

The UNEP Magazine for Youth



TUNZA



for young people · by young people · about young people

Sport and the environment

Respect
Friendship
Excellence

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 multinational involved in health care, crop protection and high-tech materials, are working together to strengthen young people's environmental awareness and engage children and youth in environmental issues worldwide.

A partnership agreement, originally signed in 2004 and renewed in 2007 and 2010, runs through 2013. It lays down the basis for UNEP and Bayer to implement the projects under the partnership. These include: TUNZA Magazine, the International Children's

Painting Competition on the Environment, the UNEP Tunza International Youth and Children's Conferences, youth environmental networks in Africa, Asia Pacific, Europe, Latin America and the Caribbean, North America and West Asia, the Bayer Young Environmental Envoy Program and a photo competition, 'Ecology in Focus', in Eastern Europe.

The long-standing partnership between UNEP and Bayer has become a public-private partnership that serves as a model for both organizations.

The future of the environment lies with our children



Abdikadir Aden

Every individual, young or old, can make environmental conservation part of their daily activities. But we forget that the biggest pillar for achieving this rests with our children.

In school compounds, small children become the engine of survival for a tree seedling. Watering is assigned to each one of them so that they own the plant. When such a child leaves primary school after eight years or even more, he or she has left something behind, a legacy for the planet.

This gives children the chance to take the lead as youngsters – even below the age of 10 – so in the future they will be aware and fully responsible for their own environment. They will have all it takes to address global environmental issues such as global warming and climate change.

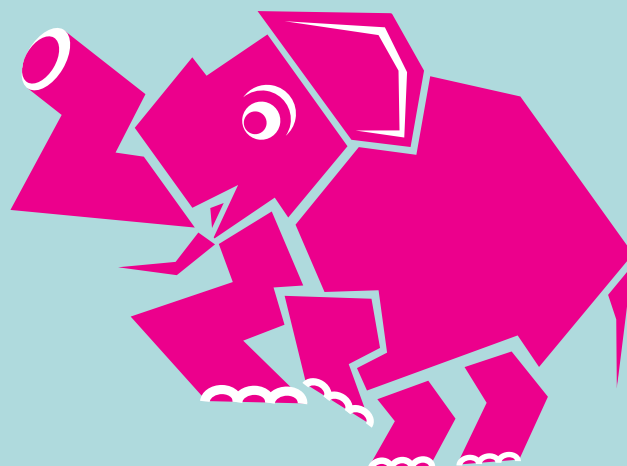
I believe that our small children are the most successful way of conserving Mother Nature. The first step is giving them the leadership they want. After that, they will be in a position to take the lead and become role models, not only for young people but for the old guard, too.

Have you ever noticed how great children are at getting environmental messages across, especially on environmental awareness posters? They can send a big signal to society. So, everyone should always have them in mind in every little step they take. This ensures that they WILL have a better future.

Let's not forget our children, but hold them in our hearts.

Abdikadir Aden is Tunza Eco Generation Regional Ambassador to Kenya.

EDITORIAL



'A sound mind in a healthy body' is a saying as old as the Olympics themselves. It was certainly familiar to Baron de Coubertin, founder of the modern Olympics, who was motivated to revive the Games because he worried that young people were turning away from physical activity. What would he think now, with our ever more sedentary lifestyles and the growing scourge of obesity?

Today, the Olympic Movement and UNEP would turn this saying into 'a sound mind and a healthy body in a healthy environment'. These three are linked. Everyone needs clean air, clean water and nutritious food if they are to achieve their potential. Societies need healthy and vigorous people if they are to thrive and develop. And is there a better way of connecting with the natural world than running, biking, skiing or having a game of football?

The four-yearly Olympics are a celebration of excellence, when the world's best athletes come together for just a few weeks to compete in an atmosphere of friendship and respect – two other Olympic values. But the Olympic Movement also sees the Games as a moment to showcase excellence in the development and management of the world's largest sporting event, involving not just the athletes, but thousands of administrators and coaches, millions of spectators, and the billions who watch the competitions on TV. The Olympic mission now includes ensuring that the building and development of infrastructure for the Games is as green as possible, that the facilities at the Games, from transport to food, take full account of the environment, and that the Games leave a sustainable legacy for years to come.

And much as we might dream, we can't all aspire to become Olympians. Or can we? Olympic ideals are not just about sporting excellence. Indeed, Baron de Coubertin believed that playing well is more important than winning, not just in sport but in life. Is there a better way of expressing our concern for the environment and sustainable development than those three Olympian values – friendship, respect and excellence?

Give it a spin!

Sport, as expressed by the Olympic values of excellence, respect and friendship, is all about physical well-being and active, healthy lifestyles. And as Namibian Olympian and World 200-metre champion Frankie Fredericks puts it: 'Sport can help the young keep out of trouble, particularly if they live in troubled areas, and help tackle the obesity problem. People learn how to share, and how to deal with winning and losing. Those are very valuable lessons.'

But you don't have to be an athlete to enjoy physical fitness, and daily activity is crucial to good health and well-being. Regular exercise is an important way to prevent non-communicable diseases such as heart disease and



Blaze/Urban Culture Jam/Brian Slater/www.blazeonline.org.uk

diabetes, which are now among the most common causes of disability and premature death worldwide. The World Health Organization (WHO), for example, recommends at least 30 minutes of physical activity on most days to reduce the risk of heart disease. But physical activity doesn't have to be costly. Walking, running,

cycling, inline or roller skating, skateboarding, yoga and dancing are among the many inexpensive, low-carbon ways to keep fit. And that's not to mention – for the more ambitious – windsurfing, rock-climbing, skiing, gymnastics, rowing, snowboarding, riding, unicycling... the list goes on and on!



Pat Young/lululemon athletica 2011/flickr

Green your mind

Did you know that all sorts of outdoor activities benefit mental health? Studies have shown that even gentle exercise in nature, such as walking, gardening or cycling, has a positive effect on mental well-being, including increases in self-esteem and confidence and decreases in anxiety and depression. And of course we know the sun shines away the blues. Even more impressively, vitamin D has been found to improve cognitive function.

Healthy life, healthy diet

Even while the number of people in the world without enough to eat is rising, in many places sedentary lifestyles and too much of the wrong kinds of foods are leading to obesity. The WHO predicts that there will be 2.3 billion overweight adults – that's one in three of us – in the world by 2015, of which more than 700 million

will be obese. Obesity also affects 20 million children globally. Reducing people's ability to live active lives and reducing life expectancy, the condition has been linked to heart disease, stroke and diabetes. The crisis is so great that the American Diabetes Association says that the number of people developing diabetes is likely to more than double by 2030. It's not only important to eat sensibly for the



MShades/flickr

health of the planet, but for the health of our bodies. The best way to eat for a healthy life is by consuming a wide variety of different foods – grains, vegetables, nuts, fruits, foods from animals if you wish – and balancing the different types of food.

Respect, friendship, excellence



PÁL SCHMITT, former President of Hungary and an Olympic gold-medal winner (Team épée, 1968 and 1972), is the founder president of the International Olympic Committee's Sport and Environment Commission. TUNZA spoke to Pál Schmitt about the Olympic Movement's role in promoting environmental protection and sustainable development.

TUNZA: When we think about the Olympics and sport in general, the environment and sustainability aren't the first things that come to mind. What are the connections?

PS: Everything we do depends on a healthy environment, and that's especially true of athletes. They need space in which to train, nutritious food, clean air and clean water. Actually, everything any of us does also impacts the environment, whether that's building sports facilities, travelling to them, just going for a run or kicking a ball around.

But it's not only about sport. The founder of the modern Olympic Games, Baron Pierre de Coubertin, saw sport as a catalyst 'with significant power and potential to facilitate social and economic development', and believed that sport should work to achieve 'the harmonious development of man, with a view of encouraging the establishment of a peaceful society concerned with the preservation of human dignity'. That's why the Olympic Movement is fundamentally concerned with sustainability.

TUNZA: Do you think Olympians – those who compete in the Games – can help?

PS: As an Olympian myself, I know that competing in the Games is fantastic. Athletes know about the benefits of an active lifestyle and a good diet. They also know about the dangers of drugs, alcohol, smoking and so much more. Today's sports stars are media personalities as well as athletes, and people listen to them. So it's important that they take their responsibilities as role models seriously. That's why we in the Olympic Movement work with them to help them spread the Olympian values of respect, friendship and excellence.

TUNZA: How do you feel those values apply to sustainable development?

PS: They're very important. Respect is not just respect for people, but for the whole of the natural environment on which we all depend. Friendship is about friendship with all people, no matter who they are or where they're from, and that includes future generations. Then there's excellence – Pierre de Coubertin said 'the important thing in life is not the triumph but the struggle, the essential thing is not to have conquered but to have fought well'. And remember, like sporting achievement and records, what is excellent today will hopefully become normal next year. It seems to me that respect, friendship and excellence are essential constituents of sustainability.



Szulics Miklós

TUNZA: Do you try to engage young people, specifically?

PS: Absolutely – that's why, for example, we decided to found the Youth Olympic Games (YOG). The first summer and winter YOGs were in Singapore (2010) and Innsbruck, Austria, (2012) respectively. Alongside YOG sporting events, which are fantastic, there's also a Culture and Education Programme (CEP) that introduces the competitors to all sorts of new ideas from communication skills to increasing their knowledge of sustainability. In Singapore, with UNEP, there was a renewable energy component, while in Innsbruck we also ran seminars on protecting fragile mountain environments – important for winter sports. The response to the CEP has been so positive, we are considering introducing something similar at all Olympic Games.

TUNZA: The Olympic Movement encompasses more than 200 National Olympic Committees and 35 International Sports Federations, all those who are working to stage Olympic Games and millions of athletes. How do you spread your message of sustainability amongst them?

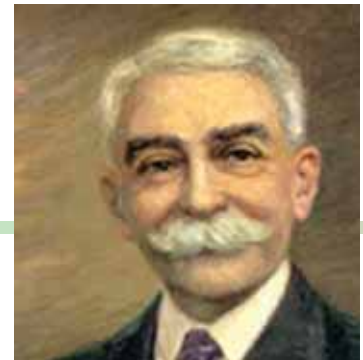
PS: All our work is based on the *Olympic Movement's Agenda 21*, first published in 1999. Like the UN's own *Agenda 21*, it's a vibrant, relevant action plan for introducing sustainability into every aspect of sport. To back this up, we also have the *Guide on Sport, Environment and Sustainable Development* to help the sporting bodies transform the recommendations of the *Olympic Movement's Agenda 21* into concrete actions and programmes. These aren't just for aspiring Olympians; they're for all levels of sports people and administrators, everywhere.

Then there are the biennial Sports and Environment Conferences, organized with UNEP. These gather people from all parts of the Olympic Movement to share experiences, learn from one another and think about what needs to be done and about new issues. And equally important are our regional Sport and Environment seminars, themed to 'think globally, act locally', which allow sports people who share backgrounds and problems to get together and develop practical ways of incorporating sustainability into all they do.

But the main thing for everyone is to get out there and take part in introducing sustainability.

Sustainable development and the Olympics (1972-2012)

BACK IN THE 1890s, the founder of the modern Olympic Movement, Baron **Pierre de Coubertin** (right), saw sport as an important means of achieving social and economic development, and believed that sport could achieve 'the harmonious development of man' while encouraging 'the establishment of a peaceful society concerned with the preservation of human dignity'.



This timeline shows the common ground between the emerging global goal of sustainable development, the Olympic Movement and Pierre de Coubertin's original vision.

1972



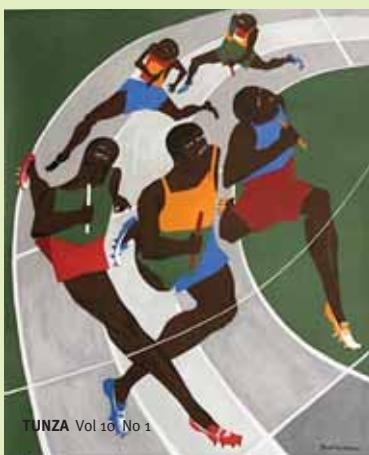
The **Club of Rome** publishes *Limits to Growth*, expressing concern about the growing world population and finite natural resources.

The **United Nations Conference on the Human Environment**, attended by 119 countries, declares: 'Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors'. The conference also establishes UNEP.



München 1972

National Olympic Committees from around the world plant shrubs from their countries in the Olympic Park at the **Munich Olympiad**.



1987

The concept of sustainable development is coined in the **Brundtland Commission's** report, *Our Common Future*.



1992

The **United Nations Conference on Environment and Development** (Rio '92) adopts the UN *Agenda 21*, a blueprint for a balanced and integrated approach to environment and development issues into the 21st century.

During the **Barcelona Olympics**, sports federations and National Olympic Committees sign the Earth Pledge, committed to making our planet a safer place.



1994

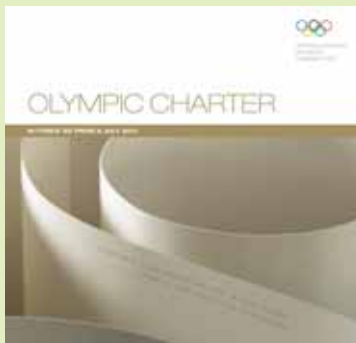
The UN **International Year of Sport and the Olympic Ideal** promotes understanding among the youth of the world through sport and culture.

The year of the **Lillehammer Winter Olympics**. Environmental issues receive broad attention, and these are the first Games to explicitly include environmental considerations.



1995

The **International Olympic Committee's Sport and Environment Commission** is formed to guide progress on environmental governance and sustainable development throughout the movement.



1996

The *Olympic Charter* adopts the environment as the third pillar of Olympism, together with sport and culture.

1998

Nagano Olympic Winter Games, with the motto 'harmony with nature', becomes the first Winter Olympic Games to host more than 2,000 athletes.



1999

The *Olympic Movement's Agenda 21 – Sport for Sustainable Development*, applying the UN's *Agenda 21* to sport, is published.



2000

The **Sydney Olympiad** incorporates environmental thinking into all aspects of the Games. The construction of the eco-friendly Olympic village ends the myth that green housing technologies are too expensive to implement on a large scale.



2001

The booklet *Be a Champion for the Environment* is published, focusing on the importance of a clean environment for the Olympic Family and athletes in general.



2002

The UN **Summit on Sustainable Development**, in Johannesburg, South Africa, reaffirms the international community's commitment to the implementation of *Agenda 21* and agrees to focus on 'the worldwide conditions that pose severe threats to the sustainable development of people, which include: chronic hunger; malnutrition; foreign occupation; armed conflict; illicit drug problems; organized crime; corruption; natural disasters; illicit arms trafficking; trafficking in persons; terrorism; intolerance and incitement to racial, ethnic, religious and other hatreds; xenophobia; and endemic, communicable and chronic diseases, in particular HIV/AIDS, malaria and tuberculosis'.

The International Olympic Committee (IOC) forms a partnership with the UN Interagency Task Force on Sport for Development and Peace.



ATHENS 2004



2004

The **Olympics, back home again in Greece**, renew Athens' transport infrastructure, improving traffic, significantly reducing air pollution and protecting the natural heritage of its archaeological sites.

2005

The IOC publishes its *Guide on Sport, Environment and Sustainable Development* to help all sport transform the recommendations of the *Olympic Movement's Agenda 21* into concrete actions and practical programmes.



2006

The environment is included in the lead-up to the **Turin Winter Olympic Games**, during the Games, and in what is left behind. The Organizing Committee forms a strategic alliance with UNEP to provide support and cooperation in the implementation of environmental projects connected to the Games and their legacy.



2007

The International Olympic Committee receives the UNEP **Champion of the Earth Award** in recognition of its influence in promoting sustainable development and environmental leadership.

2008

In preparation for the Olympics, Chinese authorities work to improve Beijing's chronic pollution and create a cleaner and greener city, significantly improving living conditions by improving infrastructure, introducing wind and solar power, traffic regulations and a smoking ban. A massive tree-planting campaign is also undertaken. For the first time, UNEP carries out an independent assessment of the Olympic Games' environmental performance.



Beijing 2008
TM
Olympic rings logo

2009

The IOC is granted official observer status by the UN General Assembly.

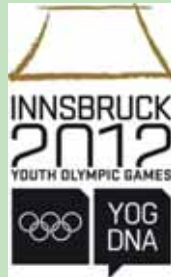


2010

vancouver 2010
Olympic rings logo

The **Vancouver Winter Olympics** set new standards for truly sustainable Games, pioneering ways for organizations mounting major sporting events to integrate, monitor, manage and report on sustainability in everything they do.

The inaugural **Youth Olympic Summer Games** are celebrated in Singapore, focusing on culture and values, and complementing an international multi-sport event.



2012

The inaugural **Winter Youth Olympic Games** are celebrated in Innsbruck, Austria, bringing together more than 1,000 young athletes from more than 60 nations, all of whom also participate in the Culture and Education Programme designed to raise awareness of Olympic values, well-being and healthy living, social responsibility and environmental issues.



2012

The **United Nations Conference on Sustainable Development (Rio+20)** is convened to 'secure renewed political commitment for sustainable development, assess the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development, and address new and emerging challenges'.

London is the first summer **Olympic** host city to embed sustainability in its planning from the start. For the 2012 Games, sustainability means far more than being green. It infuses all attitudes, thinking, planning, building and purchasing. London 2012 is basing its approach on the WWF/BioRegional concept of 'One Planet Living' – living within the limits of the world's resources rather than using resources equivalent to three planets, as currently represented by European lifestyles.



The Olympic Movement is heavily involved in developing **ISO 20121**, an international standard to help organizers map the economic, environmental and social impacts of events.

Images on pages 6-8 thanks to the IOC



'The IOC is committed to promoting sustainable development and respect for the environment in and through sport. Our efforts are driven by two considerations: the impact that a degraded environment can have on sport, and the effects that sport – and, in particular, the Olympic Games – can have on the environment.'

JACQUES ROGGE
President of the International Olympic Committee

One-planet Olympics



Earthlings are, on average, consuming 50 per cent more natural resources than the planet's ecosystems can replenish. To help bring consumption back into line with what Earth can supply sustainably, development group BioRegional, in partnership with WWF, has come up with One Planet Living, a global initiative that provides practical guidelines for individuals and groups to take steps toward living within the limits of one Earth – covering everything from sustainably managed building and energy to waste, water, food and more.

What better opportunity to showcase the possibilities and benefits of One Planet Living than at the world's most high-profile event? Staging the Olympics is a massive task – like building a whole new town – involving constructing venues, housing and other infrastructure to cope with an influx of more than 10,000 athletes and millions of spectators. Working with One Planet Living and the London Games' partners and sponsors, the London Olympic Games Organizing Committee (LOGOC) pledged to make the London 2012 Games sustainable. The work has been going on for years behind the scenes, but as the torch comes to London, the city is demonstrating to the world how it can be done.



Populous/London 2012

Energy

The Olympic Park's efficient, low-carbon heating and cooling systems are powered by a brand-new Energy Centre. It features a 3 megawatt biomass boiler that uses both natural gas and sustainably sourced wood chips to generate power. The combined cooling, heating and power plant captures the heat generated by electricity production and recycles it to generate domestic hot water and heat the Aquatics Centre and other venues and buildings. This system uses less fuel than traditional energy systems and reduces greenhouse gas emissions. Having the Energy Centre on site rather than transporting energy from distant plants saves energy, too.



David Poutney/London 2012

Green buildings

The London 2012 Olympic Stadium was designed to use far less steel than traditional stadiums, making it the lightest Olympic stadium in history. It also features concrete with 40 per cent less embodied carbon than usual, made with industrial waste. Its top ring is made of surplus gas pipes, and its lower section sits beneath ground level, reducing the need for construction materials.

The Olympic Velodrome, which houses the cycling track, is built with a lightweight cable net system, saving 1,000 tonnes of steelwork, and is panelled with certified sustainably sourced timber. Its compact, energy-efficient design optimizes daylight and is naturally ventilated, reducing the need for electricity. A rainwater harvesting system and water-efficient fittings, like waterless urinals, reduce the use of potable water.



David Poutney/London 2012

Reaching out

As part of the London 2012 legacy, LOGOC pledged to connect young people all over the world to the power of sport. It established International Inspiration in 2009, which has reached 12 million youth in 19 countries so far. In Bangladesh, it's helping to teach more than 250,000 children how to swim, a vital skill in a country that loses an estimated 17,000 children a year to drowning in floods. In Zambia, it trains leaders to teach youth about healthy living and HIV/AIDS, reaching more than 1.5 million people. In Brazil, the Segundo Tempo sporting scheme gives access to sport to 4 million young people – an after-school scheme that will go full circle when it comes to be tried out in London.



Waste

LOGOC set an ambitious target to send zero waste from its venues to landfill, aiming to reuse, recycle or compost at least 70 per cent of its waste – everything from building materials to packaging to official merchandise – and using energy recovery systems or other technologies for the rest.

Big savings came from the site itself. Around 2 million tonnes of contaminated soil were cleaned and reused to create the Park, and 98.5 per cent of demolition waste was recycled, some of it on site. For example, it was used to build the Energy Centre and the foundations for the Aquatics Centre and Handball Arena. Meanwhile, the Olympic Stadium used concrete containing more than 30 per cent recycled materials.

The Olympic Park aims to reduce potable water use by 40 per cent. All Olympic venues are equipped with water-efficient fittings, and water-saving technologies include rainwater harvesting and filter backwash recycling. Non-potable wastewater is treated and used for flushing toilets and irrigation.

Suppliers are complying, too. Coca-Cola developed a plastic bottle recycling facility in North Lincolnshire to help the company recycle its waste from London 2012 without having to ship it abroad for processing. McDonald's hot food packaging will contain 72 per cent recycled fibres, while takeaway bags, napkins and cup carriers are made entirely from recycled paper.



Transport

This is a 100 per cent public transport Games, so there will be no spectator parking at any of the venues. Dedicated coaches will provide transport from within Central London, park-and-ride sites have been established around the city, and specially discounted train tickets and all-day travel cards are available. Spectators can even get to some venues via the Thames, by riverbus.

Legacy

Key to LOGOC's sustainability agenda is making sure that any facilities left behind are useful to the local community, enhancing citizens' health and well-being for years to come.

The 2.5-square-kilometre Olympic Park will remain a green space for wildlife and human residents alike. The north end of the Park will provide peace and quiet for the public to enjoy while observing the biodiversity thriving in the restored habitat. The south end of the Park will retain its cafés, bars, markets and gardens, making it a lively destination for Londoners.

The Olympic Stadium will continue to host sporting, cultural and community events. The Velodrome will house a new mountain bike course and road-cycle circuit for the local community and athletes.

The Olympic and Paralympic Village will be transformed into 2,800 homes for East London residents.

The Lee Valley White Water Centre, which provides canoe slalom courses, will revert to a canoeing and kayaking venue. Completed in December 2010, this was the only London 2012 venue open for use by the public ahead of the Games.



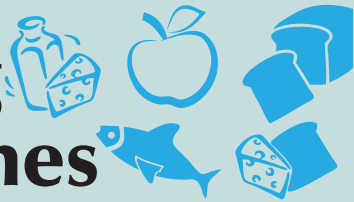
Habitat

The Olympic Park, where most of the stadiums are, was reclaimed from what had been an inaccessible, polluted, abandoned industrial site covering around 250 hectares along the Lea River Valley corridor, which contains important wildlife habitats, including mudflats and reed beds. The Games have transformed it into the largest urban park created in Europe in 150 years, with undisturbed wildlife areas as well as people-friendly parks and gardens.

Workers cleaned the soil, dredged waterways, repaired riverbanks and constructed parklands that eliminated invasive alien species including Japanese knotweed. The landscape was restructured with materials recycled from the site clearance, and the area planted with 4,000 – mostly native – trees such as ash, willow, birch, and London plane, 300,000 wetland plants and meadow plants. Vegetation absorbs rainwater to prevent flooding, and revitalized wetland areas provide habitat for otter, kingfisher, grey heron and water vole. These areas are linked to green open spaces across East London, creating an urban wildlife grid.

Wildlife is even being encouraged to thrive on the Olympic Park's buildings. Venues feature more than 15,000 square metres of living green and brown roofs, and 675 nesting boxes for bats and birds have been installed.

Fuelling the Games



Andre Abraham/CC-2.5

Athletes, staff, spectators, volunteers, dignitaries, journalists – that's a lot of mouths to feed and active bodies to energize. By the time the Games are over, more than 14 million meals will have been devoured.

What do 14 million meals look like, anyway? Organizers estimate the total amount eaten will be 25,000 loaves of bread, 232 tonnes of potatoes, 82 tonnes of seafood, 31 tonnes of poultry, 100 tonnes of meat, 75,000 litres of milk, 19 tonnes of eggs, 21 tonnes of cheese, and 330 tonnes of fruit and vegetables. Organizers are calling it the 'largest peace-time catering operation in the world'.

With such massive demand, it makes practical as well as environmental sense to source food sustainably, locally and ethically, and to serve the most nutritious food going – this is the Olympics, after all! The aim is for caterers to adhere to sustainable procurement standards as well as guidelines to serve 75 per cent unprocessed, 50 per cent locally sourced and 30 per cent organic food and drink, with a reduced emphasis on foods of animal origin.

Not only is this good for the planet, reducing greenhouse gas emissions and encouraging organic farming, it's an opportunity to transform the UK food industry for the long term. Giving priority to local suppliers offers UK farmers an economic boost, and the Games' emphasis on local, organic, seasonal food will leave a legacy of better public understanding of health, ethical and sustainability issues around food.

City gardens



What about growing our own?

Part of the London 2012 sustainable food strategy is to leave a long-lasting legacy of awareness in London. Capital Growth, a project established by the local government, offers Londoners financial incentives to reclaim unused urban spaces – school yards, railway yards, canal banks, and especially the rooftops of residential and commercial buildings – to create vegetable gardens that will help supply the Games with locally grown fruit and veg, and, after the Games are over, the local community. Residents sign up on a website to be matched with available plots, and the city provides tools, compost, training and financial incentives – £1,000 (\$1,600) for each flat roof space converted – to get going. Training includes food-growing courses in Regent's Park, community bee-keeping, and even how to grow produce to sell to local restaurants and at market stalls. The goal is 2,012 new local gardens by the end of 2012, but if the idea takes off, the capital's 100 square kilometres of roof space alone could help Londoners become more self-sufficient and live more sustainably.



British is best!



The London Olympic Games Organizing Committee (LOGOC) pledged to showcase the 'Best of British' during the Games – and what can't be sourced locally is to come from Fairtrade suppliers.



- All dairy products, beef, lamb and poultry must be British or of equivalent British standard.
- All food must be held to the Red Tractor standard – a UK independently certified standard that assures high production quality – as the benchmark standard across meat, fruit, vegetables, salads, cereals and dairy.
- Bananas, tea, coffee, chocolate and sugar must be Fairtrade or ethically sourced.
- Eggs must be free range and bear the British Lion mark, which means the eggs have been produced to the highest codes of food safety.
- All fish must be sustainable, and must exclude all species and stocks identified by the Marine Conservation Society (MCS) as 'fish to avoid'. All wild-caught fish must meet the FAO Code of Conduct for Responsible Fisheries.

Encouraging local enterprise

Private caterers from all over London were invited to bid to supply food for the Games. Priority was given to local small and medium-sized enterprises. All caterers are required to comply with the 2012 sustainable food standards, and must be trained in preparing fresh, healthy food. Even fast-food giant McDonald's – the only corporate food provider at the games – is required to contribute: while it already buys a significant amount of its food, such as eggs, pork and milk, from UK farmers, the chicken it serves at the Games is also to be British sourced.

Take care of your mountains

Winter sports – especially downhill skiing, cross-country skiing and snowboarding – are increasingly popular all over the world. The most famous ski spots are the European Alps and the North American Rockies, but there are resorts in the Andes, the Japan Alps, Kashmir, New Zealand's southern Alps, Australia's Snowy Mountains – and even in places like Iran, Algeria, Lebanon, Republic of Korea, Georgia, South Africa and Morocco. Anywhere in the world, winter sports are an exhilarating and healthy way to experience Earth's spectacular mountain environments.

But as more people take to the slopes, it's important to remember how fragile these high-altitude ecosystems are. Their steep slopes, severe climate conditions and thin topsoil make them susceptible to erosion and landslides. And mountain environments often pack a wide range of ecosystems into relatively small, often isolated bands. These provide habitats for high numbers of specialized and endemic species that can easily be disrupted by human activity or climate change, which at high altitudes is more pronounced than over the rest of the planet except the poles. Research on alpine vegetation on European summits has shown that cold-temperature plants – like the European alpine species *Nevadensia purpurea* – are being pushed out by warmer-temperature plants. Because there's nowhere to migrate but up, species will ultimately run out of space, and could vanish completely.

Meanwhile, roads, ski lifts, buildings and waste disposal disrupt and fragment habitat, and the presence of humans is stressful for wildlife. Scientists studying the black grouse, a keystone species in the European Alps, found that human contact greatly increased the birds' stress hormones, while in Australia, the mountain pygmy-possum is endangered due to habitat fragmentation caused by resort development.

Of course, this isn't to say that people should stop enjoying winter sports – but it helps to make choices that take environmental impact into consideration. Here are a few tips:

- 1. Try cross-country skiing and snowshoeing: they don't require changing landscapes for ski runs, or energy-intensive lifts or artificial snow.**
- 2. Don't fly. Drive or take a train to your mountain resort to save on greenhouse gas emissions.**
- 3. Support a resort making efforts to be green, whether it's rail-accessible, runs its vehicles on biodiesel, or plants vegetation to reduce erosion.**



tourisme43/flickr

Snow machines



Snow machines are a reliable way to top up the slopes when the weather won't cooperate, but they have a few environmentally unfriendly side effects. First, they're highly energy-intensive, and they require large amounts of water – covering the 23,800 hectares of Alpine ski slope for one season requires 95 billion litres of water, the annual water consumption of a town of 1.5 million people, which can interfere with the natural water cycle.

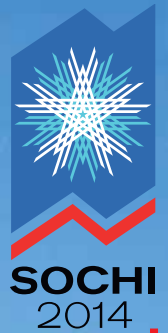
Water is taken from lakes and rivers, while wetlands are sometimes converted into reservoirs to produce artificial snow, which can adversely affect wildlife. Water from artificial-snow melt contains minerals and nutrients not found in natural snow, affecting vegetation. And while the melted artificial snow does return to the ecosystem, it tends to evaporate or run off quickly rather than seeping into soil to replenish groundwater. Half of humanity relies on mountains for freshwater – and supplies are expected to dwindle as Earth warms – so such effects are well worth thinking hard about.

CLIMATE CHANGE AND THE SKIING INDUSTRY

The winter sports industry can't afford to ignore the effects of climate change. Within the last three decades, mountain precipitation patterns have become more erratic, and ski seasons have become shorter. In 2004, lack of snow forced the closure of four resorts in Scotland. In spring 2012, a sudden warm spell melted all the snow in Ottawa, Canada, causing resorts to shut down before the season was over. In Bolivia, the world's highest ski lift, which stood at 5,395 metres at Chacaltaya, closed due to glacial melting in 2011. And in the European Alps, lack of snow cover and unpredictable storm patterns have destabilized the winter sports economy.

Experts seem to agree the trend is likely to continue. One 2006 UNEP report warned that low-altitude ski resorts in Europe, North America and Australia are under threat from global warming, and projected that, in a worst-case scenario, none of Australia's ski resorts would be economically viable by 2070 if ice-melt trends continue. And in 2006, European alpine areas below 1,600 metres were already receiving 20 per cent less snow – bad news for the European ski industry, as many resorts in Austria, Germany and Italy are built below 1,300 metres. Melting permafrost will also increase the risk of dangerous landslides and make it necessary to brace structures such as lifts.

Loss of ski-season days represents a huge economic blow. Switzerland's tourism industry is the most important source of income in alpine areas. If climate change forces the closure of resorts built below 1,500 metres, the country would lose 37 per cent of its 230 resorts. One analysis commissioned by the US State of New Hampshire's government estimated that a loss of 10 to 20 per cent ski days in the New Hampshire ski industry would represent a loss of \$42 to \$84 million. Some ski resorts are coping with economic uncertainty by offering off-season sports, like golf and paragliding. They're also taking ski runs up to higher altitudes – often conflicting with wildlife protection regulations – or extending seasons by using artificial snow machines.



The Winter Olympics

The **Sochi 2014** Winter Games will be the first Winter Games hosted by the Russian Federation. The Sochi Olympic Park, where indoor venues will be located, is being built in Krasnodar, a city on the Black Sea, and development will include ecological rehabilitation of urban areas. For mountain venues, construction is taking place in the Krasnaya Polyana village region, which falls on the border of the Sochi National Park, within the Western Caucasus UNESCO World Heritage Site and biosphere reserve. This unique ecosystem is home to such rare and endangered species as the West Caucasian chamois and tur. To accommodate the Games, the Park turned some of its area into 'recreation zones', while land from nearby forests has been redesignated as national parkland to make up for the loss. Animal habitats in and around the Park and biosphere reserve will be enhanced, and bobsleigh and luge tracks will be built away from fragile areas. An Environmental Discovery Centre within the Park will help educate the next generation.

The **1992 Lillehammer** Olympic Games saw the first flowering of Olympic environmental concern. Local townspeople encouraged Olympic sponsors to give close attention to environmental issues, including the integrity of a bird sanctuary and virgin forests.

The organizers of the **Torino 2006** Winter Games were concerned with the amount of water required to make artificial snow. With careful research and planning, the original estimate of 20 reservoirs needed was reduced to nine, minimizing water-resource impact and permanently improving the local water system.

The level of environmental care at the **Vancouver 2010** Games extended to the smallest of creatures: frogs and tadpoles disrupted by construction at the Whistler Creekside alpine ski venue were moved 40 metres upstream by hand, while locally significant plants in the way of a snow-making reservoir were replanted in a nearby wetland.

Green stars



Thiago Henrique



www.earthhour.org



www.cathyfreeman.com.au

Goalkeeper **Lutz Pfannenstiel** is the only footballer to have played professionally on six continents, and perhaps this truly global experience is what motivated him to set up Global United FC, a club whose motto is 'Football stars VS climate change'. The team draws on an international squad of 250 including John Barnes, Peter Ndlovu, Pavel Nedved and Zinedine Zidane. Lutz organizes charity matches to promote climate protection and practical activities with youth and stars such as tree planting, environmental clean-ups, kick-arounds, school and hospital visits, and youth camp coaching.

Australian 400 metre double world champion **Cathy Freeman** is the only Aboriginal to win Olympic track gold. She caused a sensation at the 2000 Sydney Olympics by running her victory lap carrying both the Aboriginal and Australian flags. Today, Cathy is an ambassador for Landcare Australia, helping to restore waterways around the country. She also runs the Cathy Freeman Foundation, which works to close the education gap between indigenous and non-indigenous children, and is a member of Peace and Sport, an international organization working to build lasting peace through sport.

The 2.29-metre-tall basketball star **Yao Ming**, who played for the Shanghai Sharks and the Houston Rockets, donated \$2 million for the victims of the 2008 earthquake in Sichuan, China, which killed an estimated 68,000 people, and created a foundation to help rebuild schools. Yao Ming also campaigns for China to say no to shark-fin soup and stop the overfishing of these magnificent



Swim with Dolphins/flickr

fish, and has spoken out against bear farming for bile, saying 'bears are beautiful animals in nature; let's love and care for them'.

'Earth Hour isn't just about saving energy, it's a moment to think about what we can achieve. During Earth Hour your lights are your voice, and may they scream to our leaders that this planet is our only planet and we want to keep it.' That was the Earth Hour message from 'the Thorpedo' (aka **Ian Thorpe**). Five times Olympic swimming gold medallist and 11 times world champion, Thorpe now regularly broadcasts on behalf of the environment as TV host for Australian Foxtel. He also works to improve the lives of Australian Aboriginal people, and sponsors schools for orphaned children in Beijing, China.

Brazilian professional skateboarder with the Flip team, **Bob Burnquist** was involved in a spectacular stunt: jumping with his skate, and a parachute, into the Grand Canyon. He is one of the founders of the Action Sports Environmental Coalition, an organization that works to raise ecological awareness among skateboarders, BMXers and surfers, while his Bob Burnquist Foundation works to spread information about organic farming and gardening in schools.



Sebastian Widmann



Keith Allison/Wikimedia



Troy Constable/Mystify Me Photography

Jorge Guzmán Rodríguez, known as El hijo del Santo, is, like his father, one of the stars of Lucha Libre, a form of wrestling popular in Mexico. But he has become even better known since he joined the non-profit organization Wildcoast to campaign to save endangered sea turtles in the Gulf of Mexico. He has also campaigned for the grey whale and helped clean up the contaminated Tijuana River.

Robert Kelly Slater, 11 times World Champion surfer, is passionate about preserving oceans globally. He works to raise funds for Reef Check, a collective working to protect and rehabilitate coral reefs worldwide, and uses his knowledge of the oceans to advise the Sea Shepherd Conservation Society.

Manon Bruel, Tunza Intern, April 2012.

Challenge yourself

Endurance runner Ray Zahab had an epiphany when he touched the Red Sea at the end of his 111-day, 7,500-kilometre run across the Sahara in 2007 – a journey documented in the film *Running the Sahara*, produced by Matt Damon, highlighting the world water crisis.



Photos: impossible2Possible

‘I was nearly 40, and I’d only been running for a few years. My achievement had nothing to do with me being a great runner. ALL humans can accomplish extraordinary things if we focus and dedicate ourselves. If only I’d learned this earlier. What if I could help instill that idea in youth?’

Ray founded impossible2Possible (i2P), an organization that sends young people aged between 17 and 20 on physically challenging expeditions to learn about the world and share their adventure with peers in classrooms around the globe. ‘Each expedition, either a long-distance trek or run, covers a topic – water, health care, biodiversity – for which we create a curriculum in cooperation with universities,’ explains Ray.

‘Our 2010 Amazon expedition was associated with UNEP for the International Year of Biodiversity. The four Ambassadors trekked between indigenous communities over eight days, learning about biodiversity first-hand, from local people in the Tapajos National Forest. Via satellite videoconferencing, they shared their daily experiences with students in classrooms around the globe, who could also access journey documentation and educational resources on a dedicated website.’ So far, i2P has had 23 participating Youth Ambassadors and 70,000 long-distance students in schools, colleges and universities.

Ray’s journey to world-class athlete and youth mentor was a dramatic one. Until nearly 30, Ray was an ordinary guy, a smoker, with no particular direction. One day, inspired by the accomplishments of his athletic brother, he decided

to take charge by dedicating himself to sport. Over several years, with no athletic experience – ‘I was the kid who couldn’t throw a ball,’ he says – he tried a range of sports from mountain climbing through rowing and finally became a successful mountain-bike racer.

Still, Ray never considered himself a runner until he saw an article about a 160-kilometre, 24-hour race in the Yukon, Canada. ‘I realized just because I thought I couldn’t run, I’d never tried. So I entered the race with only a few weeks’ training. Halfway through, I nearly quit. But then I had a revelation – I realized we talk ourselves out of doing things every day. So I decided to stop dragging my feet and worrying about failure, and go as far as possible.’ To his shock, he won. ‘I thought, “this is what I’m going to do for the rest of my life.”’

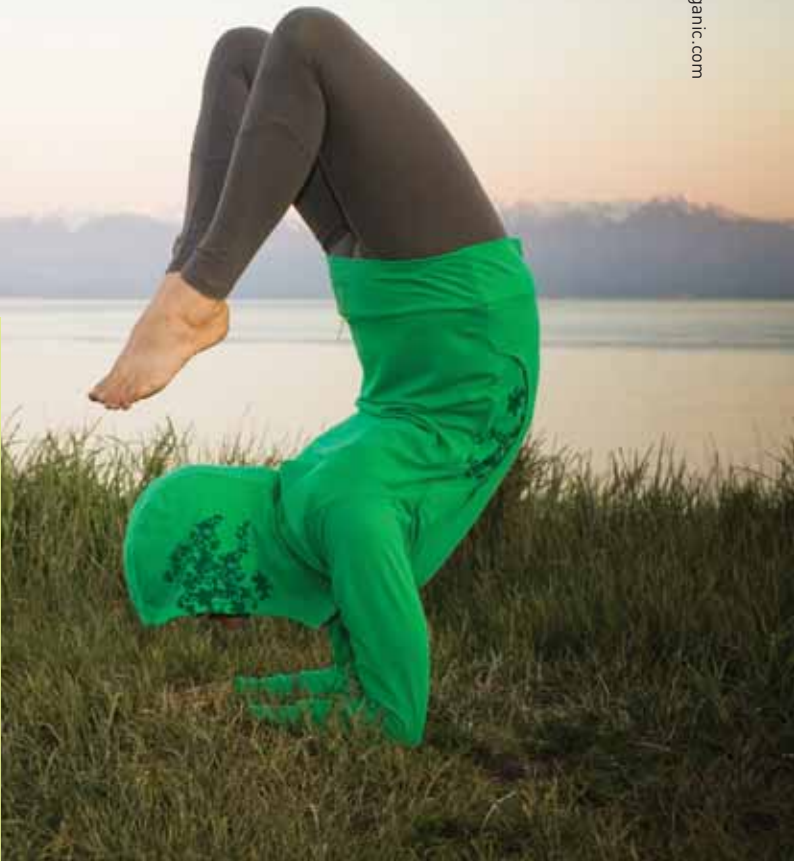
Since then, Ray has run across Russia’s frozen Lake Baikal and Latin America’s Atacama desert. He has also trekked to the South Pole, breaking the world record for the fastest unsupported team expedition there.

What drives him? ‘I enjoy the challenge, and experiencing the stark contrasts of my planet. Sport enables us to see and touch and feel our world, not only its extreme regions, but locally, too. To appreciate the world in all its splendour, you have to do it on foot.’

The next i2P expedition will take place in Africa in autumn 2012 and will look into the themes of water and food security. Register to participate at: <http://impossible2possible.com>

Green gear

The materials with which we create the sporting environment underpin athletic performance. Shoes with air in the soles make a huge difference to runners, recycled plastic fleeces are lightweight, warm and water resistant. Some materials are so high-performance, they can even be controversial: some high-tech swimsuits allowed athletes to set new records – which haven't yet been broken – before being banned. But as important as it is to the safety and comfort of athletes and spectators, high-tech, high-performance gear doesn't necessarily have to cost the Earth. Here are just a few examples of how the sports industry is looking for ways to make the most of new materials to tread – or ride, or run, or climb – lightly on our planet.



Fastest fibre

Bamboo: it grows rapidly, prevents soil erosion, needs little water, fixes carbon more quickly than trees, and it's a strong, flexible building material. No wonder it's being explored by the clothing industry as a source of sustainable fibre for textiles. Silky, soft, light-weight, absorbent, naturally antibacterial and antistatic, it's a natural for sportswear, such as gym and yoga gear, cycling shirts and leggings. Clothing company Footprint discovered its versatility while using bamboo fabric as an environmentally friendly surfboard reinforcement. The company now makes socks suitable for running, cycling, skiing and gym workouts from organic bamboo.

There's one catch: the process of making textiles from bamboo can involve environmentally harmful chemicals, so the industry has a way to go before the potential of bamboo can be fully realized as an eco-friendly textile. So do your research and look for the Oeko-Tex Standard 100, which sets international standards for substances

in textiles that may harm health and the environment.

You can ride bamboo, too. High-end bicycle design company Calfee produces custom-made bikes from bamboo, hemp fibre and plant-based epoxy for an ultra-green ride. They are lightweight, strong, durable and comfortable, and so well crafted that they can be raced in endurance events such as Cyclocross, Mountain and Touring. www.calfeedesign.com/products/bamboo

If riding waves is more your thing, you can pick up an eco-friendly bamboo board from Gary Young in Hawaii. He covers his boards with a bamboo-epoxy laminate, which is lighter than fibreglass and shatter-resistant. www.bamboosurfboardshawaii.com



www.bridgedale.com

www.webmd.com



www.bamboosurfboardshawaii.com



Clear winner

Putting a clear roof on a sports stadium – to allow natural light in so the turf can grow while protecting spectators and athletes from the elements – poses some big design challenges. Glass is the traditional answer, but it's heavy, breakable and needs structural support – typically requiring energy-intensive steel – which can ruin sight lines from the stands. Lately, architects have increasingly turned to polycarbonate sheets in stadium design. Polycarbonate is as transparent as glass but weighs up to 75 per cent less, saving money on construction as well as transport. And it's strong, shatter-proof and resistant to temperature fluctuations. The Arena Legia Warschau in Poland, which is

in an area subject to high winds and heavy snow, was recently refurbished with more than 5,000 square metres of polycarbonate roofing in time for UEFA's EURO2012 (the European Nations Championship) in June. In China, 23,000 square metres of polycarbonate sheeting was also used to build the large and light-filled Shenyang Stadium for the 2008 Olympics. Polycarbonate sheeting is even helping to capture solar energy. In Germany, the roof of the Weser Stadium, home of the Bundesliga's Werder Bremen, includes 3,000 square metres of polycarbonate panels embedded with transparent silicon photovoltaic cells, integrating a renewable energy source into the roof while still letting in natural light.

China—Britain Business Council



Przemyslaw Jahr



Ground to zero

Of all the gear athletes go through, the most ubiquitous and probably among the most frequently replaced items are shoes. But instead of sending them to landfill, why not put all that material to good use? Through its Grind programme, the sportswear company Nike and its partners close the loop on athletic shoes – all brands, not just their own – by recycling them into athletic flooring. Each shoe is sliced into three, separating the rubber sole from the foam midsole and the fibre upper. These are then ground and further processed separately, along with scrap material from Nike's own manufacturing plants. The rubber is used in running track surfaces, gym floor tiles and playground surfacing as well as Nike's products. The foam is used as cushioning for basketball and tennis courts, and the fibre is used as cushioning in indoor synthetic and wood courts. According to Nike, a tennis or basketball court can be

floored with 2,500 pairs of recycled shoes, while a football pitch or running track takes around 75,000 pairs.

To help make its operations more sustainable, Nike has also created the Environmental Apparel Design Tool – software that makes it possible for clothing designers to make greener design choices, such as reducing waste and choosing materials that are environmentally friendly, while taking into consideration concerns of cost, quality and performance. In 2010, Nike released the tool for free so that the whole industry could reduce its environmental footprint. The company is also famous for championing 'recycled polyester' as a resource – fabric made from recycled discarded plastic bottles. Besides outfitting several 2010 FIFA World Cup teams in kits spun from the stuff, the company says it had diverted 82 million plastic bottles from landfill as of early 2011.



www.playtop.com



www.parksandrecreation.org



www.info.nike.com



Ed Younoudon/flickr

A greener game

Every year, fans all over the world gather round the television to watch America's most beloved sporting event: the Super Bowl. This famed national play-off of American football – the dramatic culmination of a 17-week season where the league's teams fight for the coveted trophy in a single head-to-head match – draws more than 100 million television viewers a year.

And with 32 teams hosted in 32 cities playing a total of 332 games in a season, it wouldn't make sense for the League not to think about the football's environmental footprint. Environmental sustainability helps to cut costs, make wise use of resources, reduce the impact on host cities, and manage massive amounts of waste. It's also an opportunity to convey a message of environmental and social responsibility to millions of spectators.

The National Football League (NFL) started its environmental programme 19 years ago, and has since developed a variety of initiatives and projects to address waste, resource use, energy and more. Here are just a few of its impressive efforts.

Philadelphia Eagles



City of Philadelphia/Mitchell Leff

In 2010, the Philadelphia Eagles became the first NFL team capable of generating all its own energy when it installed 2,500 solar panels, 80 wind turbines and a generator that runs on biodiesel as well as natural gas. Excess energy is sold to the local utility. The team sends its used cooking oil to

be converted to biodiesel, composts organic waste, and has halved the amount of water used by its urinals.

Detroit Lions



Ford Field

The Detroit Lions' Ford Field stadium was built using recycled steel and recycled glass, and features an artificial playing turf made of recycled rubber tyres. It even incorporates part of a historic building that had been left unused.

Houston Texans



Houston Texans

This team publishes an interactive media guide distributed on USB memory sticks rather than printed programmes, saving vast amounts of paper and litter.

Superbowl XLII (2008), Phoenix, Arizona

Excess prepared food was collected by food recovery organizations and distributed to charities that feed people in need, such as homeless shelters, soup kitchens and food banks. The University of Phoenix Stadium used energy from renewable sources,

including wind, solar, geothermal and landfill gas. Several thousand seedlings were planted at two sites that had been destroyed by wildfire: the Apache-Sitgreaves National Forest and the White Mountain Apache reservation. Even kids have joined in: in partnership with the Arizona Cardinals, pupils at more than 50 schools gathered sporting equipment and books to donate to youth organizations and schools in need.



2012 Indianapolis Super Bowl Host Committee

Superbowl XLVI (2012), Indianapolis, Indiana

This game was hailed as wind-powered. A green supplier provided 15,000 megawatt hours of renewable energy certificates (RECs) to offset all the greenhouse gas emissions generated by the game's venues, including the media centre and hotels.

(RECs don't guarantee that all the energy provided is green, but ensure that the money spent goes to green energy production.) Trees were planted throughout the city in an NFL-sponsored urban forestry initiative, and after the game, nearly 10 kilometres of decorative banners were taken down and made into shower curtains and bags.



Nicholas Thompson

GREEN GOAL and beyond...

Football is easily the most popular sport in the world. It inspires an avid – some would say obsessive – following. FIFA, football's international governing body, takes the worldwide impact of the sport seriously – so much so that it staged the world's first-ever climate neutral international tournament – the FIFA World Cup 2006.

It took a variety of efforts to get there: Berlin's Olympic Stadium had its lights rewired to make them more energy efficient; a photovoltaic system was installed at Dortmund's Westfalenstadion; solar-powered phone boxes and energy-efficient refrigerators were installed; and spectators were given



Thorsten Bachner

discounts on public transport to discourage driving. Inside the stadiums, fans were required to purchase reusable drinks cups, which cut down on vast quantities of litter. Of course, none of this was enough to prevent the 92,000 tonnes of CO₂ the games would inevitably produce, so FIFA, along with World Cup partners and sponsors, invested in renewable energy projects around the world, including biogas projects in India and a methane-to-electricity project in South Africa.

Building on this effort, for the 2010 World Cup in South Africa, street lights, traffic lights and billboards were fitted with solar power in host cities. And a Green Passport – a booklet full of tips for environmentally responsible tourism – was distributed to spectators. Carbon offset programmes supporting soil composting, solar cooking, LED lighting and wind energy were chosen to help offset the emissions of the 2010 World Cup teams.

Preparations are already under way to help make the 2014 World Cup Brazil green. The city of Curitiba will launch



www.ralphpina.com

a fleet of electric/biodiesel hybrid buses that will help cut emissions and fuel consumption when football fans arrive. And in order to ensure that environmental concerns are taken into account for future World Cups, FIFA has decided to include environmental protection in its bidding agreement. Starting with the bidding process for World Cups 2018 and 2022, FIFA requires applicants to provide comprehensive information on plans to avoid, reduce and/or offset the environmental impacts of hosting the competition.

The Union des Associations Européennes de Football – or UEFA, the parent body of European football – recently published its *UEFA Guide to Quality Stadiums*, a step-by-step guide to commissioning, designing and building or refurbishing stadiums. The book includes information on sustainable concepts such as how to reduce energy consumption, waste and carbon emissions; possibilities for using locally generated renewable energy (solar, wind, etc.); and promoting the use of natural resources such as rainwater collection and grey-water recycling. It also addresses the impact of stadiums on neighbourhood residents.



C. Gopalakrishnan/©GNU-FDL

Not to be left behind, cricket is going green, too. In 2010, members of the Indian Premier League (IPL) made a Green Pledge at the launch of their



shynook/flickr

third season: 'The Earth is our home and together we must conserve our precious wildlife, forests and oceans. I am proud to pledge that I will play my part in caring for our natural heritage.' During the tournament, green tips on how to limit greenhouse gas emissions and look after the environment flashed across screens to the millions of spectators. But the pledge was only the beginning, and the IPL is now working with UNEP to find ways to incorporate sustainability into its operations, including waste management, water efficiency, building, merchandising and transport.

On the basketball front, the National Basketball League participates in hands-on community service projects, such as tree-planting days or clean-up days with school children, helping to gather and recycle e-waste, distributing eco-friendly light-bulbs to spectators, and more. And in 2011, the National Hockey League's Stanley Cup final was hailed as the first 'water-neutral' series in the history of league. The league tracked total water use – from the ice rinks to taps and toilets and beyond – at the two host venues, then purchased water certificates from a water-conservation organization for that amount. The organization uses the money to monitor water quality as well as to reward water-rights holders – such as a farmer who uses the river as a water source – for consuming less water, offering a financial incentive to conserve. In this way, the League will help restore 3,780 cubic metres of water to Oregon's Deschutes River, which has been depleted by human use.



Biosphoto/H. Daniel/Still Pictures

Sporting tradition

Biosphoto/K. Pascal/Still Pictures

Hunting is part of our heritage. First we hunted and gathered, then, as societies began relying on agriculture, hunting was used for vermin control – keeping animals from destroying crops and livestock – and to supplement diets. Today's food infrastructure makes feeding effortless for the majority of us, but hunting is essential for some and it remains a big part of human life.

As with other sports – all disciplines that honed our survival skills – hunting has been ritualized as an activity we do for pleasure. But what sets hunting and fishing apart from other sports is their intimate connection with nature. How we hunt has a profound effect on ecosystems, and ethical hunters must consider how best to manage natural resources.

Because hunting practices are so varied and complex, the environmental debate

can become confusing, emotive and controversial. Wildlife is a renewable resource, but abusing this resource leads to loss of biodiversity. The question remains: can hunting be considered a tool for environmental protection?

The answer is yes. The fact is, hunters were pioneer environmental conservationists long before it became fashionable. For example, US President Theodore Roosevelt, who was instrumental in creating national parks and wildlife reserves, was an avid hunter. So was painter John James Audubon, for whom an environmental conservation organization – the Audubon Society – is named. Other well-known hunter-conservationists include leaders of WWF Sir Peter Scott, HRH Prince Bernhard of the Netherlands and HRH Prince Philip, Duke of Edinburgh.

Money spent on hunting licences often goes directly towards conser-

vation efforts. In the United States, for example, the Pittman Robertson Act – now known as the Wildlife Restoration Act – was signed into law by President Franklin Roosevelt in the 1930s, specifying that taxes from ammunition and guns and fees from hunting and fishing licences be used for conservation programmes. Funding goes to scientific research in aid of wildlife conservation, and to purchase and develop wildlife management areas. The programme has helped restore many animal populations, such as wild turkey, white-tailed deer, American elk, bobcat and mountain lion.

All over the world – through campaigns, licence fees or hands-on activities – those who hunt help to maintain natural habitats, from forests to small woods and hedgerows to savannahs, ensuring that some wild areas remain in our increasingly human-oriented landscapes.

For the table...

Depending on how you look at it, hunting is a more humane, mindful and ecological way of harvesting and consuming meat than eating factory-farmed animals. Consider that game animals can roam and

forage freely in wild habitats instead of being caged and fed commercially farmed grains – a practice that contributes to global warming and habitat destruction, along with other environmental problems.

While some people hunt for their own consumption, others harvest game for a living. In Germany, for example, where hunting plays an essential part in forest management, hunters pay high licence fees for the right to harvest animals like deer and wild boar, which overpopulate and damage forests. The meat is then sold to butchers, providing hunters with a

livelihood. This maintains ecosystem balance and helps feed people sustainably while preventing waste.

Of course, for many, hunting is a matter of survival. Hunted game still forms a substantial part of the indigenous Alaskan diet and cultural tradition. But in West and Central Africa, where wild game animals – known as bushmeat – have long been eaten, unsustainable hunting practices and illegal trade in large commercial bushmeat markets severely threaten wildlife – including such endangered species as elephant, gorilla and chimpanzee.



Agri's Krusts/www.agriskrusts.com



Thomas Hawk/thomashawk.com

TROPHY HUNTING

Every year, hunting tourists travel to game reserves – the majority in Africa – run by governments or conservation organizations, or privately maintained by community members. Hunters pay high fees to track down such hard-to-kill and rare species as rhino, leopard, wildebeest and lion in their native habitats, accompanied by a professional guide.

How do conservationists square this with environmental protection? Hunting tourism is accepted by such conservation organizations as the International Union for the Conservation of Nature (IUCN) and WWF as a tool for sustainable development. IUCN defines ‘conservation’ as the protection and sustainable use of natural resources, including wildlife. Sustainably practised trophy hunting is a lucrative, relatively low-impact source of income. Ecologically, hunting tourism provides incentives for keeping wilderness intact, preventing habitat fragmentation, deforestation and conversion of land to agriculture. Financially, hunting helps wildlife pay for itself: well-managed game reserves can generate income and jobs in poor rural communities without having to accommodate large numbers of tourists.

THE POACHING PROBLEM

Poaching – the illegal taking of wild animals and plants – is a serious threat to biodiversity. There are many reasons people poach. One is simply for subsistence, but one of the primary drivers is the commercial market for rare animals, whether for food or traditional medicines, or skins, scents and ivory. Elephants are slaughtered across Africa for their extremely valuable tusks. Rhinos are killed in Zimbabwe, Democratic Republic of the Congo, India and Nepal for their horns, which sell at \$40,000 to \$100,000 per horn to Asian countries where they are traditionally valued as medicine to treat a wide variety of conditions. Tigers – most often killed for their skins, teeth and claws, and for Chinese medicine – have been poached to the brink of extinction. Pakistan’s lizards and snakes are killed for skins.

But while the illegal goods fetch high prices, poaching is often as much about economic need as it is about greed. Much poaching takes place in parts of the world where people live on incomes as low as \$1 a day, making the physical danger and legal penalties worth the risk. Unless the issue of sustainable livelihoods is addressed, poverty will continue to drive illegal hunting.

Poaching of endangered animals has long been a huge problem, and in 1973, 154 nations signed a comprehensive treaty to restrict the trade in wild animals and plants: the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES regulates the trade in 5,000 different animal species, and bans the sale and trade of 800 more. But, unfortunately, trade bans can drive up the value of illegal goods, putting animals at even higher risk.



S. Tuenglar/Zoonar.de/Specialist Stock

If it seems contradictory that killing species can help them recover, consider South Africa. Landowners were allowed to cull excess male white rhinoceros as a source of income, which gave them an incentive to buy and provide land for the animals. This helped speed up the species’ recovery – from 1,800 in 1968 to 6,370 in 1994 – on privately owned game ranches. Funds from hunting tourism also supported the successful reintroduction of black wildebeest, bontebok and cape mountain zebra to the country.

Hunting taboos

Hunting taboos in various cultures, ancient or modern, have helped keep populations sustainable. A traditional taboo in Madagascar warned that killing lemurs would bring bad luck, thus protecting them from being hunted for meat. Some people still consider certain lemur species, like the aye-aye, to be bad spirits.

Traditionally, Navajo hunters kept deerskin and bones, considered sacred – but left behind a part of the hunted animal to ensure future abundance. A traditional prayer – ‘I have killed one of your animals, and I will in no way misuse it’ – promises an intention to prevent waste.

North America and Europe’s strictly enforced hunting seasons, typically autumn to late winter, avoid spring and summer breeding times and take advantage of feeding seasons, when animals are at their plumpest. In France the deer season is June to September, while in the United Kingdom pheasant shooting may only take place from 1 October to 1 February.



Shaun Donnelly

7 Olympic legacies



The Last Minute

Richmond Olympic Oval Vancouver

The Richmond Olympic Oval, the venue for speed skating during the 2010 Winter Olympics, mimics the curve of the wing of a heron. Its roof is made of wood damaged by the North American pine beetle plague of 2009, which killed millions of commercially valuable trees. Building the roof of salvaged wood set an example for creative uses for what would have been considered waste, and helped bolster the suffering timber industry. Inside, heat generated from freezing water for rink ice is used to warm the rest of the building, with enough left over to provide heating for the surrounding neighbourhood. Outdoors, a water garden of ponds set with red cedar boardwalks collects rainwater run-off and serves as a wetland treatment pond. Plants remove heavy metals and other impurities, and the water is used for flushing toilets and irrigating the landscape. Meanwhile, the ponds provide habitat for bird and aquatic life.



Orlando O'Neill

Water Cube Beijing

Glowing with blue LEDs the Beijing National Aquatics Center – the Water Cube – manages to look both futuristic and organic. Built to host the 2008 Olympics swimming and diving competitions and now housing a water park, it features a design based on the geometry of soap bubbles. Steel frames form the cells, which are filled with 4,000 bubbles – some as large as 9.14 metres across – made of an elastic, lightweight polymer membrane. The membrane allows for more light and solar heat absorption than glass – warming both the building and pool water and saving up to 30 per cent in energy costs – yet it requires far less energy to manufacture, transport and build with. It is strong, elastic and easily repaired, its non-porous surface resists dirt, and it offers excellent insulation. Inside, a special two-stage filtration system treats water and returns it to pools, recycling 140,000 tonnes of water annually.



p.r/flickr

Urban regeneration Barcelona

It is said that the 1992 Olympics created Barcelona as we know it today: an exciting and sophisticated city famous for its art and culture. Before the Olympics, Barcelona was in sad shape, with dense traffic, inadequate public transport, and post-industrial urban decay setting in. Olympic planners took the opportunity to implement citywide reforms, planning development over several neglected areas. The Olympic Village was built near the coast on abandoned industrial land – then considered a marginal neighbourhood – and six artificial beaches were developed flanking the Olympic Port. This gave city residents and tourists access to the sea as a recreational area. New ring roads around the city eased traffic, new sporting facilities were built and historic buildings restored, and hotel and business facilities were expanded, all helping the city become a desirable destination for business and pleasure.

Olympic Park, Sydney

Sydney's 2000 Olympic Park was built on Homebush Bay, an area contaminated with commercial and industrial waste. Rehabilitation included cleaning groundwater using bioremediation ponds, remediating contaminated soil, protecting riverbanks, planting native species and creating more than 40 kilometres of pedestrian and cycle paths. In all, 430 hectares of self-sustaining wetlands, woodlands and parkland were restored, providing a recreation area for 2.5 million visitors a year while protecting biodiversity – including more than 180 bird species, 10 reptile species, seven frog species and many kinds of native fish. The Park's crowning glory is the Water Reclamation and Management System, which saves more than 850 million litres of drinking water per year, provides recycled water to the Park's venues and landscapes, and even supplies the nearby suburb of Newington – which served as the Olympic Village during the Games and is now one of the world's biggest solar-powered suburbs.



Simon_sees/flickr



Atelier Holthe AS, 2390 Moelv



London 2012



Marco Scala

Gjøvik Olympic Cavern Hall Lillehammer

Lillehammer, Norway, hosted the first official 'green' Games in Olympic history in 1994, setting standards for sporting events that we now take for granted: energy-efficient heating and cooling; a programme to recycle or compost 70 per cent of waste; and plans for post-Olympic use of buildings. Everything from photographers' film to bullets from the starting guns was reclaimed and recycled. One of the 10 purpose-built venues, the Gjøvik Olympic Cavern Hall, which hosted the ice hockey competition, stands out for its unusual location within a granite mountain. The 10,000-square-metre complex, which seats 5,000 spectators, saves on valuable city space, while the stable thermal environment – along with waste-heat recovery technology – helps save energy for heating and cooling the facilities. Now a multi-use sporting and entertainment venue, it remains the world's largest public cavern hall.

Flatpack stadium London

You aren't likely to find one in a flatpack furniture outlet, but reusable buildings are an innovative and economically sound solution to a well-known Olympic problem: expensive venues that are no longer needed after the Games, and become a drain on public finances. That's the idea behind the basketball arena built for the London 2012 Olympics – which will also host Paralympic wheelchair basketball and wheelchair rugby. The 33-metre high, 115-metre-long stadium, which seats 12,000 people, is designed to be dismantled, and is already being offered to other cities that might need it. An obvious candidate is Rio, which will be hosting the 2016 Games, but others have indicated interest, too. If the idea of temporary, travelling sports venues catches on, it may very well allow poorer countries to consider hosting the Games.

Arch of Turin Turin

When Turin hosted the 2006 Olympic Winter games, the city decided it needed a striking symbol to commemorate the occasion while taking the opportunity to build something that would help improve city infrastructure. The result is the Arch of Turin, a 69-metre-tall, 55-metre-wide asymmetrical steel arch that looks much like a giant red bicycle wheel, from which is suspended a 400-metre-long pedestrian footbridge that connects two parts of the city that had formerly been divided by railway lines. Wanting to create this symbol of optimism and regeneration, the arch's designers used a minimal quantity of materials to achieve a streamlined, athletic, modern look. The footbridge enabled Olympic athletes to reach the sports venues from the Olympic Village, and now allows residents to access rail and underground transport more easily.

Big ideas

In summer 2011, Leyla Aliyeva, the eldest daughter of the President of Azerbaijan, launched the International Dialogue for Environmental Action, IDEA, to serve as a platform for the active involvement of youth in the global movement for sustainable development. TUNZA talked to her to find out more.



Tell us about Azerbaijan's natural environment and what you are most concerned to protect.

I think today's youth should be concerned about tomorrow's world, the implications of environmental problems and people's contribution to climate change. We are all responsible for our planet and should work for the preservation of everything that makes our life not only healthy, but interesting and colourful.

The world has 11 climatic zones, and Azerbaijan is unique in having nine of them. This is a country of active volcanoes, rare trees, snow-topped mountains, green forests, wide plains, and rivers that flow into the Caspian Sea, the world's largest lake. Protection of animals is one of our top priorities; that's why the IDEA campaign is determined to ensure the healthy survival of the Caucasian Big Five – bear, eagle, wolf, gazelle and leopard.

Is that what inspired you to launch IDEA?

Absolutely! Our country is blessed with natural oil and gas reserves but is ecologically fragile. I have seen the damage that unchecked industrial development can do and are we working hard to make sure our rapid development will secure a future for our precious environment, as well as our people. If we don't act now, climate change will alter the lands and waters we all depend on, leaving our children and grandchildren with a very different world.

Why is it important for IDEA to focus on global youth?

IDEA started as a local initiative, but has developed into a global movement. Young people in Azerbaijan are passionate about the environment and understand the urgency. At IDEA, we believe that by sharing lessons and establishing models of good work, public awareness can steadily improve. Ultimately, it is only by changing attitudes – not just in one country, but across the globe – that we can create a sustainable future.



Photos: <http://ideacampaign.org>

How are you using social networking and the power of the internet to get the word out about IDEA?

In the past, people were separated by geography, culture and ideas, but are now beginning to connect on a scale never seen before. Social media have the potential to help shape environmental action, revolutionize the level of awareness, and stimulate collaboration, discussion and possible solutions. At IDEA we use every social media tool to nurture a virtual community by engaging in open dialogue and providing information, inspiration and calls for practical action. We want to empower everyone to become environmental leaders in their own communities.

What major activities and events should we look forward to?

IDEA has big plans for 2012, including a painting exhibition on the Caucasian Big Five in various European countries to attract attention to the problem of endangered species in the Caucasus and Azerbaijan.

Then, together with world-renowned photo-journalist Reza Deghati, we're publishing a quarterly environmental magazine in Azerbaijani and English for children. Reza will also drive an international photo competition EYE DEA – the photos will be exhibited around Europe, and then on the streets of Rio during Rio+20.

And we've also run an essay contest – Send your message to Rio+20 – to encourage young people to learn about the summit and the problems and challenges of sustainable development. As you can see, there's a lot going on.

Can TUNZA readers get involved with IDEA?

Our environmental problems are bigger than any of the current solutions, and that worries me. The success of any undertaking depends on support from others. So, please accept the challenge and join us. Just register on our webpage <http://ideacampaign.org> and get on board – there's a lot to do! We've only one Earth and one future.

