

# WASTE SLUDGE COMPOSITION AND POTENTIAL USE AS A FERTILIZER – A REVIEW

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Industries generate 2 billion tons of excess waste such as coal ash, phosphogypsum, red mud, lime mud and waste sludge annually. This therefore, calls for proper waste management and utilization. Recycling these wastes into agriculture sector inform of fertilizer is one sustainable utilization approach. In this review, we provide an overview of the composition of waste sludge and implications for utilization as a fertilizer. Results show that waste sludge is composed of an average; organic material (50–70%), mineral constituents (30–50%) mainly 3.4–4.0% nitrogen (N), (1–4% of inorganic carbon), 0.5–2.5% phosphorus (P), and other basic minerals. Waste sludge contained contaminants namely; adsorbable organohalogenes, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, hormones, pesticides, pharmaceuticals, surfactants and heavy metal like cadmium and lead, and pathogenic species. In conclusion, waste sludge contained a considerable amount on plant nutrients but its utilization as fertilizer requires reduction of contaminants that could pose a health threat to human health and environment.