

cause a broad spectrum of deleterious human health and ecological effects. Heavy metals which are commonly measured in the environment include antimony (Sb), cadmium (Cd), chromium (Cr), copper (Cu), iron (Fe), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), tin (Sn), vanadium (V), and zinc (Zn), but not all of these metals are of equal potential hazard. Such parameters as toxicity, susceptibility to bioaccumulation, widespread commercial use, and likelihood of entry into the environment in harmful quantities vary from metal to metal. Unfortunately at the present time, there is no objective procedure for setting priorities or ranking heavy metals in terms of their harmfulness in the natural environment.

Heavy metals are introduced into the atmosphere by various natural and anthropogenic sources. Natural sources include volcanoes, wind-blown dust, forest fires, vegetation, and the oceans. Man contributes to the atmospheric burden of heavy metals through combustion of fossil fuels, mining, smelting and refining of metals, incineration of liquid and solid wastes, and various modes of transportation.

Methods for monitoring heavy metals released into the atmosphere can be divided into two broad categories. These are: monitoring of ambient air concentrations and monitoring of deposition. In turn, deposition measurements for airborne heavy metals may be divided into two classes -- wet and dry. Problems in monitoring specific heavy metals both for ambient air concentrations and deposition is outlined in more detail in MOI Report 2F-I.

Conclusions

The major thrust of this report is acidic deposition and emissions which contribute to such deposition. Oxidants (for which ozone is the