WHO-Facts Sheet

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1. THE ENVIRONMENT: WHERE'S THE RISK, AND WHERE ARE CHILDREN SAFE?

World Health Organization publishes first-ever Atlas of Children's Health and the Environment

Around the world, polluted air and water and other environment-related hazards kill more than three milion children under the age of five, every year.

While industrialization, urban population growth, climate change, the increasing use of chemicals and environmental degradation expose children to risks that were unimagined a few generations ago, it is the old and largely understood basic threats that are still today responsible for killing most children: factors such as unsafe water, lack of sanitation, malaria and indoor air pollution.

Just 10% of the world's population is under five years of age, yet 40% of the environment-related disease burden falls on children in this age group. This is partly because they have a higher intake of harmful substances in relation to body weight, and partly because they have less strength and knowledge to protect themselves.

To illustrate the impact of the environment on children's health, the World Health Organization (WHO) launched the first-ever Atlas of Children's Environmental Health and the Environment. Presented at the Fourth European Conference of Health and Environment Ministers in Budapest, Hungary, this book brings together a range of facts about the effects of environmental risks to our children's health, which, when taken together, paints a graphic picture of the hazards we all face and the reasons for over three million annual deaths in children under age five worldwide.

"Children are the main sufferers of environmental hazards. It is unacceptable from every point of view that the most vulnerable members of a society should be the ones who pay the price for failures to protect health from environmental dangers," said Dr LEE Jong-wook, WHO Director-General, on the occasion of the launch.

The United Nations Millennium Declaration calls on governments to reduce by two-thirds the under-five mortality rate by 2015. This may be one of the most ambitious goals. "This is a wake-up call for us and for the world. The number of child deaths is alarming. It paints a dismal picture of neglect. We must face up to reality and act now to work towards a sustainable and brighter future," said Dr Kerstin Leitner, WHO Assistant Director-General for Sustainable Development and Healthy Environments.

Extensively illustrated, the Atlas clearly demonstrates the threats children face everywhere. It underscores the impact of poverty on children's health and the efforts needed to tackle environmental problems. It also discusses the relationship, interlinkages, and impact of the environment on the health of our children. While this crisis cannot be ignored and demands urgent action, success stories show a way forward for the world to make sure that our children will inherit a safer planet and a brighter future.

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Health and the environment - some Atlas facts:

- Unclean water causes diarrhea, which kills an estimated 1.8 million people worldwide each year, 1.6 million of whom are children under five. It's also responsible for many diseases including cholera, dysentery, guinea worm, typhoid and intestinal worms.
- 86% of all urban wastewater in Latin America and the Caribbean, and 65% of all wastewater in Asia, is discharged untreated into rivers, lakes and oceans.
- The Ganges River alone has 1.1 million litres of raw sewage dumped into it every minute, a startling figure considering that one gram of faeces in untreated water may contain 10 million viruses, one million bacteria, 1000 parasite cysts and a hundred worm eggs. Diseases which result include diarrhoea, cholera, dysentery, typhoid, guinea worm, intestinal worms and trachoma.
- Nearly one million children die each year from diseases caused by air pollution inside their own homes. Over 75% of households in most Asian and African countries cook with solid fuels, such as wood, dung, coal or crop waste, which produce a black smoke that, when inhaled, may give rise to, or worsen pneumonia and other respiratory infections.

The Atlas is available on the internet at http://www.who.int/ceh

2. CURRENT GM FOODS CAN BRING BENEFITS BUT SAFETY ASSESSMENTS MUST CONTINUE

"Genetic divide" must be avoided through better social, cultural evaluations

New, genetically modified (GM) foods can contribute to enhancing human health and development, the World Health Organization (WHO) concludes in a new report on GM foods. However the report also stresses the need for continued safety assessments on GM before they are marketed, to prevent risks to both human health and the environment.

The report "*Modern food biotechnology, human health and development*" presents the potential benefits and risks associated with GM foods. It finds that GM foods can increase crop yield, food quality and the diversity of foods which can be grown in a given area. This in turn can lead to better health and nutrition, which can then help to raise health and living standards.

However, some of the genes used to manufacture GM foods have not been in the food chain before and the introduction of new genes may cause changes in the existing genetic make-up of the crop. Therefore, the potential human health effects of new GM foods should always be assessed before they are grown and marketed, and long-term monitoring must be carried out to catch any possible adverse effects early.

The report points out that pre-market risk assessments have been performed on all GM products where these products are marketed. In this regard, GM foods are examined more thoroughly than normal foods for their potential health and environmental impacts. To date, the consumption of GM foods has not caused any known negative health effects.

WHO recommends holistic evaluation

The report also recommends that in future, evaluations of GM foods should be widened to include social, cultural and ethical considerations, to help ensure there is no "genetic divide" between groups of countries which do and do not allow the growth, cultivation and marketing of GM products. Currently, evaluations primarily focus on the agronomic ramifications and on possible health effects. The GM food aid crisis in southern Africa in 2002, where a number of countries did not permit GM food aid as a result of mostly socio-economic concerns, illustrates the need for broader evaluations.

"GM foods should be examined from many standpoints, including the social and ethical, in addition to the health and environmental. If we help our Member States to do this on a national level we can avoid creating a 'genetic divide' between those countries which permit GM crops and those which do not," said Dr Jorgen Schlundt, Director of WHO's Food Safety Department.

Each country has different prevailing social and economic conditions, and the people have different histories of what they eat and what food means in their society. All of these factors can affect how GM foods will be regarded, and taking proper account of these concerns will affect the long-term acceptance or rejection of GM foods and their possible health benefits and potential risks.

There are now 15 international legally-binding instruments and nonbinding codes of practice which address some aspect of GM organisms. While many developed countries have established specific pre-market regulatory systems requiring the rigorous case-by-case risk assessment of GM foods prior to their release, many developing countries lack the capacity to implement a similar system.

WHO is working with partners such as the Food and Agriculture Organization of the United Nations and the United Nations Environment Programme to help countries examine the introduction of a given GM food from all angles.

"We can hope to gain the health and nutritional improvements of GM foods when we can help countries to research how they can control and exploit the introduction of GM products for the benefit of their own people," added Dr Schlundt.

The first major GM food was introduced on the market in the mid-1990s. Since then, GM strains of maize, soybeans, rapeseed and cotton have been marketed and traded nationally and internationally in several areas. In addition, GM varieties of papaya, potato, rice, squash, sugar beet and tomato have been released in certain countries. The production of GM crops has increased significantly over the last decade, and although most of this production is centred in relatively few countries, it is estimated that at the end of 2004 GM crops covered almost 4% of the total global arable land.

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3. EACH YEAR CHILDBIRTH COMPLICATIONS RESULT IN ONE MILLION BABIES BEING BORN DEAD, AND ALMOST ONE MILLION MORE DYING IN THE FIRST FEW DAYS OF LIFE

New global estimates published in the June issue of the *Bulletin of the World Health Organization* suggest that each year 904,400 newborn babies die in the first few days of life as a consequence of complications in childbirth and a further 1.02 million babies die during labour.

These are the first published global estimates for deaths of babies during labour (intrapartum stillbirths). The newborn deaths estimates from this study are the first using a more specific definition. The term "birth asphyxia" previously included other causes of newborn death such as complications of prematurity. These new estimates are the most rigorous to date. Dr Joy Lawn from Saving Newborn Lives / Save the Children-USA(an initiative funded by the Bill and Melinda Gates Foundation since 2000) worked with Dr Kenji Shibuya and Dr Claudia Stein of the World Health Organization to develop new methods using the limited data available from vital registration and research studies.

Intrapartum stillbirths are the single largest group of stillbirths, at 27% of the global total. Women in Africa are at least 16 times more likely to experience an intrapartum stillbirth than women in Western Europe. Newborn deaths due to birth asphyxia account for 8% of all deaths among children under five years of age, making this the fifth most common cause of death in children, after pneumonia, diarrhoea, neonatal infections, and preterm birth. Yet very little attention or funding are directed towards tackling birth asphyxia and it is rarely mentioned in lists of the causes of child death.

The World Health Report highlights long-term disability for babies who survive birth asphyxia as an important but silent problem. The Report also urges a new approach to maternal, newborn and child health that provides a continuum of care and does not see them as three separate issues.

"Given the numbers of deaths revealed here, it is clear that complications during childbirth are a major cause of newborn deaths and of stillbirths - yet are neglected in policy and programmes and need systematic attention." said Dr Lawn.

Solutions to save these babies exist, particularly skilled care and newborn resuscitation but these are not reaching the women and babies who need them most.

In rich countries, 99% of women deliver with a skilled attendant. In contrast, only about one-third of the women in the sub-Saharan

Africa and South Asia deliver with a skilled attendant, and far fewer have access to emergency obstetric care. Of the approximately 5 million babies who require resuscitation each year, less than 5% have an attendant who is able and equipped to carry out resuscitation.

"If more resources were invested into care during childbirth, and to ensure that midwives are equipped to perform newborn resuscitation, then hundreds of thousands of babies, and many of their mothers, could be saved every year. To have the biggest impact we need to both strengthen health systems but also address barriers to using healthcare especially for the poor, including lack of recognition of childbirth complications, long distances to health facilities and high user fees" Dr Lawn stated.

One of the reasons that birth asphyxia receives so little attention despite the large number of deaths is that most of these deaths are unseen and uncounted in South Asia and in sub-Saharan Africa. Often neither the birth nor the death is registered in official statistics. Fewer than 3% of the world's 4 million newborn deaths have death certificates with reliable cause of death information. Stillbirths are even less likely to be counted.

The authors stress that these are estimates and there is a need for better data. *The Health Metrics Network*, launched by the WHO in May 2005 and also funded by the Gates Foundation, will be working with countries to improve information on important but often invisible health problems such as birth asphyxia. Many of the world's 529,000

maternal deaths also occur as a consequence of complications during childbirth, and information is lacking for these deaths too.

As the authors conclude in their publication "innovative approaches are required to increase information for decision-making and improve care in settings where far too many babies do not cry at birth".

The study:

Lawn JE, Shibuya, K, Stein C. No cry at birth: global estimates of intrapartum stillbirths and intrapartum-related neonatal deaths. Bulletin of the World Health Organization, 2005, June http://www.who.int/bulletin/en/index.html

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4. ALMOST 2 BILLION MORE PEOPLE NEED ACCESS TO BASIC SANITATION BY 2015 TO MEET MILLENIUM TARGET

Improved water and sanitation could reduce the 5,000 child deaths per day from diarrhoeal diseases and boost developing economies

Basic sanitation must reach 138 million more people every year through 2015 - close to 2 billion in total - to bring the world on track to halve the proportion of people living without safe water and basic sanitation, the World Health Organization (WHO) and UNICEF warn in a new report.

Young children suffer disproportionately without safe water and sanitation services. Every year, 1.9 million children under five die from diarrhoeal diseases in the world's poorest countries - over 5000 children each day. Poor water and sanitation contribute to almost 90 per cent of these deaths (1.6 million). A baby born in Sub-Saharan Africa is five hundred times more likely to die from diarrhoeal disease than a baby in the developed world. Diarrhoea can lead to severe malnutrition, which contributes to six million child deaths every year - more than half the global toll of child mortality.

"Access to basic sanitation and adequate drinking water makes people healthier and more economically and socially productive," said Dr LEE Jong-wook, WHO Director-General. "Yet we are not seeing nearly enough money invested in this primary building block of development."

"While the world is on track to meet its safe water targets, progress on basic sanitation, in terms of the number of people who need to gain access to sanitation facilities each year for the first time, needs to accelerate by at least 58 per cent between now and 2015 to meet the Millennium target," said UNICEF Executive Director Ann M. Veneman.

Meeting the target by 2015 would inject an extra US$ 84 billion per year into developing economies - money saved by averted deaths, lower healthcare costs and productivity gains, says the new report, called *Water for Life - Making it Happen*, released ahead of World Environment Day on 5 June, 2005. The report analyzes essential investments and strategies to increase access to water and sanitation between now and the MDG deadline year of 2015.

The report finds that every dollar invested in improved water supplies and basic toilets pays for itself many times over. Returns range from US $3 to US $34, depending on the type of investment and the country. Less illness means less burden on health systems and more time spent at work or in school. Women and girls can have their lives transformed by better water and sanitation services. For example, an accessible water source liberates them from the hours often spent collecting water, and adequate school toilets make it more likely that girls will attend classes.

The sanitation situation is particularly acute in South Asia and Sub-Saharan Africa. South Asia needs to reach 42 million additional people with sanitation services every year to reach the target. In sub-Saharan Africa, where only 36 per cent of the population have access to a basic toilet, 27 million people every year need expanded services. So far, access to sanitation in the region has increased by just 4 per cent since 1990.

A key to development

Investing in water and sanitation services is also a key element in improving urban living conditions, spurring rural development and reducing future costs associated with pollution, poor water quality and waste management. Planning to meet these major environmental challenges now is the best platform for prosperous and pleasant future living spaces, says Dr. Kerstin Leitner, WHO Assistant Director-General for Sustainable Development and Healthy Environments.

"We must ensure that access to drinking water and sanitation becomes a master component in development planning," she said. "Adequate water and sanitation infrastructure is the only means possible of supporting socially, economically and environmentally sustainable development of urban areas."

The report recommends five key complementary actions to reach the water and

sanitation MDG over the next ten years (the International Decade for Action on Water for Life): meeting basic sanitation demand; significantly increasing access to safe drinking water; teaching good hygiene in homes and schools; promoting household water treatment and safe storage; and ensuring more health for the money by providing water and sanitation systems together.

"Failure to meet these simple needs is costing many children their lives," said UNICEF Executive Director Ann M. Veneman. "An investment in safe water and sanitation for homes and schools can be a key factor in reducing child mortality."

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5. WHO PUBLISHES NEW GUIDELINES ON PREVENTING MOTHER TO CHILD TRANSMISSION OF HIV

The World Health Organization (WHO) has published new guidelines underlining the effectiveness of antiretroviral drugs to prevent the transmission of HIV from seropositive mothers to their children. These guidelines take into account the most recent information on the safety and effectiveness of different drug regimens, as well as concerns over resistance to some of the drugs used, including nevirapine.

These are the key recommendations contained in the guidelines - *Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants:*

- Women who need antiretroviral treatment for their own health should receive it in accordance with the WHO guidelines on antiretroviral treatment. The use of antiretroviral treatment, when indicated, during pregnancy substantially benefits the health of the woman and decreases the risk of HIV transmission to the infant.
- HIV-infected pregnant women who do not have indications for antiretroviral treatment, or do not have access to treatment should be offered antiretroviral prophylaxis to prevent mother to child transmission of HIV using one of several antiretroviral regimens known to be safe and effective:
- Zidovudine from 28 weeks of pregnancy plus single-dose nevirapine during labour and single-dose nevirapine and one-week zidovudine for the infant. This regimen is highly efficacious, as is initiating zidovudine later in pregnancy.
- Alternative regimens based on zidovudine alone, short-course zidovudine + lamivudine or single-dose nevirapine alone are also recommended.
- Although expanding access to programmes to prevent mother to child transmission presents many challenges and single-dose maternal and infant nevirapine is the simplest regimen to deliver, programmes should consider introducing one of the other recommended regimens where possible. The expansion of programmes to prevent mother to child transmission using single-dose nevirapine should not be hindered while necessary improvements in health systems are taking place to enable more complex antiretroviral regimens to be delivered.

The guidelines also refer to the issue of drug resistance. Drug resistance linked to short-course regimens to prevent mother to child transmission that do not fully suppress the virus has been known since early 2000. Programs to prevent mother to child transmission and treat AIDS are rapidly expanding and antenatal clinics are able to identify more women who are HIV positive. Since these women are all expected to eventually require treatment, potential resistance has become a far greater concern.

However, concerns about resistance need to be balanced with the simplicity and practicality of delivering single-dose nevirapine compared with other regimens. Antiretroviral prophylaxis using single-dose maternal and infant nevirapine remains a practical alternative when provision of more effective regimens are not feasible. Progress in implementing programmes to prevent mother to child transmission based on single-dose maternal and infant nevirapine or other short course regimens should not be undermined.

New data being presented at the International AIDS Conference in Bangkok may offer a way of reducing resistance observed shortly after delivery and needs to be further assessed before any recommendation can be made to use this approach in programmes to prevent mother to child transmission.

WHO will regularly review the evidence base for the guidelines and will issue updated recommendations when warranted.

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