and in the future. We're working hard to protect the environment and support local communities in the places we love to visit – through reducing our impact on climate change, encouraging our hotels to embrace sustainability, and raising awareness amongst our customers.

It's essential to the long-term future of our business... and the planet.



**The UK's No.1 holiday company.**

For more information visit  
[www.thomson.co.uk/environment](http://www.thomson.co.uk/environment)

*Viva la vida verde* is a *Green Futures* Special Publication, produced in association with the UK Department for Environment, Food and Rural Affairs, TUI Travel PLC, WWF, Grupo Bimbo and Unilever.

Defra: [www.defra.gov.uk](http://www.defra.gov.uk)  
TUI Travel PLC: [www.tuitravelplc.com](http://www.tuitravelplc.com)  
WWF: [www.wwf.org.mx](http://www.wwf.org.mx), [www.wwf.org.uk](http://www.wwf.org.uk)  
Grupo Bimbo: [www.grupobimbo.com.mx](http://www.grupobimbo.com.mx)  
Unilever: [www.unilever.co.uk](http://www.unilever.co.uk)

Editor in Chief: Martin Wright  
Editor: Ben Tuxworth  
Consultant Editor: Tiahoga Ruge  
Production: Hannah Bullock  
Copy Editor: Roger East  
Design: Jenny Searle Associates

Printed on Revive Silk by The Pureprint Group, using their environmental print technology and vegetable based inks.

© Green Futures 2009  
Registered charity no. 1040519

*Green Futures* brings you the latest news and thinking on positive progress towards sustainable development in the UK and the rest of the world – both on the web ([www.greenfutures.org](http://www.greenfutures.org)) and in a quarterly magazine. It is published by Forum for the Future, the sustainable development charity which finds practical ways private and public organisations can deliver a sustainable future. [www.forumforthefuture.org.uk](http://www.forumforthefuture.org.uk)

### Subscribe to Green Futures

Keep up to date with the latest news and debate on how to make the shift to sustainably, in print and online, by subscribing to *Green Futures*.

Subscribe at [www.greenfutures.org.uk](http://www.greenfutures.org.uk);  
call our subscriptions team on 01223 564334;  
or email [subs@greenfutures.org.uk](mailto:subs@greenfutures.org.uk)

We'd love your feedback on *Viva la vida verde*. Please email our editorial team at: [post@greenfutures.org.uk](mailto:post@greenfutures.org.uk)  
To order copies or to download the pdf, visit [www.greenfutures.org.uk/mexico](http://www.greenfutures.org.uk/mexico)

