

Healthy communities Addressing vulnerability and environmental health

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Air pollution in South Africa is a serious environmental health threat, particularly in urban and peri-urban metropolitan areas, but also in low income settlements where indoor air pollution from domestic fuel use is a concern.

A healthy population is an important prerequisite for economic growth and competitiveness. The Council for Scientific and Industrial Research (CSIR) seeks to address problems associated with environmental health risks and has a special interest in alleviating adverse health effects among vulnerable communities.

In the first of two recent research projects, the World Health Organisation's 'Healthy Municipalities' framework was reviewed and is being implemented as a tool to bring together all stakeholders, including the community, to prioritise health promotion activities, forge multi-sectoral partnerships and maintain healthy environments for all. The second project developed a series of questions to consider population exposure to air pollution, by finding out which communities in an area were most vulnerable based on health and socio-economic factors.

'Healthy Municipalities'

Exposure to high concentrations of pollution is not the only factor that influences a community's total health risk. In an effort to understand and address other factors, CSIR Environmental Health Researchers carried out a household survey in a low-income community in eMbalenhle. The survey assessed the vulnerability of low-income communities to environmental pollution by finding associations between so-called vulnerability factors.

These included, amongst others, nutrition, type of dwelling and environmentally related health outcomes. This survey's results have highlighted the need for novel methods that can more adequately address vulnerability. Following preliminary analysis of the eMbalenhle survey data, public meetings,



which included important stakeholders, were held to report on survey findings. Community perceptions about their vulnerability status were discussed to assist with identifying areas of concern regarding coping and adaptation, their strengths (or assets) and areas of need. They also identified ways in which they could optimise the use of existing community assets and facilities towards vulnerability reduction.

A process is currently underway to establish a committee to work towards a 'healthy municipality'. This committee will play an essential role in ensuring effective implementation of acceptable interventions in the community. Strategic planning and a systematic approach, together with sustained collaboration between government, industry, the local community, as well as the scientific community, are seen as essential for successful implementation of acceptable vulnerability interventions.

Air Quality Managers: Prioritise vulnerable communities

According to the National Environmental Management: Air Quality Act No 39 of 2004, all municipalities are required to develop and implement an Air Quality Management Plan.

These plans identify prioritised strategies independent of sufficient consideration of

population vulnerability factors. This is seen as a major shortcoming, particularly in South Africa where resources, funding and capacity are scarce, and many vulnerable communities live on marginalised land. While ambient air pollution levels in excess of prescribed health standards are unacceptable, the exceedances are even more serious in areas where people live.

To help figure out which communities needed the most help urgently, five main indicator categories were identified and specific questions for each were developed.

Input data (ward level) comes from the South African census database, as well as health data (for example, prevalence of respiratory diseases and HIV/Aids), air quality monitoring records and emission inventory information. Communities (wards) are then ranked using a specially designed and appropriate scoring system.

The key is to find out which community is most susceptible to high ambient air pollution levels and at the same time, is most vulnerable and struggling to cope. Then, focused management strategies and interventions to reduce vulnerability and more importantly the incidence of adverse health impacts, may be developed. ■