

Review

Fluoride Poisoning and Medical Geology

Manas Joardar

THE PRESENCE OF arsenic over a certain level in underground water used for drinking poses great health hazards, has been discussed quite widely during the last few decades. Mitigation of the menace, specially using low-cost measures, is also being experimented. Arsenic poisoning is no longer an issue unfamiliar to the people in general. But the fact that drinking water when contains fluoride above a certain level may endanger public health, still remains mostly unknown. Not quite long ago, fluoride ion concentration in drinking water below 10 mg/litre was considered desirable for making enamel of teeth much harder. Addition of extra-fluoride (fluoridation), in the public drinking water supply system was even encouraged. It was discovered subsequently that drinking water contaminated with high doses of fluoride causes fluorosis, a disease that harms the teeth and the bones and brings about other serious physical disorders. The upper limit of fluoride in drinking water specified by the WHO for tropical countries is 1.5 mg/litre. India has made it 1.0. Dry zones of India with meager rainfall have ground water heavily contaminated with fluoride. Little wonder, people living there are the worst victims of fluorosis. In the booklet under review "Fluoride Bishon"* (Fluoride Poisoning) written in lucid Bengali, Prof. Manindra Narayan Majumdar, a former Chemistry professor of the Kalyani University, makes the round of the subject including its origin and long standing misconceptions. Well over seventy million people spread over nineteen Indian states are drinking underground water with fluoride content above 1.5 mg/litre. Globally, the number has crossed 200 million long back. How the hapless villagers are being compelled to consume this deadly poison has been discussed by the author along with the symptoms of the inescapable diseases they eventually fall victim of. Danger of intake of the dreadful contaminants, both arsenic and fluoride, present in underground drinking water, can be avoided to a large extent by using purified surface water instead. But availability and affordability are important considerations which a sensible public support system only could readily provide. Removal techniques of the poison have not been discussed. That of course, would have increased the volume of the booklet. For assessing the extent of the menace, Prof Majumdar travelled extensively along the villages of the country. Objective of this stupendous task undertaken by him, is, needless to say, to expose the catastrophe caused by drinking water poisoning which—as people have witnessed in case of arsenic contamination—people in power prefer to sweep under the carpet. Publication of the present booklet is a commendable public awakening exercise and deserves wide publicity. Inclusion of colored maps of fluoride endemic regions of West Bengal, India and the world and pictures of fluorosis victims are valuable assets of the book. □□□

*FLOURIDE BISHON AND MEDICAL GEOLOGY

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