

Environmental Health Update

Sustainable Development and Healthy Environments



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Focus of the month

Children's Environmental Health – Children are not little adults!

Over 40% of the global burden of disease attributed to environmental factors falls on children under five years of age, who account for only about 10% of the world's population¹. The children of developing countries continue to suffer from high morbidity and mortality from traditional environmental risk factors. For example, diarrhoeal diseases associated with a lack of access to safe drinking water and inadequate sanitation result in nearly 1.5 million deaths annually. About 90% of rural dwellers in developing countries use biomass fuels and coal for cooking. More than two-thirds of indoor smoke deaths from acute lower respiratory infections in children occur in WHO's African and South-East Asian Regions².

Children in developing countries are now facing a new set of threats from intake of air, water



Children engaged in gemstone polishing.

and food contaminated with toxic chemicals such as pesticides and exposure to metals including lead, mercury and arsenic. The International Labour Organization (ILO) estimates that 170

million children were employed in various hazardous occupations in 2000, exposing them to physical, chemical, biological, ergonomic and psychosocial hazards³. Children are not small adults; they receive higher doses of exposure because, pound for pound, they drink more water, they breathe more air and eat more food than adults. The children's ability to detoxify many chemicals during early months of life is inadequate due to lack of certain necessary enzymes. Foetuses and babies, whose systems are rapidly developing, are much more vulnerable to toxic substances than at any other time of life. Finally, children have more future years of life than most adults, and hence have more time to develop chronic diseases triggered by early exposures. Carcinogenic and toxic exposures sustained early in life, including prenatal exposures, appear more likely to lead to disease than are similar exposures encountered later.

Children's susceptibility to chemicals was manifested dramatically with thalidomide, introduced in 1950s for the control of morning sickness. It was advertised as a safe drug. Within a few years, about 10 000 babies were born without limbs worldwide. Today, after about half a century, we are coming to realize that the



Phocomelia or "seal limbs"- effect on children of mothers taking thalidomide during pregnancy.

¹ WHO – Children's environmental health – <http://www.who.int/ceh/en/>

² WHO Indoor air pollution and health – <http://www.who.int/mediacentre/factsheets/fs292/en/index.html>

³ ILO The end of child labour: Within reach <http://www.ilo.org/ippecinfo/>

Highlights

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Children being tested for blood lead levels in Indonesia.
(Photo Credit: Budi Haryanto)

thalidomide tragedy was not an exception but a warning. Several chemicals (lead, pesticides, mercury etc.) have well-documented selective adverse effects on growing children. These chemicals produce more severe and lasting effects on children than adults with similar exposure levels. Children are especially at risk of exposure to the approximately 15,000 high production-volume chemicals produced worldwide and that have the potential to be most widely disseminated in the environment – nearly all of them developed in the past 50 years. These chemicals include such neurotoxic substances such as lead, solvents, mercury, pesticides and polychlorinated biphenyls (PCBs). Fewer than half of these chemicals have been tested for their potential toxicity, and fewer still for their possible developmental toxicity to fetuses, infants and children. Increasingly, it has come to be understood that children's exposure to these chemicals have contributed to changing patterns of paediatric disease and especially to the increasing incidence of certain chronic diseases in children.

In many developing countries, the water supply, sanitation and other factors are managed by the local governments, such as municipalities or other local bodies. These agencies should be made aware of children's environmental health issues and encouraged to develop and support the community level initiatives to reduce environmental health threats from water, sanitation and indoor and outdoor air pollution. Parents, teachers and paediatricians are important stake-holders with an influence on awareness and action. Education, regulation, use of cleaner fuels and the reduction of environmental tobacco smoke are some specific actions required. Following are some of the examples of initiatives taken to protect children's health from environmental threats.

Lead-free gasoline almost universal in SEAR countries: By the end of 2008, the remaining countries of

the world are expected phase out lead from gasoline.⁴ Among the South-East Asia Region (SEAR) countries, Bangladesh, Bhutan, Indonesia, India, Maldives, Nepal, Sri Lanka and Thailand have phased out lead from gasoline. Other SEAR countries are expected to do so by end of 2008. Lead, introduced as anti-knock agent in gasoline in the 1920s, became the biggest source of a toxic substance that selectively damages brains and weakens nervous systems of children. The United Nations Environment Programme (UNEP), through support and partnership with governments, industry, civil society and international organizations, has been able to phase out lead from gasoline in about 90% of countries of the world in a span of 25 years.

Child Labour in hazardous industries in downward trend: The latest ILO report shows about 26% reduction in child labour in the hazardous industries between 2002 and 2004. ILO's International Programme on Elimination of Child Labour (IPEC) is the world's largest single programme aiming to eliminate child labour, and was started in 1992. After a decade of joint efforts with governments, employers, trade unions and NGOs, the results are now very encouraging.

Safe Water System (SWS) use on the rise: About 100 million people from developing countries of the world are expected to use this system by the end of 2007. The SWS is a simple technique to provide families with the means to treat their drinking water at the point-of-use – by adding



Safe Water Treatment: treating water in SWS container with Safewat solution. (Photo credit WHO/Pierre Viro)

⁴ UNEP - Let's make leaded gasoline history together - 2 years & 21 countries to go – www.unep.org/pcfv/PDF/Brochurelead.pdf

dilute sodium hypochlorite bleach – and the means for them to store treated drinking water safely – in a narrow-mouthed, lidded vessel with a spigot that can be used to collect, transport, disinfect and store drinking water in the home. The SWS is an international partnership between USAID, WHO, UNICEF and many other international agencies, which aims to reduce diarrhoeal diseases in children under five years old and other vulnerable populations. The SWS uses local resources, typically involves public-private partnerships and a market-based approach, with strong NGO involvement, and employs community mobilization and social marketing approaches.

While overall child mortality declined by 10 percent in the 1990s, much remains to be done to protect children from the myriad environmental threats to their health. Reducing long-term threats requires that underlying risk factors be addressed. Over the past 15 years, international, regional and national attention has focused on environmental hazards' effect on children's health. Efforts now need to be made to measure these risks; build and strengthen community, national, regional, and international coalitions to address the problem; and develop policies and programmes to prevent and mitigate environmental hazards for children worldwide.

SDE News

Environment and Health Ministers pledge intensified collaboration



The first meeting of the Ministerial Regional Forum on Environment and Health for Southeast and East Asian Countries was held on 9 August 2007 in Bangkok, Thailand. Coordinated by WHO (WPRO and SEARO) and UNEP, hosted by the Royal Thai

Government and graciously inaugurated by Her Royal Highness, Princess Chulabhorn Mahidol, the gathering provided visibility and much-needed attention to the growing health concerns hastened by a degrading global physical environment. Ministers of Health and Environment and their high-level officials from 14 countries⁵ of South-East and East Asia attended the meeting, which agreed on a Charter of the Regional Forum for Environment and Health, and a Bangkok Declaration on Environment and Health with the focus of intent to redouble intersectoral effort on six key areas of environmental health concerns⁶, and consequently the achievement of the MDGs. These will provide a mechanism for sharing knowledge and experiences, improve policy and regulatory frameworks at the national and regional levels, and promote implementation of integrated environmental health strategies and regulations.

Dr Samlee Plianbangchang, Regional Director of WHO/SEAR, Dr Shigeru Omi, Regional Director of WHO/WPR,

and Dr Surendra Shrestha, UNEP Regional Director for Asia and the Pacific Region made the keynote introductions to the meeting. Their messages stressed the increasing complexities arising out of industrialization, and the responsibilities of the health and environment sectors to address the issues through enhancing sector capacities, promoting intersectoral cooperation and coordination and harmonizing intersectoral policies.

The Charter and Declaration arising out of this meeting provide the policy basis for WHO, UNEP and other development agencies to work with national governments to synergize action and bring harmony to the many separate but related projects in participating countries. A press conference was organized by WHO and UNEP on 9 August 2007 and a joint press release was issued.

The Second Ministerial Regional Forum has been planned in 2010 for review of the progress in the implementation of the regional charter.

More details available at the websites http://www.searo.who.int/en/Section23/Section1321_13470.htm, http://www.wpro.who.int/sites/rf_hse/home.htm and <http://www.rrcap.unep.org/envhealth/>. Contact persons for the event are Dr Abdul Sattar Yoosuf, WHO/SEARO (yoosufa@searo.who.int), Dr Hisashi Ogawa, WHO/WPRO (OGAWAH@wpro.who.int) or Mr Mylvakanam Iyngara, UNEP (Mylvakanam.Iyngararasan@rrcap.unep.org).

Regional Workshop on Safe Water Systems recommends scale-up in regional countries

A Regional Seminar on Safe Water System was organized by WHO/SEAR in collaboration with the Bangladesh Government in Dhaka, from 20-21 August 2007. The seminar increased the understanding of and motivation for implementing Safe Water System (SWS) in urban high-

⁵ Brunei Darussalam, Cambodia, China, Indonesia, Japan, The Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, the Philippines, the Republic of Korea, Singapore, Thailand and Viet Nam.

⁶ Air quality; water, sanitation and hygiene; solid and hazardous wastes; toxic chemicals and hazardous substances; climate and ecosystems changes; and contingency planning, response to environmental emergencies.

risk settlements and raised awareness about potential health benefits of Household Water Treatment and Safe Storage (HWTS). A total of 40 officials working in various sectors such as water supply and sanitation, water quality monitoring and environmental health, and representatives from development agencies and leading NGOs operating in the water and sanitation sector from 10 SEAR countries participated in the seminar.

Participants also visited two slum areas where SWS has been piloted to gain first-hand information on the benefits/constraints on SWS. The seminar concluded that the countries where SWS is initiated (Nepal, Bangladesh and Myanmar) will look into scaling up SWS or other household water treatment and safe storage projects through sustainable approaches. Remaining countries (Bhutan, India, Sri Lanka, Indonesia, Timor-Leste, Maldives, and Thailand) with technical support from WHO will initiate pilot projects especially in vulnerable populations where there is no proper water supply and water-borne diseases are rampant. (for more information, please contact Andrew Trevett at trevetta@searo.who.int).

Health and Human-Rights Seminar initiates awareness on health and environment linkages

A Regional Seminar on the Human-Rights Based Approaches in Health and Environment was organized by WHO/SEARO in Bangkok, Thailand from 20-21 August 2007. The seminar examined the ways in which international organizations, civil society groups and governments of regional countries employ human rights arguments to advocate for public health goals, such as a cleaner, safer and healthier environment. Forty-five participants comprising officials from national ministries of health, environment and justice of nine SEAR countries, members of several national human rights commissions, non-governmental organizations, and UN agency experts from ESCAP, OHCHR, UNICEF and UNDP participated.

Discussions and dialogue exposed the participants to approaches for assessing the effectiveness of national policy applications and ways to integrate health rights values into national health policy and programming. UN agencies, regional human rights commissions and non-governmental organizations presented case studies of their activities in the field. (for more information, please contact Mr Samuli Seppanen seppanens@searo.who.int)

EH News

Maldives UN Country Team deploys Human Rights Advisor

The UN Resident Coordinator in the Maldives, Mr Patrice Coeur-Bizot, announced the deployment of a Human Rights Adviser to the UN Country Team (UNCT) in the Maldives, for an initial period of 6-12 months. Working from the Office of the UN Resident Coordinator, he would provide support to UNCT in integrating human rights into the UN's work at the country level and would be working with relevant government ministries and the Human Rights Commission of Maldives in advancing human rights awareness and understanding. This deployment is supported by UNDP, UNICEF and UNFPA in Maldives and the Office of the Human Rights (OHCHR). Details available in UN Press Release dated 18 July 2007.

World Water Week celebrated

The 2007 World Water Week was organized from August 12-18 in Stockholm, in which 2500 top experts gathered to chart water sustainability initiatives to improve lives and protect the environment. The conference, with the theme of "Progress and Prospects on Water: Striving for Sustainability in a Changing World," was held at the Stockholm City Conference Centre. Leading professionals from business, government, water management, science, intergovernmental organizations, NGOs, training institutes and United Nations agencies participated. Over 140

organizations were involved as co-conveners of the event together with the Stockholm International Water Institute (SIWI). More details available at the website www.worldwaterweek.org.

Marking World Water Week 2007, SEARO organized a presentation on "The Health Impacts of Consuming Food Produce Grown from Contaminated Water" on 16 July 2007 for RO staff and WR India staff. The presentation was done by Mr Ravi Aggarwal, Director of Toxics Link, and is a report based on an extensive study conducted by Toxics Link, New Delhi and University of Sussex, London to determine the levels of heavy metals in wastewater, soil and food crops over the last three years in peri-urban areas of Varanasi. An unambiguous relationship between heavy metals contamination in food crops and its source in wastewater emanating from industries, treatment plants and municipal and domestic sources has been established. A following community-based health survey also revealed that health problems associated with heavy metals are on the increase in certain affected areas. Dr Veena Khalra, Head of Pediatrics, All India Institute of Medical Sciences, MoHFW, Government of India and Dr Sengupta, Director, CPCB, Ministry of Environment and Forests, Government of India were invited as resources persons for the discussion.

Discussions centered on the development of preventive interventions, the impact of heavy metals on children and health outreach activities to address the impacts of consuming fresh produce contaminated with heavy metals in urban and peri-urban areas.

Visits and Missions

The second International Conference on Occupational Health Nursing was held in Bangkok from 23 to 27 August 2007. The theme of the conference was Alliance for Promoting Quality of Work Life: Challenges in Occupational Health, Safety, and Environment". The

Conference was organized by the Faculty of Public Health, Mahidol University (WHO Collaborating Centre on Occupational Health). Dr Habibullah Saiyed represented SEARO in the meeting and delivered a keynote presentation on "Technology Development Major Issue in Occupational Safety and Health in SEAR Countries".

Upcoming events

- WHO Inter-country Workshop on Institutional Collaboration for Arsenic Mitigation, 11-13 September 2007, Kolkata, India. For details, contact Ms Payden at Payden@searo.who.int.
- Bi-regional Workshop on Strengthening Occupational Health and Safety, 11-13 November 2007, Kuala Lumpur, Malaysia. For details, contact Dr Habibullah Saiyed at saiyedh@searo.who.int.
- FAO/WHO Joint Meeting on Pesticide Management, 22-27 October 2007, Rome, Italy. Details available at <http://www.fao.org/ag/AGP/AGPP/Pesticid/n.htm> and http://www.fao.org/ag/AGP/AGPP/Pesticid/Manage/Mana_H.htm

Publications and Learning Materials

Principles for Evaluating Health Risks in Children Associated with Exposure to Chemicals

On 27th July 2007, WHO released its first ever report highlighting children's special susceptibility to harmful chemical exposures at different periods of their growth.

This new volume of the Environmental Health Criteria 237, entitled *Principles for Evaluating Health Risks in Children Associated with Exposure to Chemicals*, is available online at <http://www.who.int/ipcs/publications/ehc/ehc237.pdf>. The scientific principles proposed in the document for evaluating environmental health risks in children will help the health sector, researchers and policy-makers to protect children of all ages through improved risk assessments, appropriate interventions and focused research to become healthy adults.

Children's environmental health indicators newsletter (CEHI)

The CEHI newsletter has been created by WHO/HQ to engage partners with the Global Initiative on children's environmental health indicators and aims at providing up-to-date information on relevant global, regional and national indicator activities. For more details, visit the

website <http://www.who.int/ceh/newsletter/en/index.html>.



Brochure prepared for the Children's World Summit in Japan

This brochure provides key messages for children, adapted from World Health Day 2003 - Shape the Future of Life: Healthy Environments for Children. The electronic version of the brochure is available at <http://www.who.int/ceh/publications/childrenflyerA4.pdf>.



Children's health and the environment: A global perspective-A resource manual for the health sector

This ground-breaking manual, published by WHO in 2005, incorporates both developing and industrialized country outlooks to give a comprehensive international account of how environmental quality can influence the health and development of children from conception through adolescence. Details are available at the website <http://www.who.int/ceh/publications/handbook/en/index.html>

Corrigendum

In the July Issue of EH update, the SEAR population was inadvertently mentioned as 2.5 billion in page 2, last para. It should read as 1.7 billion.

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