A quarter of the global burden of disease is caused by modifiable environmental factors. This proportion is highest in developing countries, where people face multiple burdens of ill health.

South Africa’s mining, agriculture and industrial sectors have imposed a legacy of environmental contamination and degradation that contributes to the persistence of: unintentional poisoning due to poor pesticide management; severe degradation of the local environment; elevated levels of mercury in water sources; reduced pH of surface water making it unsuitable for recreational use and unable to support aquatic life and vegetation; and exposure of informal settlements to toxic chemical substances from polluting industries.

Despite poor areas now having better housing construction, improved water supplies, sanitation and waste removal, electricity supplies and paved roads, many households remain without access to key environmental health services. Some housing developments have not been aligned with the WHO definition of healthy housing, in that: housing is developed close to mine dumps; there is little regard for the need for privacy in and around housing; open space, sporting and recreational facilities, libraries, shopping and education facilities, public transport, and safe pedestrian and cycling infrastructure are limited.

The greatest health burden associated with the effects of climate change will be borne by impoverished communities, underscoring the existing weaknesses in public health systems. Predicted effects on health include: injuries and fatalities related to severe weather events; infectious diseases; water and food contamination; allergic reactions; respiratory and cardiovascular disease; malnutrition; and mental ill health and stress.

Environmental Health Practitioners (EHPs) have a key role to play in resolving environmental challenges and preventing disease of environmental origin. However EHPs in South Africa are currently not entirely fulfilling their potential, due to:

- confusion and inefficiency caused by fragmented legislation guiding their work;
- EHPs having to be familiar with the plethora of Acts, Regulations and laws promulgated across a range of sections;
» a shortage of EHPs in relation to the WHO guidelines’ level, resulting in unequal service delivery.

The training of EHPs in South Africa must be consistently reviewed and appropriately adapted, with the health sector leading the definition of their changing role. The Professional Board for Environmental Health Practitioners recently approved the curriculum for a Bachelor of Science degree in Environmental Health, scheduled for implementation in 2014.

Inter-sectoral action (ISA) is an important, promising strategy for resolving environmental health challenges, and involves all relevant sectors of society, including the private sector, in developing systemic solutions to prevent disease. ISA can ensure that: human settlements and housing are planned, designed and constructed to optimise health and prevent acute and chronic diseases; industries are located, designed and controlled to minimise public exposure to pollutants; the drainage of toxic water from mining sites is curtailed; and water supply and sanitation standards and targets will reduce diarrhoeal diseases.

Health Impact Assessments (HIA) are tools for monitoring the health impacts of economic sector policies, plans and projects and for actively promoting health by judging the potential health effects of a policy, programme or project on a population, particularly vulnerable or disadvantaged groups, and for choosing alternatives and improvements to prevent disease and/or injury. The South African National Department of Health has produced guidelines on Environmental Health Impact Assessment, although these are not yet in widespread use at local level.

Research, monitoring and surveillance are fundamental if EHPs are to fulfill their primary function of properly identifying, assessing and managing environmental health risks.

Environmental health monitoring programmes should be implemented in cities, districts and neighbourhoods. Research should focus on estimating how various social and environmental factors contribute to urban health problems, identifying health opportunities in key development sectors, and supporting decision-making.