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HEAVY METALS CONTAMINATIONS IN IRRIGRATED VEGATABLES, SOILS, RIVER WATER: A COMPRESSIVE STUDY CHILMARI, KURIGRAM, BANGLADESH

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ABSTRACT

Metal contaminations and exposures are recognized as a risk to human health because of consumption of elements through vegetables and environment.Fourteen composite samples include five different vegetables, five soils and four Brahmaputra River water collected from the Chilmari, Kurigram, Bangladesh were digested and examined, in this study.Quantifications of heavy metals from the composite specimens were made using Atomic Absorption Spectrophotometer methods (AAS) against standard calibration plot.The frequency of metals were observed in the order of soil > vegetable > waters.Soils samples provided higher concentration than vegetables and water specimens for nine metals such as Pb, Cd, Cr, Cu, Fe, Mn, Zn, Ca and Mg.On the other hand, increasing concentrations of Co, Ni, Na and K were observed in vegetables compared to soils and waters.The lowest concentrations of metals were received from water samples.The Fe, Cr, Ni and Mn concentrations exceeded the approved admissible levels in vegetables and/ or soils specimens at least 1 to 2 orders of magnitude and rests were within permissible limit.

KEYWORDS: Heavy Metals, Irrigated Vegetables, River Waters, Soils