



The UNEP Magazine for Youth

# TUNZA



for young people • by young people • about young people

## Health and the environment

A model for life

Leading the charge

Nature in their hands

The green ark

Waste not, want not

The water challenge

## TUNZA

the UNEP magazine  
for youth. To view current  
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### United Nations Environment Programme (UNEP)

PO Box 30552, Nairobi, Kenya  
Tel (254 20) 7621 234  
Fax (254 20) 7623 927  
Telex 22068 UNEP KE  
E-mail [unepubb@unep.org](mailto:unepubb@unep.org)  
[www.unep.org](http://www.unep.org)

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**Director of Publication** Satinder Bindra

**Editor** Geoffrey Lean

**Special Contributor** Wondwosen Asnake

**Youth Editors** Meghna Das, Karen Eng,  
Renzo Guinto

**Nairobi Coordinator** Naomi Poulton

**Head, UNEP's Children and Youth Unit**  
Theodore Oben

**Circulation Manager** Manyahleshal Kebede

**Design** Edward Cooper, Ecuador

**Production** Banson

**Cover photo** Edward Cooper

**Youth contributors** Amanda Baldochi Souza, Brazil;  
Jahmali Bridgewater, Bermuda; George Byrne,  
Australia; Aswin Chandrasekharan, India; Annie  
Collins, Canada; Aytakin Dargahli, Azerbaijan; Rufat  
Dargahli, Azerbaijan; Linh Do, Australia; Francesco  
Govender, South Africa; Daniel Isfer Zardo, Brazil;  
Jes Ismael Izaidin, Malaysia; Emily Keal, UK; Dawn  
Lee, USA; Liu Zhihao, Singapore; Kennedy Liti  
Mbeva, Kenya; Christopher Millora, Philippines;  
Nadhirah Mohar, Malaysia; Nguyen Thi Thanh  
Thao, Viet Nam; Phuong Nguyen Hoang, Viet Nam;  
Claudia Ramirez, Venezuela; Adeline Suwana,  
Indonesia; Logein Taybah, Saudi Arabia; Vaibhav  
Tidke, India.

**Other contributors** Jane Bowbrick; Gisele Bündchen;  
Bryan Coll, UNEP; Penelope Jagessar Chaffer; Cora  
Neumann, African First Ladies Initiative (RAND);  
Grace Odal-Devora; Patricia Okoed-Bukumunhe;  
Rosey Simonds and David Woolcombe, Peace  
Child International.

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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.

# numbers

**2.1 trillion** hectares – the area of the world once covered by rainforest. Today, just 6 per cent remains.

**11 billion** – the number of trees planted worldwide under UNEP's Plant for the Planet Campaign. Of these, nearly 4 million have been planted by the Children's Initiative. UNEP has set an overall goal of 13 billion trees.

**2 billion** tonnes – the amount of carbon dioxide released into the atmosphere each year by deforestation. That's more than is emitted by all the world's cars and trucks.

**13 million** hectares – the area of forest lost worldwide each year. That's about the size of Greece.

**800,000** hectares – an area of forests, wilderness and rivers – known as Europe's Amazon – that Austria, Croatia, Hungary, Serbia and Slovenia have agreed to protect as a transboundary UNESCO Biosphere Reserve.

**300,000-400,000** – the number of plant species described by scientists. More than two thirds come from forests, particularly rainforests. Yet only 5 per cent of these have had their chemical composition explored.

**100,000** – the (approximate) number of tree species in the world.

**42,000** kilometres – the distance an average car travels to produce the carbon absorbed by one tree in one year.

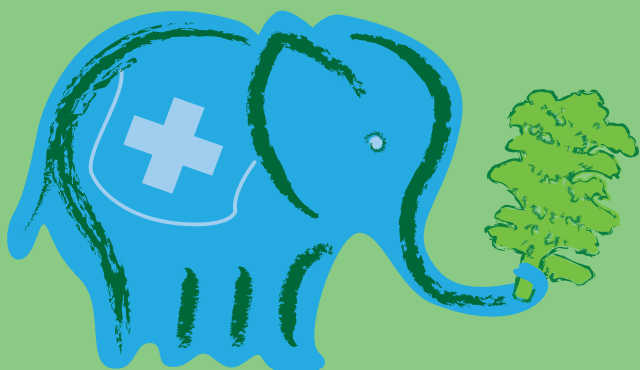
**9,550** years – the age of Old Tjikko, a 4.87 metre high Norway spruce growing in Sweden. That means Old Tjikko took root just after the last ice age and for thousands of years was kept in shrub form by the tough climate of the tundra, only becoming a full tree as the climate warmed during the 20th century.

**465** – the number of trees needed to supply the paper used by the average American in one year.

**120** kilos – approximately the amount of oxygen a single tree produces in a year. That means two mature trees can supply enough oxygen to support a family of four.

**20** per cent – the contribution to global warming from forest destruction and degradation.

**5** per cent – the area of commercial forests owned by the world's faiths.



# EDITORIAL



5 JUNE



## WORLD ENVIRONMENT DAY

### Forests: Nature at Your Service

In support of the UN International Year of Forests

In this International Year of Forests, *nature at your service* is the theme of World Environment Day 2011 – being commemorated all over the world with the main celebrations taking place in India.

Forests are the green lungs of the world and play a key role in the health of the planet. They battle against climate change, releasing oxygen into the atmosphere while storing carbon. They regulate rainfall, feed our rivers and are essential to supplying the water for nearly half of our largest cities. They create and maintain soil fertility and protect us from storms and floods.

Awe inspiring, forests are the most biologically diverse ecosystems on land, and are home to more than half of the terrestrial species of animals, plants and insects. They also provide shelter, jobs, security and cultural relevance for forest-dependent populations – around 1.6 billion people.

Forests embody much of what is good and healthy in our lives, yet we are destroying them. Global deforestation continues at a rate of 13 million hectares each year; that's an area roughly the size of Greece.

But it's not too late to transform life as we know it into a greener future – one in which forests are at the heart of our sustainable development and green economies.

Conserving forests and expanding them must be recognized not just as essential to our well-being but also as a business opportunity. UNEP has calculated that an investment of US\$30 billion to fight deforestation and degradation could provide a return of US\$2.5 trillion in new products and services – that's a return of nearly US\$100 for every US\$1 invested.

These investments could generate up to 10 million new jobs. Leaders around the world are beginning to understand the potential of renewable energy and nature-based assets, but for a real change to happen, forests need to become a universal political priority. The services forests provide are essential to every aspect of our life. The answer is sustainable forest management, moving towards a green economy, and it lies in our hands.





# “Climate change will steal your future. Shrink your carbon footprint: improve your health!”

**T**HAT'S THE WORLD HEALTH ORGANIZATION'S message to the world's youth.

Everybody will be affected by climate change. Those living in the industrialized world will get off relatively lightly: food and other goods will become more expensive; extreme weather events such as heat waves and floods will take their toll; respiratory and heart disease will rise; infectious diseases will become more prevalent in some areas; insurance costs will soar; and infrastructural services like water supply and drainage will be under increasing stress. But this is nothing compared to what will be experienced in much of the developing world, where most people have little or no health care.

## Disease and mortality

The intensity and geographic range of infectious and water- or insect-borne diseases like cholera and malaria will expand with higher temperatures, increased rainfall and sea-level rise. At present, for example, there are some 250 million cases of malaria each year, mostly among children in sub-Saharan Africa: this is expected to more than double by 2080. There will be more opportunities for cholera to take hold as floods spread and warmer waters encourage bacterial growth. Heat waves, like the one that claimed 70,000 lives in Europe in 2003, will become more frequent. And there will be more deaths from unexpected events like landslides, floods and freak storms.

## Food, water and sanitation

In 1995 the number of people suffering chronic hunger and malnutrition – mostly in sub-Saharan Africa and South Asia – reached its lowest point of 800 million; since then it has been on the rise, with the recent increases in food prices seeing it hit 925 million.

More than a fifth of people in the developing world cannot regularly get clean water to drink: around a half don't have proper sanitation. Some 1.5 billion people already live in water-stressed regions. The changing climate will make things worse, with drought leading to crop failure, malnutrition and illness, and floods overstraining already inadequate sanitation systems and damaging cropland. Reduced rainfall and rising populations in Southern and Central Africa, Europe and the Mediterranean, and the southern USA, will increase the number of people living with water stress, again reducing crop yields. The melting of glaciers will lead first to flooding downstream, then drought as these natural water storage systems disappear. Changing patterns of plant and livestock diseases will also reduce agricultural productivity.

## Towns and cities

The urban population of developing countries is expected to increase from 2.3 billion in 2005 to 4 billion by 2030. And as cities swell with inadequate housing and sprawling communities – many made up of people who have fled failing rural livelihoods – their vulnerability to climate change increases. Floods and landslides, contaminated water, food shortage and disease all hit the poorest urban people hardest. And many of these expanding urban conglomerations are on the coast, and thus at risk from sea-level rise, now averaging 4.2 millimetres per year.

## Extreme events

Between 1998 and 2007, 2 billion people – around a third of the global population – were affected by natural disasters, many linked to such unusual weather as heat waves, cold waves, wind storms or excessive rainfall – all of which are expected to increase in range and intensity with climate change. The reinsurance company, Munich Re, says the number of major

weather-related disasters grew from an average of less than two a year in the 1950s to six per year in the last decade. By 2100, summer temperatures in northeast India and Australia are expected to rise above 50°C, and in western and southern Europe to go above 40°C. More powerful storms will triple the number of people vulnerable to tidal storm surges. Apart from the immediate threat to life and limb, such events demolish infrastructure and so lead to food shortage, water contamination, malnutrition and disease.

## Population and migration

The global population is expected to increase to 9.2 billion by 2050, mostly in the developing world. This will interact with climate change to reduce further the health and well-being of ever larger numbers. Desertification, flooding and saltwater intrusion will reduce the amount of arable land and drive people from their homes: many of the 120 million inhabitants of the low-lying Bangladesh delta, for example, will have to flee sea-level rise. The stress of migration brings its own threats to health and well-being, and with hundreds of millions of people expected to be on the move by 2050, conflict can only increase.

Climate change massively increases the challenge to scientists, policy makers and a public that, in many parts of the world, struggles to achieve any reasonable level of health. If you shrink your carbon footprint and improve your own health, not only will you be increasing your resilience to whatever the future may hold; you will be working to reduce the impacts of climate change on everybody else.

For further detail see the full report by UCL/The Lancet at [www.ucl.ac.uk/global-health/ucl-lancet-climate-change.pdf](http://www.ucl.ac.uk/global-health/ucl-lancet-climate-change.pdf)





# Medical students lead the way

RENZO GUINTO, medical student, environmental advocate and Bayer Young Environmental Envoy 2007, thinks the global health and environmental movements should join forces, and explains how young doctors from around the world are leading the way.



Dozens of papers from all over the world clearly lay out the impact of climate change on human health. In 2009, a commission formed by *The Lancet* and University College London (UCL) called climate change 'the biggest global health threat of the 21st century'. Infectious diseases like dengue fever and cholera are on the rise. People are affected by increases in the severity and frequency of natural disasters like typhoons in countries including the Philippines, while drought in Africa impacts food supplies.

Yet at international negotiation tables and in community-based education, little emphasis has been placed on the health impact of climate change. Rather, it is presented as an economic and political issue, or merely an environmental problem. Yet even among environmentalists, people disagree about both the science and the solutions.



## Health unifies all

But what if climate change were reframed as a health issue? Article 25 of the Universal Declaration of Human Rights says 'everyone has the right to a standard of living adequate for the health and well-being of himself and of his family'. Every member state of the United Nations is accountable to its citizens, and the failure to act on climate change is a violation of the human right to health.

The global environmental movement should focus on the health impacts of climate change. Communities may not comprehend terms such as 'carbon emission' or 'cap-and-trade', but they will understand how water and food scarcity threatens nutrition, how warming encourages malaria-bearing mosquitoes, and how flooding can lead to disease and death. With this understanding, they're more likely to take positive action.



## Creating a movement

In October 2010, the International Federation of Medical Students' Associations (IFMSA), a federation composed of 1.2 million medical students worldwide, launched an online petition pushing governments to put 'health back into the climate change negotiations'. IFMSA calls for 'full participation and consultation of the international health community in the international negotiations within the United Nations Framework Convention on Climate Change' in the hope that the negotiations will 'achieve a fair, ambitious and legally binding global treaty'.

With this bold act, medical students hope to encourage the World Health Organization, the World Medical Association and all other international non-governmental organizations and foundations working for health to take leadership in this new movement.

Both global health and environmental movements should make use of this momentum, pooling resources, efforts and voices to create high-impact development projects that encompass health, environment and even poverty. A global forum on environment and health, for example, would allow activists to discuss and analyse issues through the combined lens of environment and health, and arrive at a global strategy for collaborative action.

If we tackle climate change as a health issue, I am certain that the world will come to agreement for action sooner.



For more information, visit: [www.environmentalgovernance.org/featured/2010/11/youth-voices-climate-change-is-a-health-issue/](http://www.environmentalgovernance.org/featured/2010/11/youth-voices-climate-change-is-a-health-issue/)



# LEADING THE CHARGE



Photos : Stephen Osman



HE Thandiwe Banda of Zambia



HE Ida Odinga of Kenya



HRH Queen LaMbakiza of Swaziland



HE Ana Paula Dos Santos of Angola



HE Adelicia Barreto Pires of Cape Verde

**W**omen and female children in Africa play a pivotal role in the health of the environment,' says Cora Neumann, director of RAND's African First Ladies Initiative, 'but they are often unaware of some of the basics of environmental health. For example, their work includes fetching water from either a stream or river, or a well if there is one, as well as disposing of waste. Bathing, and washing of clothing and pots and pans often use the same water source. Pollution of the limited water sources is a growing problem: human wastes, medical waste and much more all end up in the local rivers or water bodies. Cleaning compounds is also women's work, and soil contamination and pollution is an issue. Preventable diseases are a serious problem in the communities with whom we work.'

Then there's air pollution. Around the world, according to the World Health Organization, more than 1.6 million premature deaths a year are due to indoor air pollution – largely the result of burning wood, charcoal and other biomass for cooking. 'In Sierra Leone, with the support and help of First Lady, Sia Nyama Koroma, the initiative is working to introduce a new wonder stove designed at the local Njala University,' says Cora. 'These stoves are smokeless and use much less fuel. They are now being made from local clays with a tin outer stand and distributed all over the country. Not only do they reduce air pollution, they save trees as they are more efficient and reduce the time women and children spend foraging for fuel.'

Lightening women's workload and saving their time increases the likelihood that girl children get to school, and women can spend more time in income-generating tasks, farming and adult education. That's particularly important on a continent where 60 per cent of the children unable to attend school are girls, some 40 million of them in sub-Saharan Africa.

'First Ladies are well placed to lead the charge to improve the status of women and to bring about significant change,' continues Cora. 'We work to build on the First Ladies' commitment by fostering and coordinating partnerships between them, their offices and leading international development organizations such as CARE International and the International Planned Parenthood Federation as well as with our implementing partner based at the Public Health Institute. Together they build specific programmes that make a real difference, particularly to women and girl children, to improve health, education and economic empowerment.'

'The initiative,' concludes Cora, 'is about empowering First Ladies to mobilize their potential as champions of improved health and development. Since 2008, we have engaged with First Ladies from 17 nations – from Burkina Faso to Zambia and Nigeria to Mozambique. Their dedication to improving the health, education and prospects of African women is inspirational.'



# Pursuing a passion

Ugandan radio journalist, **PATRICIA OKOED-BUKUMUNHE**, became the first winner of UNEP's Young Environmental Journalist Award in February 2011. TUNZA caught up with Patricia shortly afterwards, and talked to her about her career and motivation.

**Q: What inspired you to become a journalist, and did your interest in journalism come before your interest in the environment?**

**A:** For as far back as I can remember I've had a passion for communication. In my first year at college I decided to get into radio journalism even though there was only one broadcaster in Uganda at the time. I just knew broadcasting was for me. But it's hard to say what came first... I am tempted to say my interests were intertwined, simply because I have always wanted to use journalism to communicate environmental issues. In my opinion, managing the environment is a prerequisite for handling other vital issues such as health. I have a saying: 'Take care of Mother Nature and she'll take care of you.'

**Q: What was it that led you to radio journalism?**

**A:** I was particularly attracted to radio journalism because it allows people to speak for themselves. Developing features with a rainbow of characters draws listeners in and puts them right there, in the piece. Hearing people speak for themselves and adding sound effects brings the whole thing to life. But I write for magazines and newspapers, too... in Austria, France... as well as local ones.

**Q: What sort of stories do you focus on?**

**A:** I cover whatever affects the environment or society as a whole – and what's topical and crucial. I'm currently working on a feature on recent oil discoveries in wildlife parks and protected areas in Uganda. The question being asked as Uganda basks in the recent discovery of large amounts of oil is: 'Can oil exploration and wildlife coexist?' One of my pieces explores the impact and benefits of this coexistence.

**Q: And which stories do you most enjoy?**

**A:** I love pieces that involve the community because those stories show the wider impact of an issue and then bring the listener back to the everyday person to relate to.

**Q: What do you see as the most important issues of our time? Are these the same in Uganda as in the wider world?**

**A:** Issues to do with global warming and climate change are not receiving the attention they deserve. As the developed world races to advance technology and developing countries such as Uganda struggle to catch up, the world seems to be forgetting that this is having a disastrous impact on our



*Patricia receives her trophy from UNEP Executive Director Achim Steiner and USEPA Administrator Lisa Jackson.*

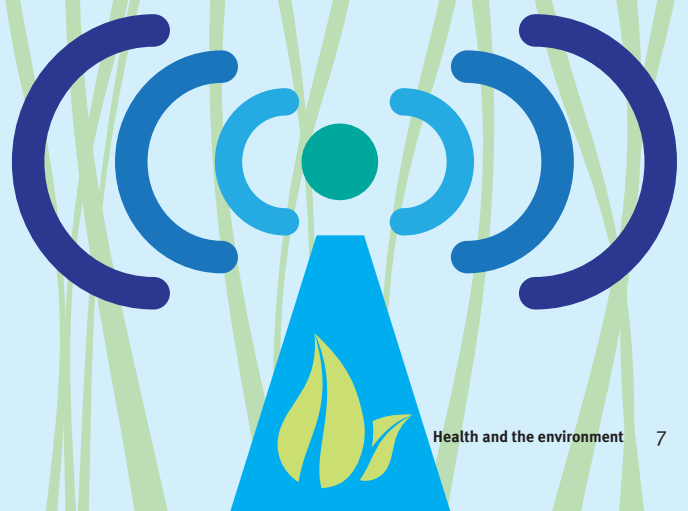
planet. Forest cover is falling, lakes and rivers are drying up and weather patterns are changing. Floods, earthquakes and tsunamis are warning signs that the world should take seriously. We tend to forget that the well-being of our planet is the basis of our existence.

**Q: What would you advise our readers who might want to become environmental journalists to do?**

**A:** You need passion and interest in environmental issues before you dedicate yourself to communicating them. Another piece of advice is to keep the issues relevant and digestible, and to talk about them as simply as possible. That's the way to make an impact.

I have had the pleasure of meeting some Tunza members and I was impressed by their interest in environmental issues. It was particularly inspiring to learn that architects, IT specialists and teachers in the making are all looking for ways to use their professions to communicate environmental issues.

I should end by saying that my pleasure in winning the UNEP award is not about the winning, but more about the knowledge that it is being used as a tool to communicate the impacts of climate change.





# Waste not, want not: BYEE 2010



'I don't care if it smells. This is my dream plant!' said Claudia Ramírez, a chemical engineering student from Venezuela. The delegate to the Bayer Youth Environmental Envoys (BYEE) 2010 conference stood enraptured among mountains of recycled waste in a sorting plant near Leverkusen, Germany.

'I run a project at university collecting and selling recyclable materials,' she said. 'So it's fascinating to see how machines separate plastics, metals and paper into bales that will provide raw materials for other products.'

Bayer has hosted the BYEE conference annually since 1998, rewarding youth who make substantial contributions to environmental protection with a five-day field trip to Bayer headquarters in Leverkusen. Here, delegates learn how Germany's Government, industry

and citizens cooperate to protect the environment in North Rhine-Westphalia, its most densely populated and industrialized state. They exchange ideas, meet scientific, industrial and legal experts, and study the state-of-the-art technologies that help protect Germany's environment.

The key theme emerging in 2010 was waste: how to manage it, reduce it and use it as a resource. Field trips included visits to the Emscher Genossenschaft wastewater treatment plant; AVEA, a municipal recycling facility; and the Böttig waste incineration plant, where toxic industrial wastes are processed to recover precious metals.

Software engineer Aswin Chandrasekharan, from India, was impressed by the way the plant recovered heat from the incineration process to generate steam power. 'I write energy audits for business

plans, and this system is breathtakingly efficient,' he said. Likewise, many of the envoys' projects featured waste. Asmak Afriliyana transforms waste from coffee production in East Java (Indonesia) into compost blocks for plants; Jerry Lee from Malaysia runs campaigns to get the public to accept sewage sludge as a fertilizer and building material; and Pondet Ananchai, from Thailand, seeks ways to harvest heat from electrical devices and convert it into electricity.

The goal of the programme is for young people to share and implement new ideas in their own countries, and to encourage them to pursue careers in environmental protection. 'There's much creativity and innovation here,' acknowledged Kennedy Liti Mbeva, from Kenya. 'But what's important is capacity building, so that people in developing countries can come up with solutions to fit their own contexts.'

## BRIGHT IDEAS

An exciting highlight of the 2010 BYEE conference was the launch of the Bayer Young Environmental Leader Award to encourage environmental projects that demonstrate originality, potential impact and sustainability. Each participating country nominated an Envoy to present a project to a panel of judges, who awarded four projects with special support from Bayer.

### Vaibhav Tidke, India

Since 2007, I've worked on solar drying, an initiative to develop a technology that will improve the economic condition of Indian farmers.

Much of the produce farmers harvest – fruit, vegetables and marine products – is highly perishable. The lack of power

enterprise, Science for Society, helping village farmers become entrepreneurs, and we're working on developing new products for dehydrated foodstuffs, such as powdered soup.

Solar drying has the support of the Indian Government and won an award from UNESCO, but we need materials to produce more units, a testing facility to analyse dehydrated food, and farmer training. There's still a long way to go.

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[https://www.yunbaogao.cn/report/index/report?reportId=5\\_9813](https://www.yunbaogao.cn/report/index/report?reportId=5_9813)

