



5. Inaugural Session

The inaugural session was held in the evening of 31 May 2005. The session was officiated by Dr NK Ganguly, Indian Council of Medical Research (ICMR); Dr Paramita Sudharto, WHO; Dr Kashyap, Simla Medical College, Dr Vikas Kapil, Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, Georgia, USA, and Dr Bela Shah, Non Communicable Diseases Division, Indian Council of Medical Research (ICMR).

Dr Bela Shah welcomed the participants to this first of its kind inter-agency initiative where an effort had been made to gather experts from all the stakeholders in the Region. Such an effort was very relevant today since many of the environmental exposures to metals are now becoming multi-country with contaminations crossing borders, as in the case of arsenic and, in other instances, similar exposures being reported with socio-cultural similarities in the Region. She then invited Dr Ganguly to explain the objectives of the workshop.

Dr Ganguly welcomed the participants. He stated that the huge coal belt in India is showing arsenic contamination of water while lead is being released into the environment by smelters and jewellery manufacturing processes. Newer technologies including radio labelling and isotope analysis of the particulate matter should be used to trace the source of these pollutants. Nutrition is an important consideration since both iron and zinc have very strong interactions with lead. Cadmium contamination is an important issue in the rice-growing areas of South-East Asia. Even though animal data are available, clinical data are not so readily available. Infertility is also on the rise in these areas and cadmium is possibly one of the causes. Mercury is also becoming important as an environmental toxin by entering the food chain through fishes breeding in contaminated waters. The relation of these metals to malabsorption, which is very rampant in the South-East Asia Region, also needs to be studied in detail.

Dr Paramita Sudharto welcomed the participants on behalf of WHO. She was happy to note that this meeting represented participation of experts from 12 countries from all over the world. Considering the available inputs from these countries, it was hoped that the working groups would come up with very strong and concise recommendations which can be put up to the regional committees and subsequently to the World Health Assembly.

Dr Vikas Kapil also extended a warm welcome to the participants. He mentioned that this workshop, an activity conducted in association with the Indo-U.S. Collaboration in Environmental and Occupational Health, was initially



conceptualized as a workshop on arsenic but later the scope was expanded to cover more metals which are rapidly becoming a regional concern. He hoped that the experts invited from outside the Region would provide valuable inputs for formulating guidelines, which can be used to develop action plans on return to their countries.

This was followed by introduction of the participants.

6. Business Session

6.1 Session 1: Lead

Dr Vikas Kapil, Senior Medical Officer, Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, Georgia, USA, chaired the first session and introduced the speakers and moderated the panel.

Health Effects and Epidemiology of Lead

Dr Kathy Shea, Professor, University of North Carolina and Duke University, USA

An overview of the major health effects of lead was reviewed with emphasis on the neurodevelopmental toxicities which affect the most vulnerable individuals, children (from fetal life through early brain development). The sources and epidemiology of South Asia were discussed and it was noted that there is no systematic biomonitoring for population lead exposure in the Region. Studies available throughout the Region show that children and women of child-bearing age, have lead levels that are on average above the CDC/WHO level of concern. According to WHO (2004), 12 million children worldwide suffer from mental retardation due to lead exposure. The experience in USA was presented as a “case study” in science and policy actions related to prevention of childhood lead poisoning. It was suggested that this experience could provide inputs to the policy and scientific efforts in the Region to jumpstart prevention efforts and move forward quickly.

Toxicology and Analytical Issues of Lead

Dr Donald Smith, Professor, University of California, Santa Cruz, California, USA

The toxicodynamics of lead in the human body were discussed and again the increased vulnerability of children was highlighted. Various aspects of lead metabolism as they apply to biomonitoring were discussed. A critical issue, especially at low dose exposures, is that maternal plasma lead levels are better