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## Environmental contamination and biological monitoring of lead and other heavy metals in goats in Bagega, Zamfara, Nigeria

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The Zamfara State, Nigeria lead poisoning episode is one of the gold ore-processing activities which poses risk of lead poisoning of livestock, man and the environment, due to indiscriminate small-scale artisan gold mining. The purpose of this study was to evaluate the impact of heavy metals on exposed goats and their associated pathologies. Mining activities were observed while environmental contamination was determined by X-ray fluorescence (XRF) machine. The level of lead and other associated metals (cadmium, chromium, selenium and copper) were evaluated in tissue of 282 exposed goats in Bagega, and in 60 control goats using atomic absorption spectrophotometry (AAS). Active and large scale mining was on-going in Bagega community; soil lead levels around the households and ore processing sites were above acceptable levels with values ranging from 500 ppm to 2,000 ppm and 1,000 ppm to above 4,000 ppm respectively. Blood levels in exposed goats for lead, cadmium, chromium, selenium and copper were  $225.8 \pm 157.3$  µg/dl,  $35.9 \pm 10.5$  µg/dl,  $55.7 \pm 23.5$  µg/dl,  $823.9 \pm 277.0$  µg/dl and  $130.8 \pm 41.3$  µg/dl, respectively and were significantly higher than in corresponding control goats. The blood lead levels were classified as severe (67.0%), moderate (15.2%) and acceptable (17.7%) in the exposed goats. Tissue lead residues were high in exposed goats (kidneys and livers). Heavy metal levels in environment tissues of exposed goats in Bagega, Zamfara State, Nigeria are hereby reported. Lead in the tissues of livestock pose public health hazard to humans, judging from the fact that goats from these affected areas are transported to other parts of the country for human consumption.

### Biography

Jagun A J has a PhD in Veterinary Pathology from the University of Ibadan, Nigeria. She is a Lecturer of Clinical Pathology in the Department of Pathology in the University of Ibadan. He has published more than 15 papers in reputed journals and has been serving as an editor of repute.

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