

Name: _____ Date: _____ Period: _____

The Challenges We Face

Jeffrey Kluger, Andrea Dorfman

Time, August 26, 2002 (Special Report: Green Century)

For starters, let's be clear about what we mean by "saving the earth." The globe doesn't need to be saved by us, and we couldn't kill it if we tried. What we do need to save--and what we have done a fair job of bollixing up so far--is the earth as we like it, with its climate, air, water and biomass all in that destructible balance that best supports life as we have come to know it. Muck that up, and the planet will simply shake us off, as it's shaken off countless species before us. In the end, then, it's us we're trying to save--and while the job is doable, it won't be easy.

The 1992 Earth Summit in Rio de Janeiro was the last time world leaders assembled to look at how to heal the ailing environment. Now, 10 years later, Presidents and Prime Ministers are convening at the World Summit on Sustainable Development in Johannesburg next week to reassess the planet's condition and talk about where to go from here. In many ways, things haven't changed: the air is just as grimy in many places, the oceans just as stressed, and most treaties designed to do something about it lie in incomplete states of ratification or implementation. Yet we're oddly smarter than we were in Rio. If years of environmental false starts have taught us anything, it's that it's time to quit seeing the job of cleaning up the world as a zero-sum game between industrial progress on the one hand and a healthy planet on the other. The fact is, it's development--well-planned, well-executed sustainable development--that may be what saves our bacon before it's too late.

As the summiteers gather in Johannesburg, *TIME* is looking ahead to what the unfolding century--a green century--could be like. In this special report, we will examine several avenues to a healthier future, including green industry, green architecture, green energy, green transportation and even a greener approach to wilderness preservation. All of them have been explored before, but never so urgently as now. What gives such endeavors their new credibility is the hope and notion of sustainable development, a concept that can be hard to implement but wonderfully simple to understand.

With 6.1 billion people relying on the resources of the same small planet, we're coming to realize that we're drawing from a finite account. The amount of crops, animals and other biomatter we extract from the earth each year exceeds what the planet can replace by an estimated 20%, meaning it takes 14.4 months to replenish what we use in 12--deficit spending of the worst kind. Sustainable development works to reverse that, to expand the resource base and adjust how we use it so we're living off biological interest without ever touching principal. "The old environmental movement had a reputation of elitism," says Mark Malloch Brown, administrator of the United Nations Development Program (UNDP). "The key now is to put people first and the environment second, but also to remember that when you exhaust resources, you destroy people." With that in mind, the summiteers will wrestle with a host of difficult issues that affect both people and the environment. Among them:

Population and Health: While the number of people on earth is still rising rapidly, especially in the developing countries of Asia, the good news is that the growth rate is slowing. World population increased 48% from 1975 to 2000, compared with 64% from 1950 to 1975. As this

gradual deceleration continues, the population is expected to level off eventually, perhaps at 11 billion sometime in the last half of this century.

Economic-development and family-planning programs have helped slow the tide of people, but in some places, population growth is moderating for all the wrong reasons. In the poorest parts of the world, most notably Africa, infectious diseases such as AIDS, malaria, cholera and tuberculosis are having a Malthusian effect. Rural-land degradation is pushing people into cities, where crowded, polluted living conditions create the perfect breeding grounds for sickness. Worldwide, at least 68 million are expected to die of AIDS by 2020, including 55 million in sub-Saharan Africa. While any factor that eases population pressures may help the environment, the situation would be far less tragic if rich nations did more to help the developing world reduce birth rates and slow the spread of disease.

Efforts to provide greater access to family planning and health care have proved effective. Though women in the poorest countries still have the most children, their collective fertility rate is 50% lower than it was in 1969 and is expected to decline more by 2050. Other programs targeted at women include basic education and job training. Educated mothers not only have a stepladder out of poverty, but they also choose to have fewer babies.

Rapid development will require good health care for the young since there are more than 1 billion people ages 15 to 24. Getting programs in place to keep this youth bubble healthy could make it the most productive generation ever conceived. Says Thoraya Obaid, executive director of the U.N. Population Fund: "It's a window of opportunity to build the economy and prepare for the future."

Food: Though it's not always easy to see it from the well-fed West, up to a third of the world is in danger of starving. Two billion people lack reliable access to safe, nutritious food, and 800 million of them--including 300 million children--are chronically malnourished.

Agricultural policies now in place define the very idea of unsustainable development. Just 15 cash crops such as corn, wheat and rice provide 90% of the world's food, but planting and replanting the same crops strips fields of nutrients and makes them more vulnerable to pests. Slash-and-burn planting techniques and overreliance on pesticides further degrade the soil.

Solving the problem is difficult, mostly because of the ferocious debate over how to do it. Biotech partisans say the answer lies in genetically modified crops--foods engineered for vitamins, yield and robust growth. Environmentalists worry that fooling about with genes is a recipe for Frankensteinian disaster. There is no reason, however, that both camps can't make a contribution.

Better crop rotation and irrigation can help protect fields from exhaustion and erosion. Old-fashioned cross-breeding can yield plant strains that are heartier and more pest-resistant. But in a world that needs action fast, genetic engineering must still have a role--provided it produces suitable crops. Increasingly, those crops are being created not just by giant biotech firms but also by home-grown groups that know best what local consumers need.

The National Agricultural Research Organization of Uganda has developed corn varieties that are more resistant to disease and thrive in soil that is poor in nitrogen. Agronomists in Kenya are developing a sweet potato that wards off viruses. Also in the works are drought-tolerant, disease-defeating and vitamin-fortified forms of such crops as sorghum and cassava--hardly staples in the West, but essentials elsewhere in the world. The key, explains economist Jeffrey Sachs, head of Columbia University's Earth Institute, is not to dictate food policy from the West but to help the

developing world build its own biotech infrastructure so it can produce the things it needs the most. "We can't presume that our technologies will bail out poor people in Malawi," he says. "They need their own improved varieties of sorghum and millet, not our genetically improved varieties of wheat and soybeans."

Water: For a world that is 70% water, things are drying up fast. Only 2.5% of water is fresh, and only a fraction of that is accessible. Meanwhile, each of us requires about 50 quarts per day for drinking, bathing, cooking and other basic needs. At present, 1.1 billion people lack access to clean drinking water and more than 2.4 billion lack adequate sanitation. "Unless we take swift and decisive action," says U.N. Secretary-General Kofi Annan, "by 2025, two-thirds of the world's population may be living in countries that face serious water shortages."

The answer is to get smart about how we use water. Agriculture accounts for about two-thirds of the fresh water consumed. A report prepared for the summit thus endorses the "more crop per drop" approach, which calls for more efficient irrigation techniques, planting of drought- and salt-tolerant crop varieties that require less water and better monitoring of growing conditions, such as soil humidity levels. Improving water-delivery systems would also help, reducing the amount that is lost en route to the people who use it.

One program winning quick support is dubbed WASH--for Water, Sanitation and Hygiene for All--a global effort that aims to provide water services and hygiene training to everyone who lacks them by 2015. Already, the U.N., 28 governments and many nongovernmental organizations (ngos) have signed on.

Energy and Climate: In the U.S., people think of rural electrification as a long-ago legacy of the New Deal. In many parts of the world, it hasn't even happened yet. About 2.5 billion people have no access to modern energy services, and the power demands of developing economies are expected to grow 2.5% per year. But if those demands are met by burning fossil fuels such as oil, coal and gas, more and more carbon dioxide and other greenhouse gases will hit the atmosphere. That, scientists tell us, will promote global warming, which could lead to rising seas, fiercer storms, severe droughts and other climatic disruptions.

Of more immediate concern is the heavy air pollution caused in many places by combustion of wood and fossil fuels. A new U.N. Environment Program report warns of the effects of a haze across all southern Asia. Dubbed the "Asian brown cloud" and estimated to be 2 miles thick, it may be responsible for hundreds of thousands of deaths a year from respiratory diseases.

The better way to meet the world's energy needs is to develop cheaper, cleaner sources. Pre-Johannesburg proposals call for eliminating taxation and pricing systems that encourage oil use and replacing them with policies that provide incentives for alternative energy. In India there has been a boom in wind power because the government has made it easier for entrepreneurs to get their hands on the necessary technology and has then required the national power grid to purchase the juice that wind systems produce.

Other technologies can work their own little miracles. Micro-hydroelectric plants are already operating in numerous nations, including Kenya, Sri Lanka and Nepal. The systems divert water from streams and rivers and use it to run turbines without complex dams or catchment areas. Each plant can produce as much as 200 kilowatts--enough to electrify 200 to 500 homes and businesses--and lasts 20 years. One plant in Kenya was built by 200 villagers, all of whom own shares in the cooperative that sells the power.

The Global Village Energy Partnership, which involves the World Bank, the UNDP and various donors, wants to provide energy to 300 million people, as well as schools, hospitals and clinics in 50,000 communities worldwide over 10 years. The key will be to match the right energy source to the right users. For example, solar panels that convert sunlight into electricity might be cost-effective in remote areas, while extending the power grid might be better in Third World cities.

Biodiversity: More than 11,000 species of animals and plants are known to be threatened with extinction, about a third of all coral reefs are expected to vanish in the next 30 years and about 36 million acres of forest are being razed annually. In his new book, *The Future of Life*, Harvard biologist Edward O. Wilson writes of his worry that unless we change our ways half of all species could disappear by the end of this century.

The damage being done is more than aesthetic. Many vanishing species provide humans with both food and medicine. What's more, once you start tearing out swaths of ecosystem, you upset the existing balance in ways that harm even areas you didn't intend to touch. Environmentalists have said this for decades, and now that many of them have tempered ecological absolutism with developmental realism, more people are listening.

The Equator Initiative, a public-private group, is publicizing examples of sustainable development in the equatorial belt. Among the projects already cited are one to help restore marine fisheries in Fiji and another that promotes beekeeping as a source of supplementary income in rural Kenya. The Global Conservation Trust hopes to raise \$260 million to help conserve genetic material from plants for use by local agricultural programs. "When you approach sustainable development from an environmental view, the problems are global," says the U.N.'s Malloch Brown. "But from a development view, the front line is local, local, local."

If that's the message environmental groups and industry want to get out, they appear to be doing a good job of it. Increasingly, local folks act whether world political bodies do or not. California Governor Gray Davis signed a law last month requiring automakers to cut their cars' carbon emissions by 2009. Many countries are similarly proactive. Chile is encouraging sustainable use of water and electricity; Japan is dangling financial incentives before consumers who buy environmentally sound cars; and tiny Mauritius is promoting solar cells and discouraging use of plastics and other disposables.

Business is getting right with the environment too. The Center for Environmental Leadership in Business, based in Washington, is working with auto and oil giants including Ford, Chevron, Texaco and Shell to draft guidelines for incorporating biodiversity conservation into oil and gas exploration. And the center has helped Starbucks develop purchasing guidelines that reward coffee growers whose methods have the least impact on the environment. Says Nitin Desai, secretary-general of the Johannesburg summit: "We're hoping that partnerships--involving governments, corporations, philanthropies and NGOs--will increase the credibility of the commitment to sustainable development."

Will that happen? In 1992 the big, global measures of the Rio summit seemed like the answer to what ails the world. In 2002 that illness is--in many respects--worse. But if Rio's goal was to stamp out the disease of environmental degradation, Johannesburg's appears to be subtler--and perhaps better: treating the patient a bit at a time, until the planet as a whole at last gets well.