

50 people who could save the planet

Stranded polar bears, melting glaciers, dried-out rivers and flooding on a horrific scale - these were the iconic images of 2007. So who is most able to stop this destruction to our world?



Photograph: AP

Last year ended with the incongruous image of 10,000 politicians, businessmen, activists and scientists from 190 countries emitting vast quantities of greenhouse gases as they flew home from Bali clutching the bare bones of a global agreement on climate change. The agreement was to keep on talking to try to reach a deal by 2010. It was a diplomatic triumph, achieved after rows and high dramas, but it leaves all nations a mighty hill to climb. There is no agreement on what emission cuts need to be made by when or by whom, and the US is still deeply reluctant to do anything. It is a roadmap with no signposts.

Some were optimistic that a start had been made; some said that the earth's ecological situation was in a far more perilous state than had been thought. The iconic images of 2007 - polar bears stranded, glaciers melting in the Himalayas, forests coming down all over Africa and devastating floods and droughts from Bangladesh to Ghana - may be as nothing to what will happen if people do not take immediate action.

But who are the people who can bring about change, the pioneers coming up with radical solutions? We can modify our lifestyles, but that will never be enough. Who are

the politicians most able to force society and industry to do things differently? Where are the green shoots that will get us out of the global ecological mess?

To come up with a list of the 50 people most able to prevent the continuing destruction of the planet, we consulted key people in the global environment debate. Our panel included scientists - former World Bank chief scientist and now the British government's scientific adviser on climate change, Bob Watson, Indian physicist and ecologist Vandana Shiva, Kenyan biologist and Nobel prizewinner Wangari Maathai; activists - Guardian columnist George Monbiot and head of Greenpeace International Gerd Leipold; politicians - Green party coleader and MEP Caroline Lucas, and London mayor Ken Livingstone; sustainable development commissioner for the UK government Jonathon Porritt and novelist Philip Pullman.

Then the Guardian's science, environment and economics correspondents met to add their own nominations and establish a final 50. Great names were argued over, and unknown ones surfaced. Should Al Gore be on the list? He may have put climate change on the rich countries' agenda, but some felt his solution of trading emissions is not enough and no more than what all major businesses and western governments are now saying. But in the end he squeaked through.

There was also debate over Leonardo DiCaprio. It would be easy to sniff at someone who seemed to have merely pledged to forgo private jets and made a couple of films about the environment, but we felt the Hollywood superstar who has grabbed the green agenda had to be included because of the worldwide influence he is expected to have. Thanks to his massive celebrity status DiCaprio could be a crucial figure in persuading and leading the next generation.

Some people made it to the final 50 not just because of their work but because - like the man who has found a simple way to save energy in a refrigerator, or the boy who collects impressive amounts of money for the protection of tigers - they represented a significant grassroots technological or social movement. And some got on the list because they were considered the driving forces behind the decision-makers. One church leader, for example, made it largely because the world's religions have huge investments and are shifting the political landscape in the US and Europe.

The final list includes an Indian peasant farmer, the world's leading geneticist, German and Chinese politicians, a novelist, a film director, a civil engineer, a seed collector and a scientist who has persuaded an African president to make a tenth of his country a national park. There are 19 nationalities represented. Nearly one in five of those listed comes from the US, and one in three is from a developing country, suggesting that grassroots resourcefulness will be as important as money and technology in the future. Nearly one in three of the people chosen has a scientific background, even if not all practice what they studied. It's not a definitive list and there are no rankings, but these 50 names give a sense of the vast well of people who represent the stirrings of a remarkable scientific and social revolution, and give us hope as we enter 2008.

Rajendra Singh

Water conservationist

In 1984 Dr Rajendra Singh, now 49, was working in the semi-desert Indian state of Rajasthan. He planned to set up health clinics in the rural villages, but was shocked when he went to a place called Gopalpura. "This area was devastated and people were fleeing, leaving their children, women and older people behind," Singh says. "It was then an old man told me that they needed neither medicines nor food. He said all they needed was water.

"It moved me so much and I started finding out ways to help. But the region was arid, all the rivers were dry and the land was parched. The only source of water was rainwater, but that was scarce and there was not nearly enough for all the needs of the region."

A mix of modern technology and villagers simply neglecting traditional ways of conserving water had led to an ecological disaster. Singh found that the villages no longer used small earth dams - or johads - to collect surface water but instead now relied on "modern" tube wells. As they bored their wells deeper and deeper into the ground and sucked out ever more underground water, so the water table had dropped alarmingly and ever deeper wells were required.

Lower water levels meant that the wells were not full, the forests and trees were dying off, and erosion was worsening. It was a vicious circle. With less irrigation water, farming declined and men migrated to cities for work. Women and children then had to spend up to 10 hours a day fetching firewood and water, and the shrinking labour force sapped people's will to maintain the old johads. The whole region faced disaster.

Singh and his colleagues began digging out an old johad pond in Gopalpura. Seven months later, it was, almost miraculously, nearly five feet full of water. And once the rains eventually came, not only did it fill to the brim, but a nearby longdry well began flowing again. The following year, the village joined in to rebuild a second dam, and by 1996 Gopalpurans had recreated nine johads that between them held millions of litres of water. Meanwhile, the groundwater level had risen to 6.7m, up from an average of 14m below the ground. The village wells were full again.

"It was only due to political reasons that the [johad] system fell apart," Singh says. "We worked for four years in Gopalpura and slowly a huge area turned green. People came back, they started farming again and the visual impact was so impressive that people from adjoining areas started calling us for help."

Singh is now known as the Rain Man of Rajasthan, having brought water back to more than 1,000 villages and got water to flow again in all five major rivers in Rajasthan. He has so far helped to build more than 8,600 johads and other structures to collect water for the dry seasons. The forest cover has increased by a third because the water table has risen, and antelope and leopard have returned to the region. It has also been one of the cheapest regenerations of a region ever known - in Rajasthan, villages have been brought back to life sometimes for just a few hundred pounds, far less than the cost of the single borehole that almost destroyed them.

"See the earth like a bank," Singh says. "If you make regular deposits of water, you'll always have some to withdraw. If you are just taking, you will have nothing in your account."

Erratic rains and longer droughts are becoming more frequent around the world with changing weather patterns and climate change, and the lessons taught by Singh in Rajasthan are now being applied all over India and Africa. In the next 30 years, water "harvesting" is expected to become an essential way to save water everywhere from England to Uganda and Arizona. In south-east England, there is barely enough rainfall now, let alone for the expected population within 20 years. Procedures likely to be introduced will include gadgets that ensure you can't leave a running tap, baths that hold less water, gutters that collect water, systems for using waste water for gardens. "It's the same principle everywhere, but we all have to learn it," Singh says.