

# Indoor air pollution: 4000 deaths a day must no longer be ignored

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The United Nations Commission for Sustainable Development may not appear, at first sight, to be a major playing field for public health. Nevertheless, when environment, energy and development ministers from around the world assembled in New York on 1–12 May 2006 for the Commission's 14th session, health concerns in relation to energy production and consumption emerged as a prominent argument in discussions on energy for sustainable development. In his opening speech, Secretary General Kofi Annan called attention to the fact that indoor air pollution from solid fuel use is one of the world's ten major causes of mortality and morbidity.<sup>1</sup>

More than half the world's population — 3.2 billion people — still burn coal and biomass fuels such as wood, dung and crop residues to meet their basic energy needs.<sup>2</sup> Indoor air pollution from burning these solid fuels on open fires or traditional stoves comprises a variety of health-damaging pollutants including particles, carbon monoxide and different carcinogens<sup>3</sup> and is the cause of a public health tragedy. Every year, 1.5 million people die from inhaling indoor pollutants that often exceed accepted guideline limits for outdoor air: in the case of fine particles, the limit is exceeded by 100 times or more.<sup>4,5</sup> Children and women are disproportionately affected, with nearly 800 000 deaths attributable to indoor air pollution occurring among children under five years of age and more than 500 000 such deaths occurring among women.<sup>5</sup>

Preventing deaths caused by polluted indoor air must no longer be delayed. In the short term, stoves that burn more cleanly and use fuel more efficiently, ventilation that is improved through smoke hoods or enlarged spaces in the eaves, and changes in housing design can substantially reduce pollutant levels. In the longer term, the use of cleaner fuels, such as liquefied petroleum gas, biogas or other modern biofuels,

can eliminate the current indoor air pollution epidemic.

Improving access to modern energy services — including electricity and modern cooking fuels and appliances — is essential if the world is to achieve its Millennium Development Goals (MDGs). The United Nations Millennium Project recommends an additional MDG target “to halve, by 2015, the number of people without effective access to modern cooking fuels, and to make improved cooking stoves widely available”.<sup>6</sup> The challenge in working towards this target is enormous: every day for the next 10 years, 485 000 people will need to gain access to cleaner fuels or improved stoves. Even if the target is realized, 1.5 billion people will still be left on the sidelines of development in 2015.<sup>5</sup>

“Effective solutions exist and the economic case for taking practical solutions to scale is just as strong as the humanitarian case”, emphasized the late Dr LEE Jong-wook, Director-General of WHO. For example, achieving the above-mentioned MDG target by providing people with access to liquefied petroleum gas would produce a seven-fold economic return on investment.<sup>5</sup>

Two major constraints need to be overcome. The sources and effects of indoor air pollution fall under the jurisdiction of several government ministries, including energy, development, health and environment, so these sectors need to work together to implement solutions. In addition, substantial investments by governments, donors and the private sector are needed to scale up access to modern energy services. In particular, decision-makers will need to provide financial support towards social marketing and the development of appropriate technologies and infrastructure. Microcredit schemes and, where applicable, targeted subsidies for suppliers as well as users will be essential to overcome high initial costs.

Does the health sector have a role to play? Indeed, health concerns must drive the environment and energy agenda. In industrialized countries, this approach has produced remarkable results as illustrated, for example, by steadily decreasing outdoor air pollution levels in cities. The case is even stronger in developing countries, where the goal to prevent death and disease among children and their mothers can be a catalyst for efforts towards ensuring cleaner household energy practices. While the implementation of technical solutions calls for action outside the health sector, all sectors can and should make good use of health concerns to support their arguments.

At the local level, health professionals can enquire about the history of disease and recommend that root causes be tackled to the greatest possible extent. Behavioural changes, such as keeping children at a safe distance from the stove, are unlikely to bring about large exposure reductions but they represent simple, low-cost measures that form part of a menu of options and are important supporting measures for all interventions. At the national level, the dialogue about development concerns through Poverty Reduction Strategy Papers or National Sustainable Development Plans involves all sectors. In this context, health officials can make sure that 4000 deaths a day from indoor air pollution are no longer ignored and that health becomes one of the key parameters in developing and implementing appropriate interventions and policies. ■

## References

Web version only, available at: <http://www.who.int/bulletin>

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