

ENVIRONMENT

Healthy planet, healthy people

JO-ANNE MIRA SEWAL
Dept of Life Sciences
University of the West Indies



LAST week's article looked at World Health Day, where this year's theme focused on the safety of health institutions in the event of natural disasters.

However, natural disasters are not the only reason that warrant visits to the hospital. Many human actions cause conditions in the environment unsuitable for human existence or expose us to harmful effects in the environment. Many of these are familiar to us, for example, air and water pollution. However, I would like to take this opportunity to highlight some not so well known environmental conditions which eventually affects our health.

We are quite familiar with some forms of outdoor pollution that cause health problems, for example, the emission of greenhouses gases and respiratory diseases. But in some countries you don't have to be outdoors to be susceptible to the effects of this pollution. Indoor air pollution accounts for approximately 27% of the global burden of disease. This may not seem like much but you should take into consideration that over 3 billion people depend on solid fuels like coal and biomass fuels like dung and wood to cook and heat their homes. These fuels are also usually burnt on traditional open stoves so that the members of the household are exposed to concentrated levels of pollutants on a daily basis.

Radiation is another component in our environment that can lead to detri-



mental health conditions to humans. We are all too familiar with the images of nuclear plants and the horrific mutations associated with radiation exposure, but although some of us may not live in a country where nuclear energy is used we are all exposed to radiation on a daily

basis. Natural radioactive sources are found all around our environment: in the soil, air and water in the form of ionizing radiation.

We are also exposed to cosmic radiation which is basically a result of the interaction between the earth's atmos-

phere and particles in space. The threat comes from neutrons which are subatomic particles, which in cosmic radiation are of differing energy levels, and when compared to X-rays or gamma rays, they actually cause more damage per dose unit. This does not mean we should shut ourselves inside; after all, this has been occurring for millennia, and we are provided shelter by the earth's atmosphere. However, as we reach high altitudes, like in aeroplanes we are exposed to higher levels of cosmic radiation.

We all know plants need sunlight but it is also a necessity for humans as well. Part of the electromagnetic spectrum emitted by the sun consists of ultraviolet (UV) radiation, where those in the ranges (280-315 nanometres) (UVB) and (315-400 nanometres) (UVA), which are both important to human health in the production of vitamin D. However, overexposure can result in acute and chronic skin, eye and immune system diseases.

Then there is radon which is a radioactive gas is given off by the decay of radium. This chemical is found naturally in some springs and hot springs, and the can also accumulate in confined areas like basements. Exposure to this gas can cause lung cancer and is a leading cause of the disease after cigarette smoking.

We also add to the environment harmful chemicals that eventually harm our health as well, either directly or sometimes as a by-product of manufacturing processes not only affect the health of the environment but adversely affects human health as well. Some of these chemicals include pesticides and herbicides used to control pests and weed respectively in our agricultural sector.

During application, some of these chemicals escape into the atmosphere while the rest remain on or in the crops. However, harvesting before time means that not all of the chemicals have had a chance to metabolise into safe compounds and be expelled by the plant. Some veterinary drugs or growth enhancers in meat and poultry industry have the same effect.

Everyday in the news we are informed of increased cases of diseases such as, cancer, asthma, lower respiratory infections, cardiovascular diseases and musculoskeletal diseases. Most of these, even poisonings and drowning have been accounted for as a result of the current state of our environment.

This claim should not be dismissed as 85 out of 102 categories of diseases and injuries listed in the World Health report put out by the World Health Organisation (WHO), are influenced by environmental factors. All this shows that the health of our environment ultimately reflects the health of our planet.