

## Farmers' Perception, Willingness and Capacity in Utilization of Household Sewage Sludge as Organic Resources for Peri-Urban Agriculture around Jos Nigeria

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**Abstract :** Peri-urban agriculture in Jos Nigeria serves as a major means of livelihood for both urban and peri-urban poor, and constitutes huge commercial inclination with a target market that has spanned beyond Plateau State. Yet, the sustainability of this sector is threatened by intensive application of urban refuse ash contaminated with heavy metals, as a result of the highly heterogeneous materials used in ash production. Hence, this research aimed to understand the current fertilizer employed by farmers, their perception and acceptability in utilization of household sewage sludge for agricultural purposes and their capacity in mitigating risks associated with such practice. Mixed methods approach was adopted, and data collection tools used include survey questionnaire, focus group discussion with farmers, participants and field observation. The study identified that farmers maintain a complex mixture of organic and chemical fertilizers, with mixture composition that is dependent on fertilizer availability and affordability. Also, farmers have decreased the rate of utilization of urban refuse ash due to labor and increased logistic cost and are keen to utilize household sewage sludge for soil fertility improvement but are mainly constrained by accessibility of this waste product. Nevertheless, farmers near to sewage disposal points have commenced utilization of household sewage sludge for improving soil fertility. Farmers were knowledgeable on composting but find their strategic method of dewatering and sun drying more convenient. Irrigation farmers were not enthusiastic for treatment, as they desired both water and sludge. Secondly, household sewage sludge observed in the field is heterogeneous due to nearness between its disposal point and that of urban refuse, which raises concern for possible cross-contamination of pollutants and also portrays lack of extension guidance as regards to treatment and management of household sewage sludge for agricultural purposes. Hence, farmers concerns need to be addressed, particularly in providing extension advice and establishment of decentralized household sewage sludge collection centers, for continuous availability of liquid and concentrated sludge. Urgent need is also required for the Federal Government of Nigeria to increase commitment towards empowering her subsidiaries for efficient discharge of corporate responsibilities.

**Keywords :** ash, farmers, household, peri-urban, refuse, sewage, sludge, urban

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