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An Assessment of Pollutants and Heavy Metal Toxicity in Livestock Associated with The Kshipra River

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ABSTRACT

The Kshipra River is an important water source for agriculture, domestic use, and livestock in many surrounding rural areas. However, increasing urbanization, agricultural runoff, and industrial discharge have led to rising levels of pollutants in the river. These pollutants often contain heavy metals such as lead, cadmium, mercury, and arsenic, which can accumulate in water, soil, and vegetation. Livestock that depend on river water for drinking or graze on contaminated fodder near the riverbanks are particularly vulnerable to heavy metal exposure. Over time, these toxic metals can accumulate in animal tissues, leading to various health problems including reduced growth, reproductive disorders, weakened immunity, and organ damage. Such contamination not only affects the health and productivity of livestock but may also pose serious risks to human health through the consumption of animal products like milk and meat. Therefore, assessing the level of pollutants and heavy metal toxicity in livestock associated with the Kshipra River is essential for understanding the environmental and public health implications. This assessment helps identify contamination sources, evaluate the extent of exposure, and develop strategies for pollution control and livestock health management in the affected regions.