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**Education brings choices.
Choices bring power.**

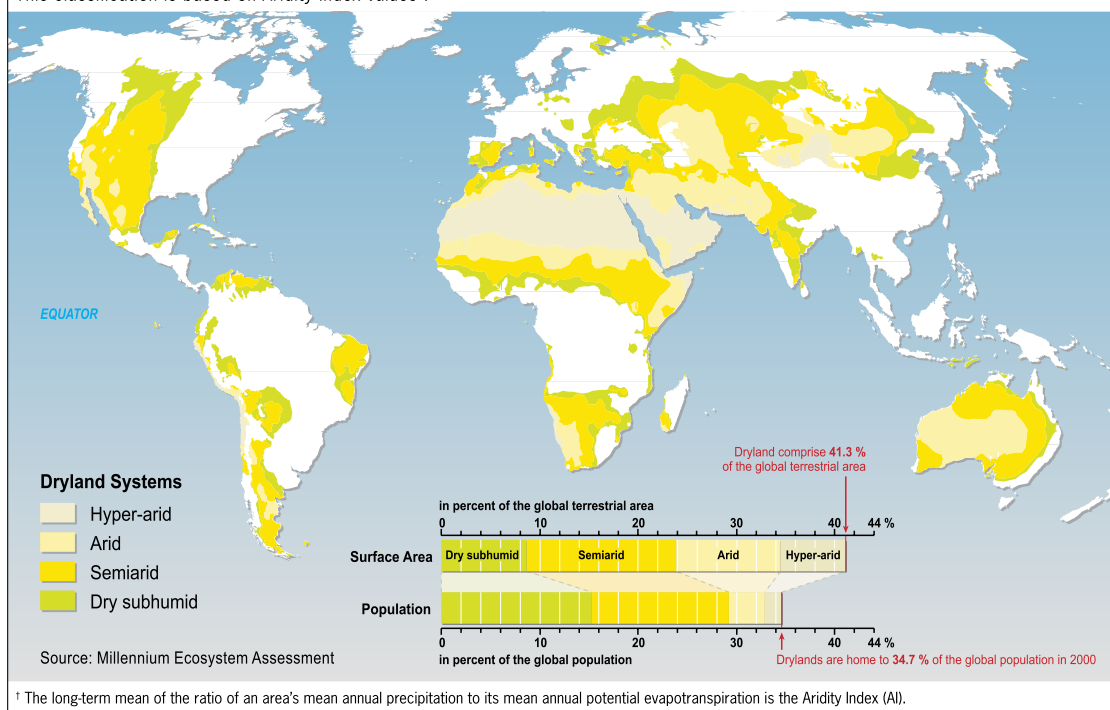
 World Ecology Report
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SPECIAL FOCUS:

Desertification: Its Effects on People and Land

**POLITICS
OF HEALTH AND
ENVIRONMENT
CONFERENCE**
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Drylands include all terrestrial regions where the production of crops, forage, wood and other ecosystem services are limited by water. Formally, the definition encompasses all lands where the climate is classified as dry subhumid, semiarid, arid or hyper-arid. This classification is based on Aridity Index values¹.



Source: Millennium Ecosystem Assessment. *Ecosystems and Human Well-being: Desertification Synthesis*. Washington, D.C.: World Resources Institute, 2005.

What is desertification?

Desertification is the permanent decrease in biological productivity of dryland areas. Drylands comprise 41% of the earth's land area and are home to roughly 2 billion people, or 34% of the earth's population. Currently, over 250 million people in more than 100 countries are directly affected by desertification and more are at risk. The situation is most severe in Africa, where 66% of the total land area is arid or semi-arid. Not only is desertification harmful to the earth and its inhabitants, but it is also expensive – each year, the world loses US\$42 billion to desertification and its effects.

The causes of desertification are both natural and man-made. Drought, rain patterns, increasing global temperatures and climate change contribute to the drying out of already arid lands, but these areas are also extremely sensitive to human activity. 10-20% of drylands are already severely degraded and some reports trace 70% of soil degradation to human-induced reasons, particularly population growth, agricultural technologies, and unsustainable policies. These factors degrade the land and create feedback effects that result in the loss of biodiversity as well as other negative outcomes that affect us all.

As a result of human activities and decisions such as overgrazing, the relationship between seven key ecological factors – vegetation, albedo, temperature, precipitation, soil moisture, wind erosion, and water erosion – becomes unbalanced. These mutually reinforcing relationships are especially susceptible to instabilities due to feedback effects, and perturbations like unsustainable cultivation practices are only magnified over time, resulting in essentially irreversible effects.

For instance, one of the main causes of desertification is unsustainable agricultural practices. This is the case in the Indian drylands of Maharashtra, Karnataka, Rajasthan, and Jhabua. In these areas, agricultural development and plantation expansions often rely on the overexploitation of scarce water resources to prevent crop failure. This mismanagement of water supply can include irrigation water, ground water, drainage systems, and the inadequate positioning of watering points. In addition, setting controlled fire to land promotes nutrient cycling when done correctly, but when done too frequently, it can permanently reduce the nutrient content of the land. Intensive well and canal irrigation methods and fires are only short term agricultural solutions and unsustainable

and migration – when one area becomes overgrazed, animals move to another area, giving the original land a chance to recover. However, the shortage of land causes overgrazing without replenishment and over time, the degradation becomes so severe that it renders the land permanently unproductive.

Human activity affects not only soil quality and water supply, but also biodiversity. By decreasing the amount of vegetation and forest area, the habitable area for insects, animals, and other life forms also diminish. Consequently, desertification can cause permanent species loss, an outcome that will reverberate throughout the world and cause further destabilization.

Desertification and Public health

The process of desertification presents a serious impact on the well-being and health of the people living in the areas affected by droughts and land degradation on an unprecedented global scale. The worst situations can be found in Africa, which is threatened because the land degradation processes affect about 46 percent of the whole continent and create a health risk to people living in the regions far beyond the affected areas. Asia, on the other hand is the most severely affected continent in terms of the number of people affected by desertification and drought. Dryland populations are often marginalized and unable to play a role in the decision making processes that affect their well-being, making them even more vulnerable.

In drylands, people depend on ecosystem services for their basic needs, which in turn are dependent on water availability and climate conditions. The extent of the health impact depends on a complex mix of factors involving a population's vulnerability and on pre-existing conditions, including age, gender, disability, genetics, immune status and access to health services. In arid, semi-arid and dry sub-humid areas, desertification and drought are directly linked to food and water shortages, conflicts, mass migration, increased risk of fires and limited access to health care. Furthermore, desertification leads to a decrease in wild plants that provide nutritional supplements for entire communities living in deserts. These changes in biodiversity

Never before has man had such capacity to control his own environment, to end thirst and hunger, to conquer poverty and disease, to banish illiteracy and massive human misery. We have the power to make this the best generation of mankind in the history of the world—or to make it the last.

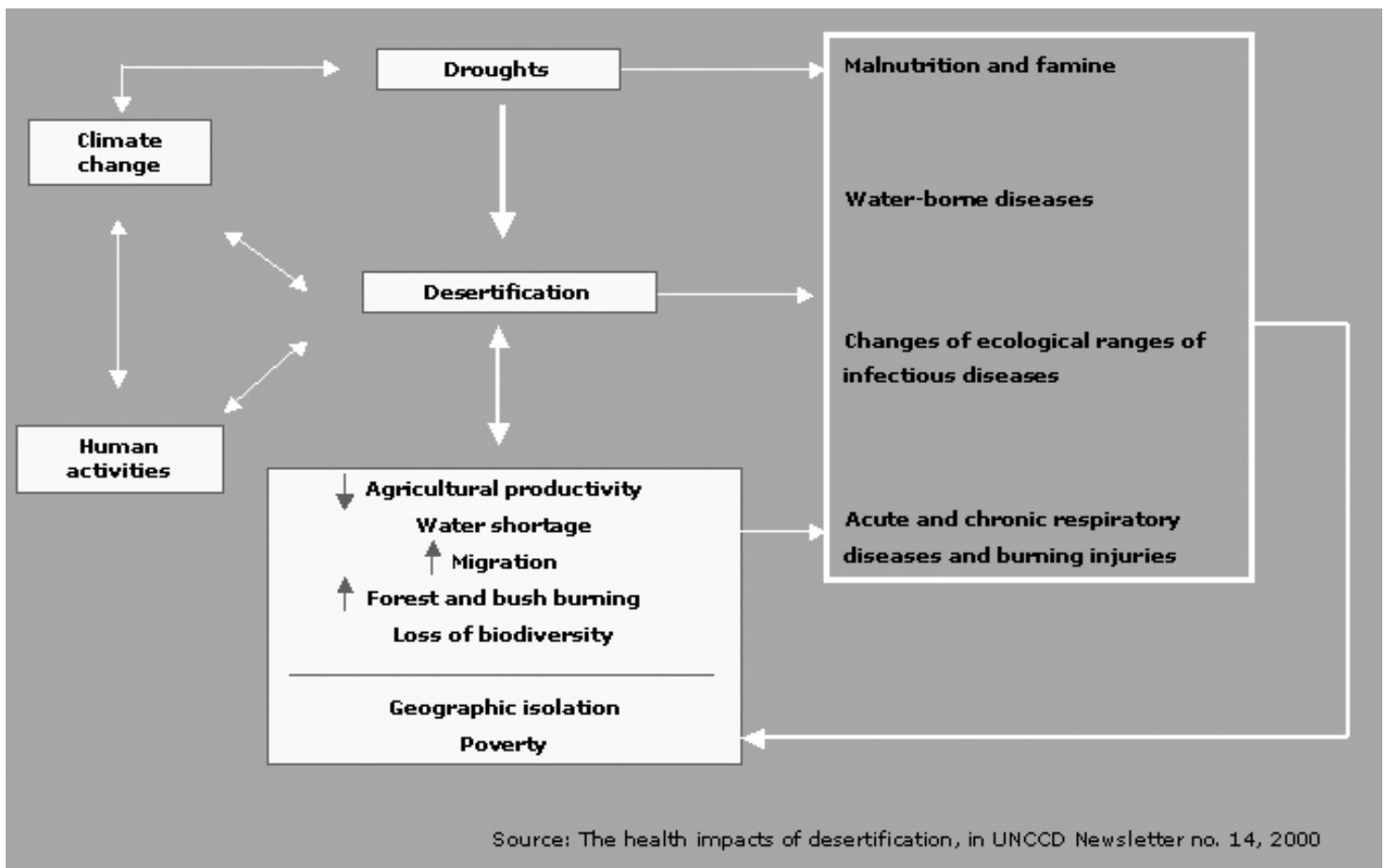
US President John F. Kennedy, address before the General Assembly of the United Nations, New York City, September 20, 1963.

in the long run. They remove moisture and nutrients from the soil beyond a reparable point and accelerate the conversion of dry environments into desertified ones.

The dangers of unsustainable land cultivation customs are exacerbated by high population growth rates in drylands. For example, the 2004 global population growth rate was 1.14%, but in Africa, the rate was 2.4%. This places additional strain on already delicate physical systems as vegetation and natural forest cover – earth's natural defense against land degradation – are eliminated in an effort to sustain the population. The moisture content in the area decreases and soil becomes more vulnerable to both wind erosion and water erosion, resulting in problems like decreased water quality, increased sediment deposits, flooding, and dust storms. Additionally, the amount of land available for human inhabitation and livestock grazing diminishes. Traditionally, grazing occurs in cycles involving movement



A couple walks home during a dust storm in Xinlinhot (Inner Mongolia), P.R. China
Source: Dr. Gaoming Jiang, Chinese Academy Of Sciences



Source: http://www.euro.who.int/globalchange/Topics/20020711_1

THE POLITICS OF WATER: SECURITY IMPLICATIONS AND THE U.S. DEPARTMENT OF STATE

Foreign Policy Objectives as a Motivation for Involvement: The U.S. Department of State and the USAID (United States Agency for International Development) have identified three justifications for engaging in water issues in the developing world. The Department of State will consider providing assistance, in furthering their development, humanitarian aid, or foreign policy objectives. In practice, the Department of State has primarily been involved with projects which advance foreign policy goals. Involvement has manifested itself primarily multilaterally, and sometimes bilaterally. Multilaterally, the Department of State has been involved in projects to promote regional stability and security in areas where water resources are shared between multiple countries. Examples of multilateral involvement include the Jordan River, the Nile Basin, and the Tigris-Euphrates Rivers. The Department of State has also provided countries with assistance in accessing water supplies as a means of developing, or shoring up relations with developing countries, as was the case in Libya.

Efficacy of Multilateral Solutions for Regional Security: Multilateral engagement can be an effective means of avoiding conflict over water resources, in so far as water crisis are a result of problems relating to distribution, NOT absolute scarcity. Therefore, enhancing infrastructure for distribution and storage can avoid conflict. Building new, or augmenting existing infrastructure, while costly, is far cheaper than conflict. For example, an Israeli official involved in the talks regarding the Jordan River, noted that Israel can build and operate five large desalination plants, capable of providing a significant portion of Israel's fresh water demand for the equivalent cost of two weeks of war. Furthermore, utilizing infrastructure improvements allows all parties to benefit jointly from a shared resource, which in turn enhances relations. And favorable security conditions, through increased friendly relations, increases the efficiency of development. Thus, creating a cyclical, beneficial effect from the development of water related infrastructure.

Source: *World Affairs Council Panel on Water Politics and Implications for Security in the Middle East* with Charles A. Lawson, Jerome Delli Priscoli, and Geoffrey D. Dabelko. Monday, December 8th, 2008

HISTORICAL PERSPECTIVES ON DESERTIFICATION

Historically, the first United Nations Conference on Desertification (UNCOD) was held in Nairobi in 1977, and produced a Plan of Action to Combat Desertification (PACD), a series of guidelines and recommendations to assist countries in developing action plans and to stimulate and coordinate assistance from the international community.

Subsequently, in 1985, after another crippling drought, the International Fund for Agricultural Development (IFAD) set up its Special Program for Sub-Saharan Countries Affected by Drought and Desertification. This Program has mobilized about \$400 million, which, combined with another \$350 million contributed through co-financing, has helped to pay for 45 projects in 25 countries.

Unfortunately, despite this and other efforts, the United Nations Environment Program (UNEP) concluded in 1991 that the problem of land degradation in arid, semi-arid and dry sub-humid areas had intensified, although there were "local examples of success".

As a result, the question of how to tackle desertification was still a major concern for the United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in 1992. It also called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee (INCD) to prepare, by June 1994, a Convention to Combat Desertification (UNCCD), particularly in Africa. The Convention was adopted in Paris in 1994, entered into force in 1996 with over 179 countries as Parties in March 2002, and 192 country Parties today.

UNCCD is the first and the only internationally legally binding framework set up to address the problem of desertification. The Convention is based on the principles of participation, partnership and decentralization - the backbone of Good Governance and Sustainable Development. The Conference of the Parties (COP), which is the Convention's supreme governing body, held its sessions annually from 1997 to 2000 and biennially after 2001. To help publicise the Convention, the year 2006 was declared by the United Nations General Assembly the International Year of Deserts and Desertification.

The UNCCD's stated objective is "to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa" It focuses on improving land productivity, rehabilitation of land, conservation and sustainable management of land and water resources. Such action should also prevent the long-term consequences of desertification, including mass migration, species loss, climate change and the need for emergency assistance to populations in crisis.

The Convention establishes a framework for national, sub regional and regional programs to counter the degradation of drylands, including semi-arid grasslands and deserts. It calls on developed countries to: 1, Actively support the efforts of affected developing country parties to the Convention; 2, Provide "substantial financial resources" to assist affected developing country parties; 3, Promote the mobilization of adequate, timely and predictable financial resources from all official and private sources; 4, Promote and facilitate access to appropriate technology, knowledge and know-how.

It also calls for the Desertification-affected countries to be obliged to: 1. give priority to combating desertification and drought by allocating adequate resources in accordance with capabilities; 2. establish strategies to combat desertification and drought; 3. address the underlying causes of the problem and pay special attention to relevant socio-economic factors; 4. promote awareness and the participation of local population in action to combat desertification and drought; 5. provide an enabling environment through appropriate laws, policies and action programs.

The Convention also aims to improve the efficiency of desertification aid to developing countries by coordinating donors' efforts and encouraging affected countries to set up national action plans to combat desertification with grass-roots participation, particularly with people who live off the land. Convention framers believed that local people, who are often poor, know more than anyone else about the fragile ecosystems in which they live and work and are thus in the best position to contribute to the fight against desertification.

put at risk traditional medicine which relies on wild plants, and holds an important place in many affected areas where modern medicines are out of reach.

Who is affected by desertification? Desertification has environmental impacts that go beyond the areas directly affected; it devastates people regionally and at the global scale. For example, dust emanating from the East Asian region and the Sahara has also been implicated in respiratory problems as far away as North America and has affected coral reefs in the Caribbean. Furthermore, loss of vegetation can increase the formation of large dust clouds that can cause ill health problems in more densely populated areas during the dry season, thousands of miles away.

Women and men are affected differently by desertification and land degradation according to different productive roles that each group carries out. Women and children are especially vulnerable to droughts. When the natural resources in close proximity to their communities start to disappear, women are exposed to higher stress in searching for food, water and fuel wood at increased walking distances, often in dangerous conditions. Nevertheless, desertification is not just a problem for developing countries or for particular groups of people in Africa or Asia.

The continent, which has the highest proportion of its dryland severely, or moderately suffering from desertification is North America at 74 percent. Also, thirteen of the European Union's countries suffer from desertification and altogether, more than 110 countries are potentially at risk.

The health impacts of desertification can be divided into malnutrition and famine, water borne diseases, other infectious diseases, respiratory diseases and burning

injuries. Effects of malnutrition related to desertification and drought include growth and development retardation, major susceptibility to infections, blindness and anemia. In particular desertification can increase fecal-oral diseases and water-wash diseases, which spread from one person to another due to the lack of water for personal hygiene. The drying of water sources increases the use of heavily polluted water, leading to severe epidemics.

In affected areas research shows that desertification is linked to declining agricultural productivity and decrease in income levels, leading to severe economic crisis and poverty. Sustainable agricultural innovations are key to restraining harmful impacts on the environment and on the health and livelihoods of populations affected by desertification. Despite the worldwide advancement in modern medicine, many countries suffer under a double burden of diseases that dominate both developed and poorer countries.

Coping with Desertification

The international community has long recognized that desertification is a major economic, social and environmental problem of concern to many countries in all regions of the world, and is one of the central challenges as it aims to achieve the Millennium Development Goals (MDGs-goal 7) by 2015.

Deserts are among the “fragile ecosystems” addressed by Agenda 21, and “combating desertification and drought” is the subject of Chapter 12. Combating desertification and drought has been discussed by the Commission on Sustainable Development in several sessions. In the framework of the Commission’s current multi-year work program, the third cycle, CSD 16-17 in 2008 and 2009 will focus on desertification and drought along with the interrelated issues of Land, Agriculture, Rural development and Africa.



Sources: www.un.org

A “bottom-up” approach to action is stressed by the 1994 Convention to Combat Desertification (UNCCD). A significant component of this approach is the protection, promotion and use of relevant traditional and local technology, knowledge, know-how and practices. It has become evident that desertification cannot be effectively addressed unless the people most affected are fully involved and committed. The most recent biennial meeting of the Conference of the Parties (COP), the United Nations Convention to Combat Desertification’s

(UNCCD) governing body, was held in September 2007 in Madrid, Spain.

During the 12 day conference, the COP discussed strategies to implement the goals of the Convention and reviewed the results of 2006, which was designated the International Year of Deserts and Desertification (IYDD). While the IYDD succeeded in raising international awareness about the dangers and realities of desertification, there still is much to be done to halt the conversion of drylands to deserts. Hopefully the new U.S. administration will take this problem more seriously and work to alleviate desertification in North America and the rest of the world.

There are some critics saying that although a number of solutions have been tried in order to reduce the rate of desertification and regain lost land, most measures treat symptoms of sand movement and do not address the root causes of land modification such as overgrazing, unsustainable farming and deforestation by the indigenous populations. In some developing countries under threat of desertification, many local people use trees or woods for firewood and cooking which has increased the problem of land degradation and often even increased their poverty.

There are also some fundamental policy-relevant questions remaining unanswered or are inadequately addressed. While desertification has received some publicity by the news media, many people are still unaware of the extent of environmental degradation of productive lands and the expansion of deserts. In the meantime, how to connect desertification into other development issues, how to build the capacity of national governments, as well as better engage the private sectors with economic incentives to invest in efforts to combat desertification, are issues requiring further exploration. There is a long way still ahead to counter desertification.

Sources: 1.www.un.org, 2.www.unep.org, 3.www.afp.com, 4.www.wikipedia.org, 5.Anaya-Garduno, Manuel. “Technology and Desertification.” *Economic Geography* Vol. 53 No. 4(1977): 407-412., 6.Bandyopadhyay, J., and Vandana Shiva. “Drought, Development, and Desertification.” *Economic and Political Weekly* Vol. 21 No. 33(1986): 1448-1450., 7.Eckholm, Erick. “Desertification: A World Problem” *Ambio*, Vol. 4 No. 4 (1975): p.137., 8.Millennium Ecosystem Assessment. *Ecosystems and Human Well-being: Desertification Synthesis*. Washington, D.C.: World Resources Institute, 2005., 9.Phillips, Jonathan D.. “Biophysical Feedbacks and the Risks of Desertification.” *Annals of the Association of American Geographers* Vol. 83 No. 4(1993): 630-640., 10.GreenFacts of the Desertification Synthesis Report. “Facts on Desertification.” Washington, D.C.: World Resources Institute, 2008., 11.Lean, Geoffrey. “Down to Earth.” *Secretariat for the Convention to Combat Desertification*. First published June 1995, last updated March 2008., 12.Dr. Gurirab, Theo-Ben. “Down to Earth: Newsletter, convention to combat desertification.” *Secretariat for the Convention to Combat Desertification*, 2000.



DID YOU KNOW?

European River Water Pollution

A new study of POPs shows the occurrence of polar organic persistent pollutants in European river waters. More than 100 individual water samples from over 100 European rivers from 27 European Countries were analyzed for 35 selected compounds, comprising pharmaceuticals, pesticides, PFOS, PFOA, benzotriazoles, hormones, and endocrine disrupters. Around 40 laboratories participated in this sampling exercise which found that the most frequently found compounds and the ones with highest concentration levels were: benzotriazole; caffeine; carbamazepine; tolyltriazole; and nonylphenoxy acetic acid (NPE1C). Approximately 10% of the river water samples were classified as "very clean" in terms of chemical pollution.

Source: *Environmental Pollution, Volume 157, Issue 2, February 2009, Pages 561-568; aEuropean Commission, Joint Research Centre, Institute for Environment and Sustainability, Via Enrico Fermi, 21020 Ispra, Italy; Copyright © 2008 Elsevier Ltd All rights reserved.*

Water Privatization Does Not Save Costs

Cost reduction was the key benefit claimed by privatization. Following a review of all published econometric studies of water and waste production since 1970, little support is found for a link between privatization and cost savings. Cost savings are not found in water delivery and are not systematic

in waste. Public choice theory is too focused on competition, which is typically not present in quasi-markets. Property rights theory gives attention to ownership and service quality, but without competition makes little difference on costs borne by municipalities. Overall, the empirical results show the importance of market structure, industrial organization of the service sector, and government management, oversight and regulation. Because there is no systematic optimal choice between public and private delivery, managers should approach the issue in a pragmatic way.

Source: *Bel, G., Warmer, M. Does privatization of solid waste and water services reduce costs: A review of empirical studies. Resources, Conservation and Recycling. 2008*



Car Ownership Sharing

Shifting from Car Ownership to Services and Functions In order to create a low-carbon society, it is important to reduce the amount of carbon dioxide (CO₂) emissions from transport. As a transportation mode that emits relatively less CO₂, car-sharing schemes have been growing in North America, Europe and Japan.

Source: <http://www.japanfs.org/en/mailmagazine/newsletter/pages/028678.html>

Unique Brewing Technology Reduces CO₂ Emissions by 30%

Asahi Breweries, Ltd., a major Japanese brewer, announced on August 28, 2008, that it has developed a new brewing technology called the Pre Isomeriser & Evaporator (PIE). By

shortening the boiling time, the new technology reduces carbon emissions by approximately 30% during the boiling process. It has been utilized at Asahi's brewery in Suita city in Osaka Prefecture since September 2008.

Source: <http://www.japanfs.org/en/pages/028653.html>



Manufacturer Saving Energy by Growing Vertical Gardens on Factory Walls

During the summer of 2008, Kyocera Corp., a Japanese manufacturer of electronic components and photovoltaic systems, created "green curtains" of plants climbing the outer walls of five factories in Japan, including those in Okaya, Nagano Prefecture and Gamo, Shiga Prefecture. The green curtains of climbing plants, such as morning glory and goya (bitter melon), absorb carbon dioxide and at the same time help reduce the need for air conditioning by providing a cool covering of the buildings and keeping the heat of the summer sun out.

Source: <http://www.japanfs.org/en/pages/028656.html>



Source: *Professor Hiroshi Takatsuki, Japan Cartoonist Association.*

Point of View:

ENVIRONMENTAL EDUCATION STARTS WITH THE YOUNG

Overview

China as the world's largest pollution producer, also stands in the frontline of being plagued by the pollution. According to the United Nations, six out of the ten most polluted cities in the world are in China. Chinese cities often seem wrapped in a toxic gray shroud. Only 1% of the country's 560 million city dwellers breathe in air considered safe by the European Union. The lack of clean fresh water presents an even graver threat. Two-thirds of major cities are now seriously short of it, and as many as 700 million people drink water contaminated with human and animal waste at levels that don't come close to the government's minimum standards (well below those of WHO). Some drinking water is considered below the standard for even industrial use. The cost of sustainable environment was sacrificed for rapid economic growth with devastating results to China's population.

This resulted in a growing effort by the Chinese government and environmental NGO's to educate the public about the role of environmental sustainability. The

No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be. – Isaac Asimov, scientist and writer (1920-92)

public is increasingly required to protect the environment and submit to the principle of sustainable development. Though their environmental consciousness is still below the rest of the world, the overall trend indicates hope about the future of one of the world's most polluted environments. Moreover, realizing the fact that the environmental decay has already constituted a threat to the stability of the country and its economic growth, the Chinese government is taking steps to address some of these challenges. All the above factors pave the way for the emergence of a more environmental-friendly society in China.

Chinese youth, born in the era of public awareness of environmental degradation, are considered a consciously aware generation. Better educated and living with affluence, teenagers, especially those who live in the big cities, are increasingly engaged in environment-related activities. Research done by the Children and Family work unit of Shanghai Women's association indicates that teenagers have much stronger environmental awareness than their parents. Similar research has been done by Beijing in 2007. As indicated in the report, more than 86% participants in the age group below 19, agreed

that environmental protection is of great importance, while only 79% of the 20 to 24 year old agreed.

Not only has the report reflected the importance of early education on environmental awareness, the Chinese Government is allocating more resources to the communities to enhance the teenagers' knowledge about environmental protection. In 2001, a local newspaper reported that teachers brought students out of the schools to observe the ecology around their communities and investigated sustainable methods of protecting the environment. Students responded very positively to these experiences and their awareness of the need to protect our earth..

Environmental education

Environmental sustainability consciousness has been aroused among the youth through national campaigns, schools, and NGOs in the past ten years in spite of many hurdles.

On the national level, to mark the 33rd World Environmental Day which falls on June 5, diverse, colorful activities have been held in many cities across China. In Beijing, young people attended a ceremony with the theme of "I love China, I love Sea." which aimed at increasing young people's awareness of the need to protect marine environments, while in other cities, youngsters have been encouraged to actively take part in large-scaled campaigns to publicize the concept of "leading a green life, and building an eco-environmental homeland."

State Environmental Protection Administration (SEPA) worked together with the World Wildlife Fund to hold the "98 International Week of Nature Movies", providing 10 prize-winning movies screened free of charge to young people. These movies, through beautiful scenes, portrayed nature and presented various natural phenomena, arousing young people's love for nature.

The Communist Youth League of China (CYLC) launched a massive environmental protection project in 1999 urging the country's 420 million young people to plant trees along major watercourses in China, including the Yangtze River and the Yellow River. Thanks to the CYLC project, some 56 million Chinese young people aged from 14 to 28 have participated in protecting the great rivers. The area of newly planted trees and forests amounts to some 187,000 hectares and its rapport with nature has become a new trend young Chinese people.

Continuing on page 12

World Information Transfer

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US Recycling E-Waste

Every day Americans throw out more than 350,000 cell phones and 130,000 computers, making electronic waste the fastest-growing part of the U.S. garbage stream. Improperly disposed of lead, mercury and other toxic materials inside e-waste can leak from landfills. The good news is that about 20% of Americans (about 60 million people) are trying to recycle their e-waste. However, many electronics recyclers ship American e-waste abroad, where it is stripped and burned with little concern for environmental or human health. US authorities rarely stop the export of potentially hazardous e-waste.

The U.S. is the only industrialized country that refused to ratify the 19-year-old Basel Convention, an international treaty designed to regulate the export of hazardous waste to developing nations. In addition, the US Environmental Protection Agency (EPA) oversees the export of only cathode-ray tubes in old TVs and monitors, and the Government Accountability Office criticized the lack of EPA's enforcement.

Much American e-waste ends up in Guiyu, China, a recycling hub where peasants heat circuit boards over coal fires to recover lead, while others use acid to burn off bits of gold. According to reports from nearby Shantou University, Guiyu has the highest level of cancer-causing dioxins in the world and elevated rates of miscarriages.

The Basel Action Network (BAN), an e-waste watchdog, is pushing for a full ban on e-waste exports. Other "green" groups are pressuring electronics manufacturers to take responsibility for the afterlife of their products. By reducing toxic metals like mercury and using fewer small pieces of aluminum and glass, companies like Apple now design their laptops to be more easily recycled. Sony has pledged to work only with recyclers that pledge not to export e-waste. And Dell, which since 2004 has offered free recycling for its products (customers arrange shipping online), recently announced an in-store recycling program with Staples. To confirm that its recyclers are really recycling, Dell uses environmental-audit firms to check up on its partners.

What can Americans do to ensure their old electronic devices don't end up in a dump in China? If it's still working and in good condition, sell it to Greenphone.com which markets such phones to poor customers overseas. BAN has put together a list of "e-stewards," U.S. recyclers the group has accredited; check them out at ban.org.

Sources: <http://www.time.com/time/magazine/article/0,9171,1870485-1,00.html> 8 January 2009; http://ban.org/ban_news/2008/081110_news_release.html



GOOD NEWS

New Zealand Bans Endosulfan

New Zealand banned the insecticide, endosulfan, effective January 16th, 2009. That means that all import or use of endosulfan is illegal after January 16th. There will be a one year period to safely secure unused stocks; disposal or storage options not yet specified. According to the Environmental Risk Management Authority (ERMA), "the level of adverse effect to the environment, human health, the relationship of Maori to the environment, and to New Zealand's international relationships outweighed any positive effects associated with the availability of endosulfan in New Zealand".

Action to get rid of the insecticide began in the mid-1990s, when Dr. Meriel Watts of PAN ANZ, then with the Soil & Health Association, worked with Toxins Action Group and other community groups in Auckland to get the City Council to stop using endosulfan on sports fields because of the risk of breast cancer posed by the pesticide.

Endosulfan, already banned in 55 countries including all the European Union countries, is an insecticide used on a wide range of fruit and vegetables and also on sports turf in New Zealand. Illegal residues have also been found twice in beef destined for South Korea, resulting in enormous costs for exporters.

Endosulfan has triggered international action because of its toxicity, persistence in the environment and its ability to accumulate up the food chain. In October the Review Committee of the Stockholm

Convention on Persistent Organic Pollutants (POPs) agreed that endosulfan meets the screening criteria for a POP, and is now undertaking a rigorous assessment preparatory to listing it for a global ban, alongside DDT and its other persistent organochlorine relatives.

Sources: *Pesticide Action Network Aotearoa, The Soil & Health Association of NZ, Safe Food Campaign*

Japan and the Republic of Korea Launch Green New Deals

Japan and the Republic of Korea have announced that they will invest billions of dollars in green projects to create jobs and spur economic growth, in the latest sign that the Green New Deal advocated by the United Nations is gaining momentum. Japan has announced that it aims to expand the 'green business' market and create up to 1 million new jobs, with measures including zero-interest rate loans for environmentally-friendly companies. South Korea will invest 38 billion dollars over the next four years in a series of eco-friendly projects to create 960,000 new jobs and lay the groundwork for economic growth. The 36 projects include the creation of green transport networks, the provision of two million energy-saving 'green homes' and the clean-up of the country's four main rivers.

The move by two of Asia's major economies comes on the heels of US President-elect Barack Obama's plans to implement a US \$150 billion clean energy program during his presidency in a bid to create 5 million jobs. In October, 2008, the UN Environment Programme launched the Global Green New Deal and Green Economy Initiative as both an antidote to current economic woes and as a springboard to a low carbon, low impact, high job generating and better-managed global economy. For more information on the UNEP Green Economy Initiative, see <http://www.unep.org/greeneconomy>.

Source: *UNEP Press Release/ 9 January 2009*

UPDATE ON THE MILLENNIUM GOALS

What are LDCs?



1

Continued Reliance on External Sources for Growth

- Low level of domestic savings: only 15 LDCs have savings rates above 15% of GDP;
- High dependency on ODA continues and on an increase;
- Increase in international reserves (to 43\$ billion in 2006, 12% of GDP) (under-utilised resources);
- Overall investment patterns remain inadequate to meet MDG and Brussels PoA targets (below 20% on avg.);
- LDCs need a new development model shifting from commodity-price led growth to *catch-up* growth (of the kind elaborated in LDCR 2006).

4

Main Messages of LDCR 2008: How Sustainable is Growth in LDCs?

- Over last 3 years, LDCs as a group experienced record high rates of growth, propelled by high commodity prices, debt relief and aid;
- Real GDP of LDCs grew by 7.9% in 2005 and by 7.5% in 2006: the highest in 30 years;
- Growth exceeded the 7% target of the Brussels Programme of Action for the LDCs.

2

Impact of growth on human development

Newly estimated poverty figures

	Population living on:					
	less than \$1/day			less than \$2/day		
	Percentage of total population					
	1990	2000	2005	1990	2000	2005
LDCs	40.4	38.9	36.1	81.6	78.8	75.7
African LDCs	49.7	46.9	43.9	83.9	82.2	79.9
Asian LDCs	26.9	26.9	24	78.3	73.6	69.2
	Millions					
LDCs	212.4	264.6	277	428.8	535.1	580.8
African LDCs	154.9	192	205.6	261.4	336.4	374.6
Asian LDCs	56.9	71.9	70.6	165.6	196.7	203.9
Island LDCs	0.6	0.8	0.8	1.8	2.1	2.3

5

Food Price Increases



3

Role of Aid in mobilizing resources for development

- CONSTRAINTS TO COUNTRY OWNERSHIP
 - B But LDCs have only limited OWNERSHIP of their economic agendas (owing to high aid dependence, weak institutional state capacities, external binding constraints, structural weaknesses) and power asymmetries, or the dynamics of political economy of donor-dominated development models;
 - B LDCs have extremely limited space for home-grown development strategies; (rather than donor-driven strategies);
 - B Report argues there is a critical need to assume greater ownership through better aid management policies (for predictable, long term, stable aid flows, re-direction of composition and structure of aid, alignment with national priorities), and:
 - B Aid cannot work if linked to wrong development model, it cannot exert its developmental function but acts as source of continuing economic dependence.

6

1. Map of the 50 least developed countries; 2. Main messages of LDCR 2008: How sustainable is growth in LDCs?; 3. Food price increases; 4. Continued reliance on external sources of growth; 5. Impact of growth on human development; 6. Role of aid in mobilizing resources for development. **Source:** www.unctad.org/lcdr

Chornobyl Update:

THE ROLE OF SCIENCE IN THE WORK OF OUR NGO

Before science proved that the Earth orbited the sun, it was generally believed that the Earth was the center of the universe. A sailor could fall off the earth if he traveled too far because the earth was flat. Before Darwin and the British naturalist Alfred Russel Wallace discovered the laws of natural selection, it was generally believed that all living things developed on earth at roughly the same time. When new facts emerge to alter knowledge, policies and actions should change to reflect the new evidence. New knowledge challenges old ideas which ultimately become altered or discarded. It is a sign of intelligence to alter old perceptions in the light of new evidence-based knowledge. As more evidence accumulates, facts indicate the need for the modification of behavior. The quicker the behavior follows new information, the greater impact it creates for all concerned.

Science has been the orientation of World Information Transfer from its inception as we have focused on health issues from an evidence based perspective. That means, we utilize available research to separate what we know from what we do not know. In our work, we have found that accepting the limitations of current knowledge actually requires a kind of intellectual courage which eludes many people. This is regularly demonstrated to us in the understanding of the health consequences following the Chornobyl nuclear disaster in 1986. It's an unfortunate, but common occurrence, that when gaps in knowledge exist, fear and superstition fill the voids. When people act on fear and superstition rather than on science, public health becomes a casualty.

An approach based on scientific findings is most relevant for the work of NGO's who are focused on strengthening public health systems which deal with the world's poorest. Once the data is clear, it is important to modify ones assumptions and behavior to address the new model of findings. WIT began following the Chornobyl catastrophe in Ukraine in 1986, and for many years, we focused our interest on the research related to thyroid cancer and iodine deficiency in the regions which suffered from the explosion. As time passed and new research produced new information regarding the effects of radioactive isotopes, we modified our focus. New research not only established new criteria for radioactive safety but also clearly delineated how, when and what degree of radiation exposure contributed to the difficulties of the exposed populations. New research also showed time and age factors that contributed to thyroid cancer.



World Information Transfer Project for all schools with English language programs and computers.

This research led by UNSCAR and IAEA found that fewer people had suffered from thyroid cancer than originally suspected, fewer people suffered from thyroid illness than originally suspected and many more people suffered from post traumatic stress disorders than originally suspected. There is no reliable evidence to identify the numbers of individuals who will suffer from cancers or other diseases associated with releases of strontium or cesium radionuclides. We cannot claim numbers of cancer morbidity or deaths as yet, and estimates are derived more from fears than from science.

We modified our developmental work in association with UNDP in the Chornobyl area, and adjusted our CD ROM health and development library project to reflect the current data on thyroid disease, PTSD and other cancers. Our CD ROMS, distributed in Ukraine, also contain information based on the latest science concerning the still burning nuclear reactor core and the state of the shelter, or sarcophagus, which covers the destroyed nuclear power reactor.

Ultimately, we must find our way using science first. To paraphrase the astrophysicist, Carl Sagan, science serves the same purpose as a "Candle in the Dark." When science leads us to a moral dilemma, at that point, we find answers in our responsibility to our fellow humans. We reach into ourselves for our humanity and make choices based on knowledge and common decency. This, we believe, should be the goal of every NGO.

Health And Environment: ANALYSIS OF HUMAN MILK

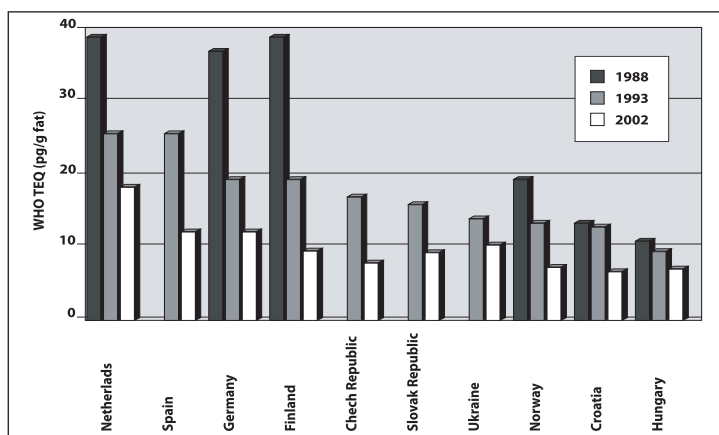
Human milk is the natural and superior food for infants containing the optimal composition to meet their nutritional needs in early life and providing associated immunological, psychological and economic advantages. Evidence for the health advantages of breastfeeding and scientific evidence to support this practice has continued to increase. WHO can now say with full confidence that breastfeeding reduces child mortality and has health benefits that extend into adulthood. On a population basis, exclusive breastfeeding for six months is the recommended feeding mode for the vast majority of infants, followed by continued breastfeeding with appropriate complementary foods for up to two years or beyond.

Yet human milk - though still the best food for infants - has been unintentionally compromised by unwelcome chemicals from our environment, as a result of eating, drinking, and living in a technologically advanced world. However, the mere presence of an environmental chemical in human milk does not necessarily indicate that a serious health risk exists for breast-fed infants. Few, if any, adverse effects have been documented as being associated solely with consumption of human milk containing background levels of environmental chemicals, and none have been clinically or epidemiologically demonstrated. Only in very rare situations involving high levels of contamination have effects on infants occurred through human milk consumption. In contrast, epidemiological studies have demonstrated that human milk and the practice of breast-feeding confer significant, measurable health benefits to infants and to nursing mothers. Therefore, it should be understood at the outset that the accumulated data overwhelmingly support the positive health value of breast-feeding infants.

On the other hand, human milk is also a unique biological matrix for monitoring certain environmental contaminants because it can provide exposure information about both the mother and the breastfed infant through a non-invasive method of collection. Human milk is considered to be one of the most important biota to be monitored for the presence of Persistent Organic Pollutants (POPs), which are known to accumulate in the food chain. Consequently, human milk monitoring can yield information about the kinds and quantities of POPs in the environment as well as in our bodies. Better understanding of our exposure to harmful environmental chemicals will help us better manage such chemicals by eliminating or reducing emissions of such POPs or by limiting their presence in the food supply.

WHO Activities on Biomonitoring of Human Milk

WHO, has reviewed the toxicological hazards posed by POPs on many occasions. Beginning in 1963, the Joint



Dioxin levels expressed in WHO TEQs in human milk

Source: World Health Organization

FAO/WHO Meetings on Pesticide Residues (JMPR) has evaluated the safety of POPs pesticides and establish acceptable daily intakes (ADIs) for many of them. Other POPs have been evaluated by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) which has established tolerable intakes for dioxins, dibenzofurans and dioxin-like PCBs. In its most recent evaluation in 2001, JECFA established a tolerable monthly intake for dioxins, dibenzofurans and coplanar PCBs of 70 pg/kg body weight per month, which is one of the lowest tolerable intakes ever set. In doing so, it noted that mean exposure of many populations approached or exceed this value. WHO has used human milk for monitoring of human body burdens of chemical contaminants for several decades as it represents an integrated assessment of exposure, e.g. level, frequency and duration.

Over the past several decades, GEMS/Food, whose interest is in international exposure studies on contaminants in food, has collected information on the levels and time-trends of many POPs in food, including human milk. WHO has sponsored three special surveys of dioxins, dibenzofurans and dioxin-like PCBs in human milk. The first two took place in 1987-1988 and 1992-1993 and mainly consisted of samples from European countries. In 2000, the WHO European Centre for Environment and Health in Bilthoven in cooperation with GEMS/Food conducted a third survey of human milk for dioxins, dibenzofurans and PCBs, which included a number of countries outside Europe. Results showed the variation of contamination profiles indicating different sources of exposure. In addition, a number of countries showed elevated levels of contamination compared to overall median values.

In responding to the needs of the Stockholm Convention on POPs, GEMS/Food has developed a new protocol for a Global Survey of Human Milk for POPs in order to

meet the health, food safety and environmental objectives of WHO, UNEP and their member countries. This survey is being led by the health sector as it involves human subjects, but collaboration with the environmental and other sectors is strongly encouraged. In the area of capacity building of national POPs analytical capabilities, analytical proficiency testing will be used as a tool for assisting laboratories in developing countries to participate in the survey.

The Way Forward

Because of health, food safety and environment concerns raised by the presence of POPs in human milk, the following considerations are stressed:

Primary preventive measures to eliminate and reduce the introduction of POPs in the environment are the most effective long-term way to control exposure to these chemicals. When possible, the use and emission of POPs should be further reduced.

Responsible authorities should examine their food monitoring and control programmes to assess whether greater attention should be paid to foodstuffs potentially high in POPs. It is also important that national governments identify geographical areas with potential for increased infant exposure levels resulting from large scale intoxications, either through occupational exposure or highly contaminated foodstuffs. It is vital that the intake of such fat-soluble, bioaccumulative, toxic compounds be restricted before a woman becomes pregnant, otherwise the infant exposure both in utero and through breast milk will be unavoidable.

Tolerable residue levels in foods high in POPs might be considered or dietary advice for girls and women of child-

bearing age might be promoted to reduce their consumption of such foods.

Epidemiological studies linked to monitoring of food and human milk are urgently needed to assess the possible long-term health hazard to the newborn and growing infant from the intake of POPs contaminated breast milk. This will enable adequate advice to be formulated on the best breastfeeding practice for mothers at risk.

Responsible authorities should consider incorporating mechanisms to assess potential health risks posed by contaminants in human milk into their national risk assessment procedures. Decision-making for any contemplated intervention should include a quantitative estimate of risk-based reference intakes for human milk contamination and take into account the well-established benefits of breast feeding as well as socioeconomic factors. Except in the most extreme cases, mothers can and should be reassured that breast milk is by far the best food to give their babies.

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Point of View, continuing from page 7

Environmental education has become part of the curricula in primary and secondary schools. At present, more than 80 percent of the primary and middle schools in 15 provinces (and centrally administered municipalities) conduct environment classes. Environmental protection bureaus in various regions have closely cooperated with education departments to actively conduct the activity of creating "green schools". The concept of "green school" which was originated in Europe in 1994 was introduced to China in 1996. "Green schools" have to include environmental education in their curricula and take full advantage of teaching personnel, materials and facilities to improve students' awareness of the environment. Education is believed to be important and effective and can help youngsters develop better habits. Meanwhile they can be good vehicles for passing on knowledge to the community. Chinese schools are treating environmental education more importantly, so more and more "green schools" are emerging," China has now approved 16,933 green schools like this, with 284 at national level.

A waste batteries recycling project in Beijing's high schools and primary schools has ended with 3 million waste batteries collected in 15 months. Wang Junjing, an eight-year old Beijing girl, has collected some 100,000 used batteries during the past four years. "I also regarded the waste batteries recycling project as a course to develop children's consciousness of environmental protection," said Zheng Daling, a Beijing primary school teacher. Another primary school teacher Wang Weidong said that the kids not only took an active part in this project but also got their parents involved, and even their neighbors and colleagues of their parents.

On the legislation level, educated youth who had lived on the prairie spent three years helping the local herdsmen to get compensations from the polluting factories by prosecuting them. Amazingly, they won three cases.

Authors: Emmy Chow, Greta Liao, Josephine Au, Lillian Tsang, WIT Interns
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VOICES

Primary Health Care – Now More Than Ever

The World Health Report 2008, “Primary Health Care – Now More Than Ever”, launched in October, assesses the way that health care is organized, financed, and delivered in rich and poor countries around the world. The World Health Organization (WHO) report documents a number of failures and shortcomings that have left the health status of different populations, both within and between countries, dangerously out of balance. Differences in life expectancy between the richest and poorest countries now exceed 40 years. However, differences in health occur within countries and sometimes within individual cities. In Nairobi, for example, the under-five mortality rate is below 15 per thousand in the high-income area. In a slum in the same city, the rate is 254 per thousand.

Data set out in the report are indicative of a situation in which many health systems have lost their focus on fair access to care, their ability to invest resources wisely, and their capacity to meet the needs and expectations of people, especially in impoverished and marginalized groups. To steer health systems towards better performance, the report calls for a return to primary health care, a holistic approach to health care formally launched 30 years ago. When countries at the same level

of economic development are compared, those where health care is organized around the tenets of primary health care produce a higher level of health for the same investment. WHO estimates that better use of existing preventive measures could reduce the global burden of disease by as much as 70%.

In the World Health Report, WHO proposes that countries make health system and health development decisions guided by four broad, interlinked policy directions. These four represent core primary health care principles: Universal coverage, People-centred services, Healthy Public Policies, Leadership:

The report can be found at: www.who.int/whr/en/index.html

Source: News Release WHO/38,
14 October 2008

Call for Posters: “Exploring the Dynamic Relationship Between Health and the Environment”

American Museum of Natural History’s
Center for Biodiversity and Conservation
and Sackler Institute for Comparative
Genomics, New York City, April 2-3, 2009

The American Museum of Natural History is hosting a multi-disciplinary conference, “Exploring the Dynamic Relationship Between Health and the Environment,” which is being organized by conservation biologists, physicians, veterinarians, public health experts, molecular biologists, and others. We are actively seeking a diverse array of posters, and are keen to highlight the work of students and up-and-coming scientists.

Health and the environment are deeply intertwined for populations, species, and ecosystems, as well as for human lives and livelihoods. Human endeavors in agriculture, energy and food production, transportation, and infrastructure development can have far-reaching and significant

impact on the health of humans, animals, and the environment. Understanding these relationships is increasingly critical in the context of our changing world and the accelerating loss of biodiversity.

This two-day conference will present a diversity of viewpoints and experiences spanning the natural, medical, and social sciences, as well as policy planning. Presenters will discuss knowledge/data gaps and the limitations of current approaches, and examine innovative methods that move beyond speculation to a grounded understanding of impacts and realistic solutions. Particular emphasis will be placed on consideration of multiple and interacting stressors and decision making for maximizing benefits to both health and the environment.

Details available at:
<http://cbc.amnh.org/health/>
(including a list of confirmed speakers)
Or send an email to:
cbcsymposium@amnh.org

IAIA09: Impact Assessment and Human Well-being

29th Annual Conference of the
International Association for Impact
Assessment (IAIA), Accra, Ghana
17-22 May 2009

Human well-being depends on ecosystem services. Impact assessment aims at ensuring a healthy environment, ultimately leading to improved human well-being. This conference will assess the relevance of human well-being in impact assessments. IAIA09 will involve you in discussions with experts from around the globe focusing on how impact assessment assures: healthy environment, human well-being, sustainable development, protected ecosystems and quality of life. For information on paper submission, registration, sponsorship and more, visit the IAIA09 Accra, Ghana www.iaia.org or contact impact@iaia.org.

methods of growing coca where the soil is proven historically fit. Problems arise when demand increases in the cocaine market and subsequently vast areas of land (those perhaps not suitable for the crop) become privy to soil erosion. In sum then, it is more accurate to observe environmental damage from the processing, as opposed to the growing of coca itself.

Efforts to curb drug trafficking have similarly negative implications e.g. fumigation. The fumigations of coca fields also often damage coffee beans, yucca, rice and hay as coca is sometimes grown between other crops. A vicious cycle endures because the more coca that is sprayed, the more coca fields are being relocated, to the Amazon. Private contractors that manufacture the herbicides for fumigations are thus unsurprisingly gaining from the venture.⁴ Companies who provide the herbicides are profiting greatly from initiatives such as Plan Colombia, initiated in 2000 and designed to eradicate coca cultivation in Colombia.⁵ As it stands now, 300,000 hectares of jungle and forest have already been sprayed – a serious threat to the health of millions of peasants and indigenous peoples, with effects ranging from gastro-intestinal problems, fevers, headaches and nausea.⁶

The agro-business response to the unstoppable conversion of coca into cocaine, has actually introduced bio-fuels as a feasible, environmentally sustainable form of alternative agriculture in Latin America. Yet, in many instances, and most egregiously in Colombia, “green” jobs such as palm oil production are not “green” at all, because again, they rely on extensive use of pesticides, as well as harness child labor, denying workers the rights to unionize. As Food and Agriculture Organization Director Jacques Diouf pointed out in his 2008 State of Food and Agriculture Report, “The expanded use and

production of bio-fuels will not necessarily contribute to reducing greenhouse gas emissions as was previously assumed.”⁷ Likewise, if sugarcane as a substitute crop for coca were to expand, the outlook for the world’s biodiversity would be grim as expanding fields would further encroach upon forestlands.

The real environmental problem at issue here is therefore most fundamentally, the demand for cocaine, which fuels the over-production of the coca leaf and leads to deforestation. The coca leaf itself poses no innate danger to the soil. On the other hand, the fumigation of many parts of the Amazon for the purposes of coca eradication poses an even greater environmental risk. If we are to cast the coca debate in an environmental light, we must first acknowledge that the majority of the cocaine refined from coca is actually consumed in the United States.⁸ At the end of 2006, while 8.1 million Americans were in need of de-addiction therapy, only 1.4 million received care.⁹ Perhaps then, it is more appropriate to speak of “greening” cocaine users themselves.

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18th INTERNATIONAL CONFERENCE:

HEALTH AND ENVIRONMENT: GLOBAL PARTNERS FOR GLOBAL SOLUTIONS

April 15th & 16th, 2009, 10:00 am to 1:00 PM; 3:00 to 6:00 PM United Nations Headquarters, New York

Theme:

Political Influence on Health and Environment Policies

Organized by World Information Transfer, Inc.,

Co-sponsors include: Government of Ukraine,

New York Eye and Ear Hospital (NYEE);

In Collaboration with: WHO, NGLS, DESA NGO Section

Wednesday, April 15:

Post Chernobyl Update on Thyroid Disease

Thursday, April 16:

Energy, Health and Politics/ Children’s Health Policies

Speakers: H.E. Mr. Anwarul Chowdhury, H.E. Mr. Valeriy Kuchinsky, H.E. Mr. Yuriy Sergeyev, Dr. Daniel I. Branovan, Dr. Lilian Corra, Dr. Mildred Dresselhaus, Dr. Christine K. Durbak, Dr. Ruth Etzel, Dr. Hiram Larew, Mr. Bertil Lindblad, Mr. Werner Obermeyer, Dr. Scott Ratzan, Dr. Andrew A. Sowder, Ms. Jessica Williamson.

Luncheon Delegates Dining Room (Invitation only),

Speaker: Ms. Laila Connors Peterson, Founder, Treemedia

Program Updates and Registration will be available online at www.worldinfo.org in February 2009. Please note, the Conference is free; Pre-registration is mandatory due to UN Security requirements. WIT does not assist in Visa applications.

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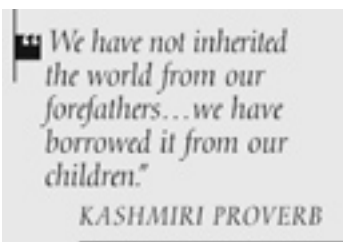
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World Information Transfer, Inc., (WIT) is a not-for-profit, non-governmental organization in General Consultative Status with the United Nations, promoting environmental health and literacy. In 1987, inspired by the Chernobyl nuclear tragedy, WIT was formed in recognition of the pressing need to provide accurate actionable information about our deteriorating global environment and its effect on human health. WIT exercises its mandate through:

- **World Ecology Report (WER).** Published since 1989, the World Ecology Report is a quarterly digest of critical issues in health and environment, produced in four languages and distributed to thousands of citizens throughout the developing and developed world.
- **Health and Environment: Global Partners for Global Solutions Conference.** Since 1992, WIT has convened what we believe to be one of the world's premier forums for the presentation of scientific papers by international experts on the growing clinical evidence supporting the link between degrading environments and diminished human health. The conference has been convened as a parallel event to the annual meeting of the UN Commission on Sustainable Development. The scientific papers presented at the conference are available on WIT's web site.
- **Health and Development CD ROM Library.** This project consists of a library of CDs each of which focuses on a subject within the overall topic of Development and Health information. Our Human Information CD ROM Library offers one bridge across the "digital divide" for both developed and developing countries. The project is continuous with future topics being developed.
- **Health and Development CD ROM Library for Ukraine.** In conjunction with UNDP, WIT has developed a country specific library disc for distribution in schools and centers in Ukraine.
- **Humanitarian Aid.** In conjunction with the K.Kovshevych Foundation, WIT provides humanitarian aid to schools and hospitals and orphanages in areas devastated by environmental degradation. Our shipments have included medical equipment for pediatric medical facilities, computer and telephone systems, clothing, toys, prosthetic devices for gifted children.
- **Internship.** World Information Transfer (WIT) offers internships in New York City, where our main office is located. Our goal is to encourage future leaders in health and environment. Our interns spend the majority of their time at the United Nations.
- **Scholarship Program.** With the support of the K. Kovshevych Foundation, WIT offers scholarships to intellectually gifted university students in need of financial assistance to continue their studies in areas related to health and environment.
- **www.worldinfo.org** WIT provides through its web site up to date science based information on the relationship between human health and the natural environment, including the papers from the WIT's annual conference, the archived World Ecology Reports, and our new Ecology Enquirer, an e-newsletter written by our Interns targeted to young people.
- **Centers for Health & Environment.** The aim of the Centers is to promote research, education and solutions. The first center was opened in Ukraine in 1992, and the second center opened in Beirut, Lebanon in 1997 at Bir Hasan, United Nations Street, Al-Salaam Building.

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Food for Thought:

STUCK IN TRAFFIC: DEMYSTIFYING THE ENVIRONMENTAL IMPACTS OF THE COCA LEAF

The coca leaf is an integral part of daily life for many Latin American indigenous communities, specifically those living in Peru, Bolivia and Colombia. A cultural fixture of Andean life, the coca leaf has, nevertheless, come under intense scrutiny for its cocaine producing extracts. Even more interestingly, it is worth noting that many of today's arguments against coca cultivation stem increasingly from the environmental movement itself.

Dating back to 3,000 B.C., the coca leaf (more simply known as coca) was used extensively by the Quechua, Aymara and Inca culture as a stimulant and means to suppress altitude sickness, hunger and the cold - all important remedies for ideal mountain life. Coca, moreover, is still frequently used in rituals as a natural medicine and in some cases, in a barter system of money exchange. Still, prior to the European colonization of the continent, coca was never utilized for the production of cocaine. Alternatively, coca-based products range from soap, shampoo, toothpaste, granola bars, cookies and even a cure for balding.¹

However, it is precisely the unavailing persistence of drug trafficking that has vilified the ancient crop. The UN



and U.S. government estimate that in 2007 approximately 27,000 hectares of land in Bolivia are used for coca cultivation, of which 81.5 million kilos are sold, translating into 29.2 million dollars.² And this figure only speaks to the Bolivian market. For obvious reasons, it seems favorable to eradicate the illegal sale of cocaine but the rise in coca cultivation and

more specifically, its transformation into cocaine, are also believed to have a negative impact on the environment.

Arguments against growing the coca leaf contend that coca depletes the soil it is grown on, which causes farmers to relocate crops to Amazonian regions, leading in turn, to deforestation. Accordingly, the loss of habitat for many plant species and animals only exacerbates the likelihood of extinction in some cases. What is more, metric tons of the chemicals used to turn coca into cocaine (lime, sodium carbonate, sulfuric acid and kerosene) are regularly thrown into streams and nearby rivers, while the application of pesticides helps to yield a greater crop.³ However, it needs to be clarified that coca is not inherently harmful to the land or to the environment. Farmers have been using traditional

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