

## Connecting with nature

Faith in nature

Scouting for  
trees

Staying  
grounded

Act local

A tusk for life

Change starts  
here

## TUNZA

the UNEP Magazine  
for Youth. To view current  
and past issues of this  
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## Partners for Youth and the Environment



**UNEP and Bayer, the German-based international enterprise involved in health care, crop science and materials science, are working together to strengthen young people's environmental awareness and engage children and youth in environmental issues worldwide.**

A partnership agreement lays down a basis for UNEP and Bayer, who have collaborated on projects in the Asia and Pacific region for nearly 10 years, to step up current projects, transfer

successful initiatives to other countries and develop new youth programmes. Projects include: TUNZA Magazine, the International Children's Painting Competition on the Environment, the Bayer Young Environmental Envoy in Partnership with UNEP, the UNEP Tunza International Youth/Children's Conference, youth environmental networks in Asia Pacific, Africa and Latin America, the Asia-Pacific Eco-Minds forum and a photo competition, 'Ecology in Focus', in Eastern Europe.



## Cool & Cooler

**COOL:** getting off the couch. A recent medical study claims people can boost their mental health by spending time outdoors and getting active in a green environment. Walks in the countryside are good for you! Who knew?

**COOLER:** green skiing. No snow, no problem! Strap on some grass skis and head for the hills to experience skiing without frostbite. Caterpillar-tracked or wheeled, the skis work on any grassy hill. Just remember to wear safety pads – grass is harder than snow.

**COOL:** powering electrical equipment with rechargeable batteries.

**COOLER:** using batteries that can be recharged through a USB port. Just pop off the top and plug them into a computer's USB port for instant cordless charging!

**COOLEST:** harnessing solar power. Backpacks with solar panels embedded on the outside can generate up to 4 watts of power – enough to charge most small electrical appliances like mobile phones. Batteries store surplus electricity so you can recharge your phone even on cloudy days.

**COOL:** picnics.

**COOLER:** using compostable utensils. Knives, forks, spoons and chopsticks made from potato starch and sugarcane pulp biodegrade almost as fast as ordinary compost.

**COOLEST:** forgoing utensils and eating with your hands. Sandwiches, anyone?

**COOL:** recycling paper.

**COOLER:** hamster power. Recycling occurs before your very eyes using designer Tom Ballhatchet's hamster-powered paper shredder. One energetic rodent running on its wheel can shred an A4 page in 40 minutes, turning your waste into its bedding.

# EDITORIAL

For almost all of human history – up to just a generation or two ago – people lived close to nature. They had to. Life revolved around the endlessly circulating seasons. Food was mainly grown locally and eaten in season, soon after harvesting. A good harvest meant plenty, a bad one scarcity. The weather was not merely a topic of conversation, but one of the most essential determinants of life. Most people in every nation lived directly off the land, and depended intimately on its health and productivity.

As industries and cities grew, as transport got faster and trade increased, this direct link began to be lost, first in the developed and then in many developing nations. Half of the world's people now live in cities, and the proportion will continue to grow, mainly in the developing world. Those who can afford it can have the food they want in any season, flown in from all over the world. Some city children, surveys show, don't know that milk comes from cows, or eggs from hens rather than from supermarket shelves. Yet, even though we may not appreciate it, we are as dependent on the natural world as ever – for the air we breathe, the water we drink, the soil that grows our food, the raw materials on which our industries rely. Whether we realize it or not, the world's economy remains entirely dependent on the environment.

It is no coincidence that the wholesale destruction of the natural world – the felling of forests, draining of wetlands, erosion of soil, loss of species, pollution of rivers and seas, and the changing climate – has taken place at the same time as the loss of our conscious link with nature. But if the Earth is to remain a good place to live, we have to get it back. That does not, of course, mean returning to being hunter-gatherers or subsistence farmers, though we should learn from the affinity to the natural world of those who do still live in these ways. It does mean that our generation will have to work out how to forge a new relationship with nature that respects it, recognizes our continuing dependence on it, and reorders our priorities to live in harmony with its sustaining power.





# Planting hope

*Umit Savas Baran*

a better world, often linked to furthering the Millennium Development Goals.

The Scouting and Guiding Federation of Turkey, of which I am international commissioner, is proud to be part of these efforts. Besides participating in Earth Day, Water Day, World Environment Day and Clean Up the World, Turkish Scouts have planted forests in almost every big city in the country. And just before the 2001 International Year of Volunteers, Guide and Scout groups of Bolu province – about halfway between Ankara and Istanbul – planted thousands of trees to cover two rock-mining quarries.

In 2006, I read about UNEP's newly launched Plant for the Planet: Billion Tree Campaign, and promoted it nationally. This programme aims to plant at least 1 billion trees in 2007, reforesting millions of hectares of degraded land – a great opportunity for Scouts everywhere to register their tree-planting efforts or establish new ones.

Scouts and Guides all over Turkey have pledged to plant trees, have been learning about how to do it and have collected acorns locally. Our brother and sister organizations all over the world have been pledging, too. So far the Scouts from Kenya have pledged a million trees, Rwanda 50,000, and we, Turkey, more than 11,000. Australia, Lebanon and

**W**hy plant trees? It's a simple thing to do, but has many benefits. It prevents soil erosion, purifies water and recharges groundwater, provides food and habitat for wildlife, and fuel and medicines for people – as well as shade, windbreaks, recreation, a link to history and spiritual comfort. Besides, trees produce oxygen and help prevent global warming by absorbing carbon dioxide.

Robert Baden-Powell, who founded the Scout Movement, used the natural world as a classroom to teach young people such practical skills for self-sufficiency and responsibility as camping, foraging and woodcraft. And Scouts respect and take care of nature. Tree planting and other environmental measures feature among the many projects undertaken by the world's tens of thousands of Scout groups to build

## Scouting for trees all over the world

UNEP



**IN INDONESIA** Scouts are helping to rebuild the province of Aceh following the devastating tsunami of December 2004, addressing both economic and ecological problems. Replanting 15,000 mangrove trees is a high priority, as they protect the coast and shelter fish that sustain the local population. Volunteers have also planted 2,000 other trees to replace ones swept away.

**IN LESOTHO** they will plant 110,000 trees a year from 2006 to 2015 to try to prevent soil erosion and provide firewood and timber, in partnership with the country's Department of Forestry.

**IN CANADA** they run Scoutrees, a major national annual event that has planted more than 70 million trees over three decades, while raising funds for Scouting activities.

**IN ETHIOPIA**, one of the world's most deforested, desertified and drought-ridden countries, they are planting and caring for 50,000 indigenous trees, and teaching people about the importance of trees and the sustainable use of fuelwood.

**IN GREAT BRITAIN** they are working with the Woodland Trust to plant 100,000 trees during 2007, the centenary of Scouting. They aim to plant 100 'Centenary Groves' – new areas of native woodland made up of thousands of trees.

**IN MEXICO** they frequently participate in reforestation projects; past ones include the Santuario de Mariposa



*Umit Savas Baran planting a tree in Turkey.*

Serbia have each pledged more than 10,000, and Bahrain, Benin, Bolivia, Canada, Ecuador, Hungary, India, Indonesia, Malaysia, Malta, Mexico, the Philippines, Portugal, South Africa, the United Kingdom and the United States of America have made pledges, too.

In June 2007, more than 2.35 million trees had been pledged by Scouts in more than 20 countries. And this has spurred several other organizations to get pledging and planting, too. In all, more than a billion trees have been pledged to the campaign, and more than 22 million have actually been planted. Meeting the 1-billion goal in a year would be an achievement indeed, but it's still only a tiny fraction of what is needed: 130 million hectares of 140 billion trees need to be planted over the next 10 years to make up for the past decade's forest loss. All the Scouts in the world can only make a dent in this, but we are proud to be taking a lead in leaving the world a little better than we found it.

Monarca (Monarch Butterfly Sanctuary), Chapultepec Forest and Aragon Forest.

**IN TANZANIA** and neighbouring countries they have planned a 15-day journey from Dar es Salaam to Nairobi to raise awareness of sustainable environmental development, drug abuse, HIV/AIDS and peace education. The expedition aims to involve communities in tree planting.

**IN KENYA** they plan to plant 10 million trees over three years including in water catchment areas and semi-arid regions: each Scout will plant and care for at least 36 trees, and nurseries will be established. They are also involved in running a public awareness programme on tree planting and care.

**SCOUTS AUSTRALIA**, in conjunction with environmental organization Greenfleet and vehicle manufacturer Holden, has been running a project to tackle environmental issues in the Murray Darling Basin. Since 2001, Scouts, their families and community members have planted more than 900,000 trees across New South Wales, South Australia, Victoria and the Australian Capital Territory. Greenfleet grows the trees, identifies priority planting sites and provides the equipment, and the Scouts do the rest.



**Royal Palace  
Stockholm**

**Dear Friends,**

**Scouts around the world have appreciated the value of their natural surroundings because many of their adventures have been based in the outdoors. As a result, for decades, Scouts have undertaken many important projects to enhance and protect the environment.**

**It is now 100 years since Scouting first started, and so today, with 28 million youth members worldwide, they certainly represent an important force in global environmental action. I have seen many projects which Scouts and other young people have run, from tree-planting campaigns, to cleaning up litter from the environment of their local community.**

**When young people work together, you are capable of achieving great things. Go ahead and make a difference!**

**My very best wishes to you all.**

**Carl XVI Gustaf  
King of Sweden  
Honorary Chairman  
World Scout Foundation**



**Q**

**&**

**A**

**Q How did we get disconnected from nature? Can we reverse the process?**

**A** Unfortunately, more and more of us are taken up with movies, high-tech computer games and partying – spending more time indoors, separated from nature. Yet we know that natural ecosystems and landscapes contribute to our emotional, physical and spiritual well-being.

We need to find ways of removing ourselves from fast-paced, developed society, and of reconnecting with our environment. We must make time to do more outside and learn how the natural world works both within and around us.

**Q As more people live in cities, what can be done to connect them with nature?**

**A** People do benefit from living in urban environments, but we can help ease the ecological effects of so many living in crowded surroundings through sustainable urban planning – including creating open green spaces like parks and walkways – and through applying better environmental standards to curb waste and pollution. We need to continue to share ideas and pool experiences in tackling urban problems, and to work out sustainable solutions.

**Q As we travel further to reach the wildest wilderness areas, are we in danger of destroying the last pristine natural habitats? Should we leave them untouched?**

**A** We should explore these places. Wilderness areas provide excellent relaxation and recreation. They constitute some of our pasts and provide us with a glimpse of history and of different ways of living. They regulate and improve the quality of our air and water, and the health of ecosystems in general. They help us compare present and past ecological systems, and provide a picture of some of the changes that may occur in future. But it is important to venture into them with great care and respect.

**Q Isn't the great outdoors inherently dangerous, with flash floods, snakes, bears, rockfalls, and the risk of**

**exposure to heat or cold? Shouldn't it have a health and safety warning?**

**A** Of course there are risks, hazards, extreme conditions and unpredictable forces of nature. But the great outdoors also offers a wonderful and unforgettable experience, giving us the chance to reach beyond ourselves and discover and develop new capabilities. We can avoid much danger by sticking to the rules, obeying safety instructions and using our common sense.

**Q Can't we rely on technology to fix the ecological problems we have brought upon ourselves?**

**A** There is huge potential for this. But unfortunately much technological advancement is likely to further impact nature and inflict an extremely high environmental toll. The wrong kind of development has turned rivers from blue to brown, and transformed dense forests into deserts. We need to look for alternative, environmentally friendly technologies to let us develop sustainably. Some believe that renewable energy sources are expensive, but costs are coming down dramatically. And, if we attract more and more people into research and development – especially young people – we will find more sustainable solutions.

**Q Where can we look for examples of how to reconnect with nature?**

**A** The Scout Movement offers various examples. Others can be found in school trips and projects like tree planting or bird watching, which are all likely get you out into the natural world.

**Q How can outdoors youth movements educate the wider population about ecological and environmental issues?**

**A** By example and by sharing what they achieve through their networks and diverse development projects around the world – and being committed to building a better world by working together, helping each other at all times. They must help develop the recognition that the planet is a gift to us all, and every person's actions have an impact on society as a whole.



Do you have any **QUESTIONS** on environmental issues that you would like the experts at UNEP to answer?

Please send them to **uneppub@unep.org**, and we will try to answer them in future issues.

**E**very year, the Bayer/UNEP Eco-Minds forum brings together young scientists, engineers, social scientists and management experts from nine Asia-Pacific countries. Before Eco-Minds 2007 – which focuses on interdisciplinary sustainable development – TUNZA spoke to two delegates: Pakaporn Kantapasara, a Thai environmental management student, and Hee-Yook Kim, a biology student from the Republic of Korea.

**TUNZA:** Why are you drawn to ecological issues?

**HYK:** When I was little, I spent hours observing snails, insects and frogs. Then when I saw a picture of a cormorant drenched in petroleum I started thinking about being responsible for what is happening on Earth.

**TUNZA:** Do you think young people in your countries are aware of the natural world, and the dangers it faces?

**PK:** Most young Thai people learn about environmental issues in school, but many believe these should be dealt with by government and international organizations. They feel individuals cannot create a large enough impact to resolve them.

**HYK:** A growing number of young people in the Republic of Korea are concerned with environmental issues. Global warming and associated abnormal weather phenomena are a key issue in Korea – as is the energy crisis: we're a highly industrialized country dependent on importing petroleum. It's im-



Pakaporn Kantapasara

portant for us to be conscious of environmental crises before we become decision-makers.

**TUNZA:** What do the expressions 'sustainable development' and 'sustainable technology' mean to you?

**PK:** They're an integration of environmental awareness and social, eco-

nomical and technological development. Sustainable development and technologies minimize impacts on the environment but maximize efficiency of resource use. Development can never be sustainable unless we consider the environment.

**HYK:** Human beings are already exploiting more resources than the Earth can manage. We must use renewable sources to meet our needs and create technologies to prevent contamination and overexploitation. The most impor-

tant thing is lifestyle: I try to choose products in recyclable containers, and when using my computer, I focus so as to reduce running time.

**TUNZA:** How have your studies changed the way you think and feel about the natural world?

**HYK:** Observing and researching bird ecology helped me realize how nature's structure is interwoven. It's very dangerous to destroy habitats – we'll never know the exact extent and impact of our actions. I sometimes wonder whether the next generation will get to see today's variety of birds, frogs and other species.

## Taking responsibility

**PK:** I hope that, in the next decade, we'll use our technical knowledge to protect the environment and save endangered species rather than to develop weapons or explore outer space.

**TUNZA:** What are your hopes for the Eco-Minds forum?

**PK:** I hope to get first-hand experience of local environmental conservation projects, and that we'll build a network of ideas with people from different cultural backgrounds who share similar concerns about environmental issues. I'm really looking forward to the Eco-Minds forum and to welcoming everyone to Thailand where it's being held!



Hee-Yook Kim

## GETTING THERE – SLOWLY

**Bus:** Buses, cheap and flexible, are handy for travel within countries. And now there is a new overland bus and ferry route between Sydney and London, an epic journey through 20 countries in 12 weeks. On the way, travellers visit the Taj Mahal, the Mount Everest base camp, East Timor, and environments from cities to deserts and rainforests, camping a good part of the way.

SEE: [www.busstation.net](http://www.busstation.net) AND [www.oz-bus.com](http://www.oz-bus.com)

**Train:** Train travel lets you see landscape not accessible by road, to meet people and put your feet up. You can ride from Bangkok to Kuala Lumpur through tropical rainforests and villages; through the Alpine landscape of Germany, France and Switzerland; across Australia through desert and mining towns; or even from Europe to Japan via the Trans-Siberian Railway. The world's longest rail network covers more than 9,000 kilometres, passing through the Urals, vast birch and pine forests, frozen tundra, the Gobi desert and Mongolia's grass steppes.

SEE: [www.seat61.com](http://www.seat61.com)

**Cycle:** Bicycle touring is leisurely, focused on enjoying the journey. A tour can take a few hours or cross a country; it can go through city streets, take back roads, penetrate forests, or scale mountains. Of course it requires physical fitness, and riders must consider routes, weather, equipment, visas and accommodation. But the reward is independence and all that is seen and experienced along the way.

SEE: [www.cyclingaroundtheworld.nl](http://www.cyclingaroundtheworld.nl) AND [www.bicycle-adventures.com](http://www.bicycle-adventures.com)

**Boat:** Sailing is the least polluting way to travel by boat. But though it is sometimes possible to hitch, or work, a ride on a private yacht, cargo boats are more accessible. Travellers arrange passage via a freighter company, sailing with crew and up to 11 others. It's slow (California to Japan takes 13 days, for example, and you're charged by the day), and typically costs about \$100 per person, including meals. But there are lots of destinations, you can go ashore at ports of call, and freighters emit a fraction of the pollutants of luxury cruise ships with their heated pools, live entertainment and restaurants.

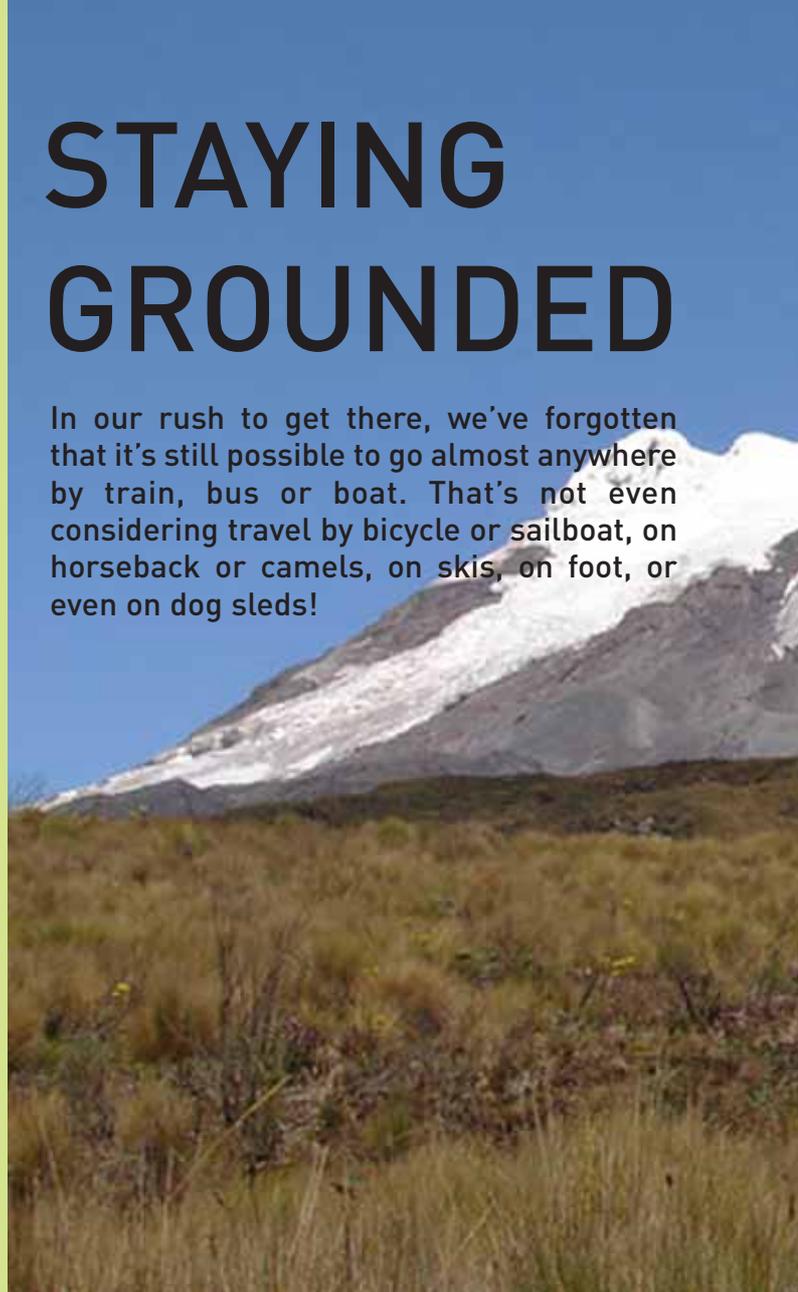
SEE: [www.geocities.com/freighterman.geo/mainmenu.html](http://www.geocities.com/freighterman.geo/mainmenu.html)

**CHARITY TREKS COMBINE ADVENTURE WITH ALTRUISM**, raising funds through such challenges as walking across Namibia looking for wildlife, or hiking the Inca Trail to Machu Picchu. Participants ask friends and family for sponsorship to raise money for the charity, as well as to cover operating costs.

You can climb through clouds on the Avenue of Volcanoes in the Ecuadorian Andes, cycle for 10 days from Havana to the Caribbean Sea, go dog-sledding through Arctic Norway, ride through rainforests and rice paddies in Viet Nam, or trek through the orchards, rhododendron forests and magnolias near the Himalayas' Mount Kanchenjunga, to name a few.

# STAYING GROUND

In our rush to get there, we've forgotten that it's still possible to go almost anywhere by train, bus or boat. That's not even considering travel by bicycle or sailboat, on horseback or camels, on skis, on foot, or even on dog sleds!



**F**lying – once the luxury of an affluent few – now enables millions to travel far more cheaply than by rail or road. But it is also the fastest-growing source of greenhouse gases, contributing to global warming.

Now a new trend is emerging: 'slow travel'. For some, this is about spending more time at a destination – mingling with people, getting to know the local flora and fauna, taking long walks and exploring instead of rushing from one glitzy tourist trap to another. It can also include choosing not to fly, taking time to savour experiences and landscapes along the way.

Going overland also lets you enjoy and appreciate nature. Travelling across Canada by train, for example, reveals the terrain opening out from northern Ontario's lakelands to vast prairies, to the spectacular Canadian Rockies and the British Columbian coast – feeling the true distance of the journey. Anyone interested in exploring the wilderness can even make an unscheduled stop along the way. Jet-setters miss it all – and get jet lag!

Those seeking inspiration can follow the adventures of slow travel bloggers. Ed Gillespie ([www.lowcarbontravel.com](http://www.lowcarbontravel.com)) left his home in London in March 2007 for a year-long journey around the world by land and sea, 'to move through the world and not just over and above it'. His trip will take



Deia Schlosberg

him across Europe to Moscow, Southeast Asia, Australia and New Zealand, Los Angeles and Central America, where he'll catch a banana boat home.

Young trekkers Gregg Treinish and former TUNZA designer Deia Schlosberg ([www.roadjunky.com/acrosstheandes](http://www.roadjunky.com/acrosstheandes); [www.steripen.com/sponsorships/athletes1.html](http://www.steripen.com/sponsorships/athletes1.html)) set out from Quito, Ecuador, in June 2006, intending to take a year to walk south along the Andes to Tierra del Fuego. They are still travelling, and now plan to take two years.

Deia writes: 'Whenever possible, we've followed ancient Incan roads, including parts of the Capaq Ñan that runs from Quito, Ecuador to La Paz, Bolivia, through all of Peru. We're getting a completely unique understanding of a continent and people that would be impossible to get any other way. It's been challenging, but remembering I'm connected to nature helps centre me when it's cold, windy, sunny, wet, spidery, oxygen-short. I'm reminded these aren't good or bad qualities, just states of being – all REAL, and necessary and beautiful.'

In September 2006, Edward Genochio, then 27, ([www.2wheels.org.uk](http://www.2wheels.org.uk)) completed a two-and-a-half-year, 43,452-kilometre solo bike ride across Europe to China and back. The journey, through 25 countries, took him across a 5,050-metre mountain pass in the Tibetan plateau, and to

the Turpan depression in western China's Taklamakan Desert, more than 100 metres below sea level. 'My journey taught me about looking at the Earth, and feeling and smelling it as well,' he says. 'On a bicycle, there are no windows to separate your senses from the outside world.'

And 28-year-old Barbara Hadrill (<http://babs2brisbane.blogspot.com>) made headlines when she decided to travel overland from Wales to Australia. She'd been invited to be a bridesmaid at her friend's wedding, but had vowed not to fly anymore. So she quit her job as an environmental biologist for a seven-week journey from London to Moscow by coach, then to Beijing via Mongolia on the Trans-Siberian Railway, and on to Hanoi, Bangkok, Singapore, Melbourne and Brisbane by train, boat and bus. Amazingly, she made it in time for the wedding. 'I'm even more concerned about the state of our planet, having done the trip,' she says. 'All the more in love with it, but all the more concerned.'

These are extreme examples, perhaps, but they demonstrate that where there's a will, there's a way. The biggest downsides are expense and time, not only in getting there but in the planning: travelling through many countries, for example, might require many visas. The upside is that you get to see, smell, taste, hear and feel the world.

# A tusk for life

Chris Fourie/Dreamstime.com



*'One cannot help becoming fond of a young elephant. They are intelligent and not unlike a human toddler in that they can be obedient, gentle, loveable and very good, or mischievous, stubborn, and naughty, depending on the mood of the moment,' Dame Daphne Sheldrick told TUNZA.*

In 1977, she set up the David Sheldrick Wildlife Trust in memory of her late husband – a respected naturalist, wildlife conservationist and founding warden of Tsavo East National Park in Kenya. The Sheldricks were the first people to rescue and hand-rear orphaned elephants; so far more than 75 have been successfully rehabilitated and released into the wild. The Trust is also involved in rescuing orphaned rhinos and de-snaring projects, supports community education and outreach, anti-poaching laws and international laws against ivory trading, and runs veterinary units in the Tsavo Game Reserve, which has the largest population of elephants in the country.

Research, interviews and photography: Maurice Odera, Tunza Youth Advisor for Africa; Claudia Hasse, a UNEP intern in the Children and Youth Unit; and Danielle Kodre-Alexander, who supports the David Sheldrick Wildlife Trust.

It's a jumbo-sized job for keepers at the David Sheldrick Wildlife Trust's elephant nursery. Just outside Nairobi, Kenya, the nursery cares for calves that have lost their families – to poachers, conflict with humans, drought and the destruction of their habitats.

Young elephants are highly social and tactile, and extremely attached to their mothers and extended families, so they easily succumb to despair when orphaned. It is important to maintain their mental stability while rearing them if they are to be accepted back by wild herds. So the keepers become substitute mothers, feeding the calves, playing with them, nursing them when ill, and even sleeping alongside them for at least a year.

The elephants and their keepers form a group – an extended family – and the keepers rotate their care, sleeping next to different elephants each night to prevent them from becoming so emotionally attached to any one of the keepers that they become traumatized if he's not there.

After a year at the nursery near Nairobi, young elephants go to a rehabilitation centre in Tsavo National Park, near the border with Tanzania, to join older orphans and begin their reintegration into the wild – a process that can take up to 10 years. At the centre, the older orphans gradually reintroduce the younger ones to the wilderness, but each elephant decides when to leave its human family. Even then, they come back to visit over the following decades, seeking their keepers and fellow orphans.

The keepers are a versatile bunch. John Njeru grew up in Meru, one of Kenya's main agricultural areas with a big elephant population. 'Young elephants are just like babies,' he says. 'At night, I'm woken every three hours by a hungry elephant's tiny trunk.' Once, he and his fellow keepers were confronted in the wild by a lion wanting to attack one of the calves. 'I have never run so fast, but luckily, a former orphan matriarch appeared to save the day!'

Claudia Hasse



# Inspired to study

Deepani Jayantha

Steve Kaduri was a member of his secondary school's wildlife club in the Taita Taveta district where conflict between humans and elephants was rife. Now he's teaching his community how to conserve wildlife and live in harmony with elephants. The newest keeper, Samy Sokotei, comes from a nomadic tribe that cherishes wild animals. Initially attracted to the job for the money, he has begun to become attached to the elephants. 'Come rain or shine,' he says, 'the job has to go on, as the little ones don't stop growing!'

The eldest and longest-serving keeper, Mishak Nzimbi, started 19 years ago, aged 18. In his home district of Makueni, which isn't fertile enough for agriculture, humans have decimated wildlife for food. With his experience, Mishak doesn't fear predators. 'I worry most about buffalos, as they are fearless and can easily kill a person if they feel threatened.' Whenever he encounters one he's extra careful, especially when only in the calves' company. He feels safer knowing that the grown-up elephant orphans will protect him – just as he looked after them while raising them.

He has reared 60 elephants – a favourite is Dika, now 20 years old and 3.65 metres tall, but she still greets him when they meet in the wild – and he has seen many clans forming, especially of former orphans. 'Their bonds are so strong, they'd do anything for each other,' he says, adding that he has never 'witnessed such care and concern for another's welfare among humans'.

'I have two families,' he says. 'One of elephants; the other, my wife and children.' His human family understands that he is so attached to their animal counterpart that he feels at one with nature.

*Samy Sokotei (below left) and John Njeru (below right) with two of their charges at the David Sheldrick Wildlife Trust nursery, Nairobi, Kenya.*



Deepani Jayantha

A close childhood relationship with nature inspired me to study it. I was born and raised in Sri Lanka – where it comes naturally to share the environment with diverse species – and when at secondary school, I joined with the Young Zoologists' Association attached to Sri Lanka's national zoo in Colombo. There I realized my destiny was to work to conserve wildlife. I studied veterinary medicine at university, developing a special interest in reptiles and elephants, which taught me much about veterinary management of wild species.

Sri Lanka is the first Asian elephant-range country to rehabilitate the orphaned animals and release them back to the wild. After graduating, I trained at the Elephant Transit Home, a government institution that cares for the young orphans, giving them shelter, food, medical attention and the companionship of other elephants until they are ready to lead an independent life. After my internship, I was assigned to monitor the rehabilitated juveniles in the wild, and as my interest grew, I began studying their behaviour for a PhD.

This meant spending half my life in the bush in the middle of wild elephants, which required patience and knowledge of the rules in the wild – an exciting experience. The most rewarding part of it was seeing the released juveniles in wild elephant groups. They will contribute to the fragmented wild Asian elephant gene pool and so help this globally endangered species survive.

My experiences have convinced me of how important it is for veterinary students to focus on species conservation. As a teaching assistant at the University of Peradeniya, I introduced a course on wildlife biology and conservation to the undergraduate curriculum. And in 2007, I fulfilled a dream by enrolling in a graduate course to study endangered-species management at the Durrell Wildlife Conservation Trust in Jersey, United Kingdom. Wildlife conservation presents opportunities for positive change at many levels – including species, habitats and ecosystems – and I have high hopes for when I return to Sri Lanka.

Claudia Hasse



# Ecology in Focus



## Ecological Dream of Engineer-Concreted Man

Zdenek Vesely (Czech Republic)

'In the Czech Republic, young people are concerned about industrial development: building supermarkets on agricultural land and rubbish dumps polluting the Earth.

I try to take pictures that warn others of the importance of protecting nature. I also work with many youth clubs on nature-oriented projects. I'm not aiming to become a professional photographer. I do it just for fun, and to stay connected...'



## Guardian of the Mist

Jerzy Grzesiak (Poland)

'Poland, with its rich and largely untouched wildlife, is a never-ending source of new topics and challenges. In my photographs I try to show the allure of nature and encourage people to be conscious of the need to protect it.

On a photographic trip, I get up very early to be out before sunrise. In the morning nature is different and so ... addictive. The animals are active, the sunlight soft and the landscape looks fabulous. You can see things from a different point of view...'



**O**f all the ways to reconnect with nature, photography leaves one of the lightest footprints. Quietly observing the world around us, photographers bring us images that challenge our perspectives, and open our minds to places and people beyond our doorstep.

Since 2000, the UNEP/BAYER 'Ecology in Focus' photographic competition has brought out the best in young photographers from Poland, Slovakia, Hungary and the Czech Republic. In 2006 the competition received more than 1,340 images on the theme of *The faces of the Earth – modern technology, climate and responsibility*. Some of the best are showcased here.

## I Got Home for the News Programme

**Hanna Novoszath (Hungary)**

'Birds are like people. They stick to TV, not to miss the news. Actually, animals have adapted to human circumstances and use equipment that is left over by us.'

My parents have always taken me to fascinating parts of Hungary. When we travel we don't just visit museums and shops, we spend time in wonderful parks and landscapes as well...'



## The Devastation of Taste: Where it starts and ends

**Pavel Smejkal (Slovakia)**

'The photo is about the devastation of our understanding of nature. It shows what happens when we start to base our understanding of the natural world on cheap man-made recreations.'

I'm studying at the Institute of Creative Photography, and I want to become good at it...'





# Gong Li, a natural star

**CHINESE ACTRESS GONG LI is not just an international film star, but an environmental activist – both at home in China and increasingly in the wider world.**

'As a child growing up in Jinan, in northeastern China, I had no idea that someday I'd be a political advisor urging my Government to take a stand on the environment,' says Gong Li. In early 2007, the star of Chinese art-house classics such as *Red Sorghum*, and the Hollywood blockbuster *Memoirs of a Geisha*, issued a Government proposal entitled 'To Protect the Environment, Start with Oneself'.

The proposal, highlighting the problems of sewage and rubbish, attracted some criticism as too simplistic. But the Chinese Government said: 'It is a good proposal as long as it reflects the people's voice. Gong Li has expressed her environmental concern from her own experience and areas familiar to her, taking on the big subject of environmental protection from a small starting point and calling for everybody to take action.'

Since 1998, Gong has been an elected member of the China People's Political

Consultative Conference, a Government advisory body made up of a cross-section of society, which meets for two weeks a year. The proposal is her latest effort to promote ethical causes. In 2000, she was named a UNESCO Artist for Peace, to help build bridges between cultures, and became an ambassador for the Food and Agriculture Organization of the United Nations, helping to fight world hunger.

Gong is best known for her portrayals of strong women in tragic circumstances. The Chinese public recently voted her the most beautiful person in the entire 1-billion-strong country. While a 19-year-old drama school student, she met director Zhang Yimou, who cast her in his first film, the historical epic *Red Sorghum*. Their joint debut won the Golden Bear award at the 1987 Berlin Film Festival and propelled them to fame. Their collaboration over the next decade resulted in six more films – including *Ju Dou* and *Raise the Red Lantern* – earning China a reputation for world-class cinema.

She has starred in nearly 30 feature films in the last two decades, winning Best Actress awards from the Venice Film Festival and the New York Film

Critics Circle. She is now becoming a regular in Hollywood, breaking through in the 2005 adaptation of *Memoirs of a Geisha*, in which she played Hatsumomo, the haughty and jealous geisha. Since then she has appeared in *Miami Vice* and *Hannibal Rising*, and starred in the Chinese historical martial arts film *Curse of the Golden Flower* – her first collaboration with Zhang Yimou in 10 years and, at \$45 million, the most expensive Chinese film ever made.

Her environmental concern began with her experience of pollution in her own home city of Jinan, where she found sewage and excess gas were not being properly treated. Jinan is famous for its many ancient springs, now under threat from drought and excessive groundwater exploitation for industry: the town's 2,600-year-old Baotu Spring, or the 'First Spring Under Heaven', stopped flowing for two and a half years between 1999 and 2001. The worried municipal government has run a campaign to save water, asking both the people and industry to take part.

Gong, who now lives in Beijing, has also drawn attention to the country's rubbish



Beijing Film Studio/Shirley Kao

hills. 'China's cities generate around 120 million tonnes of garbage a year,' she says. 'A third of our 660 big and medium-sized cities are surrounded by garbage dumps. Many disposal sites are inadequate and present an environmental and health hazard. Even the countryside has become a dumping ground for urban waste. If I had the time, I would like to take pictures of those garbage heaps to make people realize the dangers they pose.'

She says Chinese people are becoming ever more aware of the environment, and believes that education is an important first step towards change. 'Even though nature seems to have bestowed China with environmental challenges, I believe the country can do a good job if its people realize the importance of the environment and start doing something from today.'

For herself, she says: 'Celebrities can influence people, but I don't think fame alone could drive a person to a good deed.' But she adds: 'If I had the chance to be an environmental image ambassador, I would love to take on that role. I just feel very happy contributing to public welfare services.'

# Fighting like hell

**International environmental studies student and WWF volunteer, Lauren Prince (22)**



Lauren Prince

I climbed my first tree at 18 months – a stately magnolia with strong spreading branches and heavenly fragrant flowers that perfumed the garden. Ever since, that tree has served as my refuge, if only for a brief respite from the noise and chaos of daily life. Within those branches I have always felt protected, as if the leaves themselves created a force field that repelled the obligations and criticisms of the outside world.

As I've grown up, I've increasingly sought out other sanctuaries – places to feel immediately that peace of direct contact with nature. These take forms as diverse as nature itself: city rooftops, strolls through vegetable markets, afternoon picnics, listening to a stream, or camping in the mountains.

Almost everyone has a place like this, their own personal sanctuary. One also inspired Al Gore. As a young man, Gore mostly lived in the city but every summer would return to his family's farm in rural Carthage, Tennessee. There he developed an appreciation for man's relationship with nature. He describes it as 'not a relationship between *us* and *it*. It is *us*, and we are of it'. It was here also that he learned that the natural world itself was in jeopardy – and us along with it. First, as he learned from his grandfather, the problem was soil erosion; a few years on, Rachel Carson's *Silent Spring* drew attention to chemicals like pesticides. But today's greatest environmental challenge is on a much more massive scale.

The emissions of carbon dioxide that cause global warming affect us all – drying the streams we drink, polluting the oceans where we fish, killing the plants we need for food, and bringing increasingly virulent diseases into our homes. We have brought all this upon ourselves through our heedless exploitation of the Earth's resources. Yet global warming is also a grand possibility – it has the power to galvanize all of humanity. Viewed like this, it changes from an onerous threat and reveals itself as the defining opportunity of humanity's very existence.

We must all understand our individual connection to global warming: how each of us contributes to climate change, how it affects us and, most importantly, what we can do to solve it. The concept of creating environmentally educated and empowered communities led Al Gore to create The Climate Project.

Since it was founded last year, the Project has taught over 1,500 people from around the world (including Australia, Mexico, Puerto Rico, Thailand, Uganda and the United States) about climate issues, and sent them home to deliver 10 or more of their own presentations.



Kashish Das Shrestha

I learned the effectiveness of this first-hand, working for the Project last summer. I was constantly astounded by the exuberance of our trainees and by their deep commitment to creating positive change. It gave me hope and made me realize that I am a part of something much larger than myself.

We, all of humanity, will solve global warming because the issue awakens in each of us our innate relationship with nature and reminds us that the world itself is our sanctuary. But we need to fight for it like hell.

# Bewitching botos

ELLEN MIKESH, 24, graduated from the University of Miami with a degree in marine biology. She recently returned to Brazil and is working as an intern at Projeto Boto, a long-term study of the ecology and biology of Amazon river dolphins, which is based on a floating research centre in the middle of the Mamirauá Reserve.

‘Thirty million years ago, before the Andes rose, boto river dolphins swam into the waters of the Amazon. They have been there ever since. But now they are endangered.

Isolated from other cetaceans, botos developed unique characteristics to live in rivers. Their molars and conical teeth make it easy for them to chew fish, and their elongated rostrum (beak) enables them to catch fish hiding between submerged branches when the forests flood. But what fascinates people most is their colour. Pink! Born dark grey, botos naturally lose pigment to become pink as they age. As their scar tissue is also pink and the pinkest animals are large adult males, it seems that lots of inter-male fighting occurs, probably for females.

The tens of thousands of botos in the Amazon owe their survival to folklore. In the legends of the region the boto is a blonde, handsome man who woos local girls. When the girls fall in love, the boto/man takes them to an underwater city from which they never return. As a result, people have traditionally feared and avoided them. But times are changing: as legends hold less weight, the botos are increasingly killed for fish bait. Laws prohibit their slaughter, but enforcement is weak.

Studying these elusive mammals isn't easy. We spend seven hours a day searching the river system and identifying marked animals. Projeto Boto has marked 437 botos with brands that neither harm nor hurt them but make it possible to distinguish them.

The closest town is 45 minutes away by boat, but it's not quiet. Fish jump, birds sing, macaws screech, fruit plops into the water and monkeys chirp – or howl, depending on the species. Our floating home constantly bounces on the water, the floorboards creak, the wind whispers, the trees sway, animals make noises. It feels as if the Earth is breathing.

Sometimes, just at the end of a day of observations, a boto surfaces and breathes its distinctive human-like breath. Then another breath comes. Then another. Twenty metres away, a body rises to the surface and glimmers in the sun before slowly sinking back down. Suddenly, out of nowhere, the small pod of botos turns into 20 dolphins, splashing, jumping on top of each other, chasing fish, blowing bubbles underneath our boat. The Amazon is two extremes: extreme life and extreme death. There is such beauty in the natural cycle.’

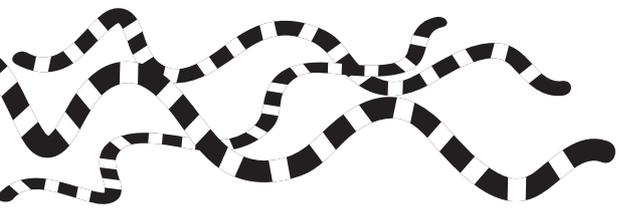


B Karwasz/Still Pictures

## Change starts here

There's a strong link between sustainability and education. The greatest obstacle is a lack of knowledge – it isn't that people want to destroy their environment, it's just that they don't understand how their actions affect the wider world. So it is essential to raise consciousness about our own conduct – a continual learning process based on respect for each other, for the world and for ourselves. We young people must realize that we can be effective agents of change. So I'm trying to set up and promote youth clubs where people can come together to help, and learn from, one another.

In the last week of every month we organize projects in Rwanda, when everyone in the community pitches in to



# Primate party

**IN 2006, CORINNE EISENRING, a 21-year-old journalism student, worked as a volunteer for WWF, the global conservation organization, in northern Madagascar.**

‘Hundreds of children are walking down the track, singing, holding small banners proclaiming ‘Protect the lemurs’. They’re marching to a five-day Lemurs Carnival in Anjialavabe in the northwest of Madagascar. I’m with them, three days’ walk away from any connection with the outside world.

I only know a few words in Malagasy, but try to sing along. As one of five WWF volunteers, I helped to organize this Carnival, aimed at inspiring people to take responsibility for the forest and its animals. Once, nearly all of the giant island was rainforest; now less than 10 per cent remains. All species of lemurs – primates unique to Madagascar and a few surrounding islands – are endangered; some have already become extinct.

Everyone comes and sings and dances, not just the children but people from surrounding villages and the region. Each day more than a thousand people take part in lemur dances, lemur poetry and lemur songs, even lemur sports, quiz games, speeches and discussions.

The forest is disappearing as large tracts are burnt to make new rice fields. But it provides wood for huts, fuel for stoves, food and medicines, so it is essential for people as well as animals.

After five days of lemur awareness, I finally got to see some of the animals. For three days our small group followed six adult silky sifakas (*Propithecus candidus*) – and two cute young ones – through the forest in Marojejy National Park. Sometimes the small trail was so steep and tangly that we had to crawl from one tree trunk to another. But despite this – and the leeches – it was the highlight of my two-month Malagasy adventure.’



Jeff Gibbs



Corinne Eisenring



Corinne Eisenring



Abdoul Byukusenge/UNEP

clean up their areas. Recycling and reducing waste is one way every young person can help preserve the Earth’s natural resources and improve the quality of life of its people.

I’ve also organized a programme that provides needy households with vegetables grown in local school gardens – and another one getting young school dropouts to attend special classes to learn practical reading, writing, maths and manual skills.

Rwandans are committed to working to achieve the Millennium Development Goals, including ensuring environmental sustainability. By 2020 we can reverse the loss

of environmental resources, reduce the proportion of people without access to drinking water, and significantly improve the lives of the hundreds of millions of people who live in slums. All it will take is determination and awareness, which is why I’m working to raise awareness of the Tunza programme. My goal is to get Rwandan youth involved: change always starts with the individual.

*Abdoul Byukusenge, 24, is a Tunza Associate Youth Advisor for Africa. He is studying computer science at Kigali Independent University, Rwanda, and works with the African Foundation FARMAPU as a youth coordinator.*



# Faith in nature

An activities teacher once came to speak at my school, and asked: 'What do the religions all have in common?' 'Belief in a divine being?', we replied. 'Places to pray? A sense of purpose?' 'Yes to almost all,' he said cheerfully. 'But there's something else... what all the faiths have in common is camping.'

It is what Muslim pilgrims have traditionally done on the Haj to Mecca; it is how Christian pilgrims travel to Santiago de Compostela; it is how Hindus sleep on their great pilgrimage trails to the source of the Ganges; it is how Tibetan Buddhist lamas still teach – erecting giant tents in the mountains with prayer flags flying from them, as their followers set up camp around.

It is, of course, a practical way of dealing with pilgrimage accommodation. But it also offers the chance to put the 'normal world' into abeyance and live in nature.

So it is not surprising, as the Scouts celebrate their centenary, that religious leaders are emerging as strong supporters of outdoor activities as a vital part of education, helping young people know themselves, and nature, much better. There are many Scout groups run on a religious basis which help the young learn about the importance of caring for the environment, while earning fire-making and night-away badges.

## CLEAN-UPS

Other faith-run groups are also proving that this is one of the best ways of engaging young people, especially as more and more of them are growing up in cities.

In 2006 the Mongolian Buddhist temple of Gesar Sum set up an eco-camp in the countryside outside Ulaanbaatar; dozens of young people and monks from the city camped out in *gers* – traditional Mongolian tents – and organized clean-ups of some of the city's dirtiest sites. 'It is important to realize how beautiful nature is, so that you will look after it,' said Gesar Sum monk, Munkhbataar. 'One way to realize that is to experience it.'

In Birmingham, United Kingdom, the Green Medina group – named after the Arabic word for a traditional Muslim city – is trying something similar, adding rap and movie cameras to keep participants engaged. Young Muslims from all over the city will join working camps to clear up their community



Gregg Plummer/Flickr

streets and parks 'because a cleaner Medina's a greener Medina'. 'Many of these kids were born in the city, but their parents grew up working in fields,' explains the movement's spokesman, Hajji Ayman Ahwal. 'Islam concentrates on cleanliness – prayer isn't valid without the ablutions – so we want to make them proud of their environment.'

In the United States of America, camping is one of the key strands of several Christian ministries and is particularly strong in Methodism, which a century and a half ago had few buildings in the country. Preachers rode around the countryside speaking from rough board tabernacles and people would come many miles to hear them, staying in cabins or tents. In Arkansas alone there are still four old Methodist campgrounds, still active today.

## CEDARS OF LEBANON

Sometimes the effects of activities that link faith with nature only emerge years later. Take a meeting headed by the Alliance of Religions and Conservation and the Lebanon's Association for Forest Development and Conservation in 2004: its aim was to create an agreement between the Maronite church, the main Christian sect in Lebanon; the

mayor of Jounieh, just north of Beirut; and two local landowners. At issue was the 400-hectare Harissa forest – of which they were all part-owner – one of the last remaining green areas on the Lebanese coast, and identified as one of the critical areas of biodiversity in the Mediterranean area.

For the Maronites it was sacred land. For the mayor of Jounieh it was a prestigious location for ecotourism. So both groups were keen to protect it. But the agreement of the landowners was critical if the forest was to be saved from the kind of development that has already lined the rest of the coastline with concrete villas. Eventually, one of them – a man in his 40s called Rida El Khazey – said he would sign, and his neighbour agreed to do the same. Later I asked him why he had agreed to forgo so much money to leave his land in its natural state.

'Because when I was a young boy I went camping with the Scouts associated with the Maronite church,' he explained. 'We planted trees there and it was one of my happiest times. That forest is special.'

*Victoria Finlay, Alliance of Religions and Conservation (www.arcworld.org).*



Sjoerd Mouissie/Flickr

## A fatal complacency

‘Our friends in the industrialized world have had the luxury of closing their minds to the real impact of climate change on the fragile, precious atmosphere that surrounds our planet. Where it has occurred in their countries, its effects – with the possible exception of Hurricane Katrina in 2005 and the European heat wave in 2003 – have been relatively benign. They have felt just a gentle caress from the winds of change.

But how much more anxious might they be if they depended directly on nature’s cycles to feed their families, or if they lived in slums or shelters made of plastic bags? This is the reality of life in large parts of sub-Saharan Africa. The poor, vulnerable and hungry are daily exposed to the harsh edge of climate change.’

ARCHBISHOP DESMOND TUTU  
May 2007

## Not just a load of old rubbish

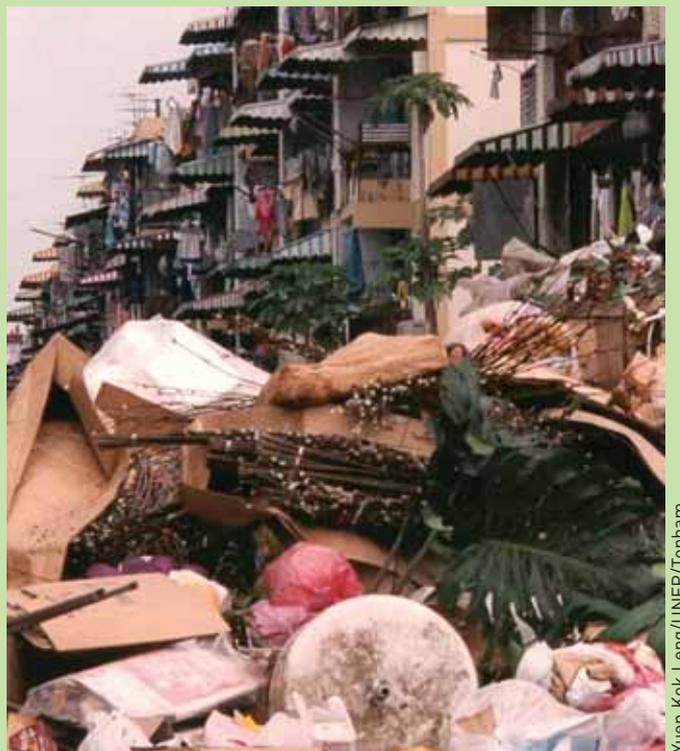
**‘When Indonesia was branded the dirtiest nation in the world by the World Health Organization, it was a wake-up call, Vania Santoso and colleague Wening Pranaya told TUNZA at the award ceremony for the Volvo-UNEP**

**Adventure Award. Their project ‘Useful Waste for a Better Future’ had won the \$10,000 first prize: ‘In our small way, we have tried to change perceptions and improve our local environment.’**

Their two-year-old project encourages people to separate their rubbish, turning organic wastes into fertilizer using a ‘magic waste basket’ composter; and being creative with their inorganic waste, crafting some of it into bags, photo frames and souvenirs.

It all started in 2004, when the two 15-year-olds visited their local waste dump in Surabaya. What they saw motivated them to spread the word about the 3Rs – Reduce, Reuse, Recycle – through handing out cassettes and leaflets, and by running workshops, road shows and competitions. Their message: processing waste can provide wonderful fertilizers for gardens, and the things you make can provide much-needed income – and reduce the amount of dumped waste, which can be a health and environmental hazard.

Results are astounding – the amount of waste in the girls’ municipality has dropped by more than a third; people in one neighbourhood are making 2 tonnes of fertilizer and earning almost \$1,000 from the sale of souvenirs each month. In another part of town, there has been an 80 per cent drop in the amount of waste. It’s not surprising that their campaign is being rolled out across the country by the Government, with the girls receiving a commendation from their President, and the Indonesian equivalent of an entry in the *Guinness Book of Records*.



Yuen Kok Leng/UNEP/Topham

# Clean-up summit



Claudio Marcozzi/UNEP/Topham

**W**hen Ken Noguchi reached the summit of Everest at the age of 26 he became the youngest person to have climbed the highest peak on every continent. But on his way up he found another calling: he noticed that his fellow mountaineers left a trail of rubbish, from cigarette butts to food, medicine and abandoned gear. In the five decades since Hillary and Norgay first conquered the mountain, more than 50 tonnes of garbage have been left on it.

So Noguchi – the son of a Japanese father and Egyptian mother, who began climbing when he was 16 – has made it his mission not just to climb every mountain, but to clean it. The year after he ascended Everest, he organized an international team to clean up the waste. Five expeditions over seven years have retrieved about 9 tonnes of garbage, including hundreds of oxygen containers.

He also started a similar campaign to clean up Japan's own Mount Fuji, while trying to inspire people to pick up litter. The mountain is nearly back to its pristine state.

But he knows that despite his accomplishments, he's only making a dent. 'Simply collecting garbage from the mountain doesn't mean I've succeeded,' he says. 'On Everest, the world's highest mountain, there's an incredible amount. So imagine how much there is on the Earth as a whole. I want as many people as possible to see what I'm doing and become more aware of the garbage around them, the beauty of nature and the wonder of the environment.'

## Greening trees

'It's important for young people to understand how their actions can affect the environment, both positively and negatively, even when we live in cities. I organized a project in my school to show that everyone can help the environment by decreasing their consumption of raw materials, reusing them, and recycling. I made sure everyone had recycling bins so we could practice what we preached. Already there's a difference around our school, there's less litter and the trees look greener because students are watering them regularly. We know it's small, but it is a contribution.'

*Lior Koren, 15, is a high school student in Israel.*



## Act local

**A**round the world, young people are gearing up to clean up the planet through undertakings as simple as an afternoon hike, a summer internship or a class project.

Perhaps picture-perfect postcards are to blame. Sometimes our idealized visions of places don't fit the reality. Cathie Bordeleau, for example, didn't expect to smell rancid burning garbage in the heart of the Peruvian Sierra. And Azmil Ikram found himself constantly stepping over discarded oxygen cans and climbing ropes high on Malaysia's Mount Nuang. But both are doing something about it.

As part of a summer internship, Cathie helped young people clean up Jangas, a small village northeast of Lima. In July 2006 they had had enough of rubbish tipped in the rivers, thrown in the streets or accumulating in gardens – and formed the Asociación para un Medio Ambiente Saludable (AMAS) to create an ecological waste management plan. She helped them reintroduce traditional composting practices and organize a community clean-up day.

She learned that community information and education campaigns can have results. 'With the commitment and energy the members of AMAS put into their project, I'm confident that within a few years, they will have fulfilled their dreams of creating a garbage management centre that sorts recyclables and composts organic waste. The next step will be to build a greenhouse and use the compost to nurture local endangered plant species.'

On the other side of the globe, Azmil says, 'Malaysia has some good conservation laws in place, but people often disregard them. Many climbers, hikers and tourists climb



Resmi-Seenan/UNEP/Still Pictures

Mount Nuang, a 1,493-metre high mountain, popular for its tropical rainforests. They take up lots of gear – but come down only with smiles. Littering the mountain is illegal, but the laws lack enforcement, and there aren't enough bins for the volume of visitors.'

He is against stopping people visiting fragile environments. 'I've found that connecting with nature is one of the best ways for a young, adventurous person to gain perspective on the chaos of the world,' he explains. 'Immersing myself in outdoor activities – whether rafting down a river, hiking deep into the jungle, climbing a mountain, or witnessing the power of a 30-metre waterfall – helps me understand that the world is much bigger and more complex than me. But if we're to keep having such adventures, we need to protect the environments we're experiencing. That takes a lot of cooperation between individuals, groups and governments.'

Supported by his university's Adventurers Club, Azmil started the 'Control Carriage System on Mount Nuang Project'. This observes and reports patterns of human activity – where people go, how long they stay and what infrastructure they use. And it documents local trees and animals with the help of the forestry department. 'During university holidays project members climb the mountain and tally how many people are on it, whether they are climbing, camping or just day-trippers,' he says. 'We bring bags and take out as much rubbish as we can carry!'

'Cleaning up the mountain and improving its management system will create an ecologically sustainable tourist destination that people will be able to enjoy for generations to come,' he explains. Cathie concurs, 'The members of AMAS have taught me that youth who hold the future of their area and their environment in their hearts have the power to change the course of their lives.'

# Harbouring hope

**I**t started as Clean Up Sydney Harbour back in 1989. Then it became Clean Up Australia Day, which has attracted more than 7 million volunteers who over the years have collected an estimated 165,000 tonnes of rubbish. Then it grew to become Clean Up the World. In March 2007, Amy Lovesey took part, plunging in where it all began.

'Watching the colourful plants and animals, I marvel at the diversity that lies just beneath the surface of the sea. But the oceans are often forgotten, even in island nations like Australia. Now, Australians are starting to be concerned about what we throw into our harbours and bays.

For my part, I volunteered to help clean up Sydney Harbour with a few friends from my local diving club. It was a big job as the harbour's depths are so clogged with litter. Plastic bags can kill wildlife – birds, dolphins, seals, turtles and whales – when they mistake them for tasty jellyfish. And animals become enmeshed in fishing lines and nets. I rescued a bird so tightly entangled it could not open its beak, and it had a hook deeply embedded in its wing.

We collected a horrifying mound of rubbish in just one day. Beside the big heap of nets, plastic bags and tyres, we piled a small mound of cigarette butts. These may not seem as immediately dangerous as nets, but they leach toxic lead, arsenic, mercury and hydrogen cyanide into the waste. Over 7 billion of them are discarded across the nation each year, and many local councils are determined to enforce littering laws and even ban smoking on beaches.

It's easy to enjoy our beaches and oceans without polluting them, taking our rubbish with us when we leave. If we spread the word and set an example, next year there'll be a lot less litter to remove.'

*For more information on Clean Up Australia Day and Clean Up the World, go to [www.cleanuptheworld.org](http://www.cleanuptheworld.org).*



(FREELENS Pool) Tack/Still Pictures



## Golden mean

Does beauty come down to a number? Adolf Zeising, a German philosopher, reckoned so. He found it in the golden mean, a proportion defined by the number Phi ( $\phi$ ) – or 1.6180339887 – which turns up all over the place in beautiful things. Zeising identified it in the arrangement of veins in leaves, the structure of the nautilus and the composition of crystals. The Parthenon and Chartres Cathedral both have architectural elements that fit the golden mean. The lengths of paragraphs in Virgil's *Aeneid* correspond to it, as do some of the composer Bartok's harmonic structures. Some believe that Leonardo da Vinci consciously used it in painting the *Mona Lisa*, as scholars have found it in the dimensions of her enigmatic face.



## Star signs

Not all roads lead to Rome. But, if you know what you are doing, staring at the stars could help you get there. Seafarers have used celestial navigation to find their way around featureless oceans for centuries. Arabs sailing in the Indian Ocean remembered the stars' positions by memorizing poems, and Polynesians burned star maps into the bottoms of gourds. Facing the North Star always points you north, and in the northern hemisphere the angle between it and the horizon is the degree of latitude, your position relative to the equator. Using only a compass and his knowledge of the skies, Captain Bligh of the *Bounty* sailed a dinghy 6,700 kilometres to Timor and safety after he was cast adrift by his mutinous crew in 1789.



## Stinking rose

Ancient Greeks left bunches of garlic at crossroads as a supper offering to Hecate, goddess of wild places. Egyptians worshipped the plant itself as a god. Central Europeans used it to ward off vampires, werewolves and demons. Garlic is packed with vitamin C, vitamin B6 and manganese, and releases allicin when its raw cloves are crushed. An anti-microbial, allicin prevents infections: during the two World Wars, garlic poultices were placed on injuries to kill germs. The plant has long been used medicinally in Southeast Asia: its juice is dripped in ears to cure aches, and garlic paste is administered to cure fevers, coughs and sinus problems and to lower cholesterol. Just about the only thing it can't do is sweeten breath; it's not called the stinking rose for nothing.



## Early baths

Natural hot springs have been keeping people healthy for thousands of years. One in Merano, Italy, has been used by people for five millennia. Hippocrates, the father of Western medicine, recommended long baths to treat jaundice and rheumatism. Indeed, ancient Greek philosophers would meet at hot springs and exchange their latest musings. The medical benefit of springs comes from their high mineral content. Hot water holds more dissolved solids than cold water, and hot spring water picks up minerals from the rocks it seeps through on its way to the surface. So bathers' bodies absorb such minerals as calcium, which strengthens bones and teeth; sodium, which helps heal wounds; and iron, which improves red blood cell functioning.



## Active medicine

Why does massaging your scalp in the shower feel so good? Why is laughing such fun? What happens when you find yourself in 'the zone' while running or playing sports? That feeling of intense happiness, confidence and well-being, is caused by naturally occurring hormones in the brain called endorphins. During exercise, the brain is stimulated to release them into the bloodstream: by blocking pain receptors and lowering blood pressure, they act like natural painkillers and induce euphoria. Endorphins are thought to be involved in controlling the body's response to stress, helping digestion and improving mood. It's an harmonious cycle: laughing or running around outside makes you feel good; your brain releases endorphins; and you start feeling even better!



## Feeling sunny

Why do people seem to be down in the dumps when it's cold and grey outside? Sunlight, or rather the vitamin D we get from it, lifts our spirits and makes us happier. If we don't get enough vitamin D, we become depressed, tire easily, and our bones weaken and break. The vitamin D we need can be got from supplements or special foods – 15 millilitres of cod liver oil or 15 whole sardines or 15 glasses of fortified milk a day, or special vitamin tablets. But there is a better option: all we have to do is play, stand, sit, sleep or relax outside – with or without sunscreen – for just 15 minutes a day! How come? Well, vitamin D is not actually a vitamin; it's a special hormone that our bodies make all on their own – but the crucial ingredient is sunshine.



## Naturally better

Cows fed on grain in commercial dairies produce more milk than ones eating grass in a field. Good for us, right? Not necessarily. Cows transfer a set amount of vitamins and nutrients to their milk, so the more milk that is produced, the more diluted its nutritional value. And fresh grass contains a lot more vitamin E than grain or hay, so grazing on fresh pasture increases the nutrients in food. Similarly, eggs laid by chickens that wander around the farmyard and fields contain about twice the amount of vitamin E and six times the amount of beta carotene as eggs from cooped chickens. So letting animals range freely is not just good for nature and generally kinder to animals: it also produces better food.

# 7

# natural wonders



Katarzyna Rozek (Poland)/Ecology in Focus

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