

# Recycling and Waste Management

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## Eco-friendly approach for converting agricultural wastes to useful construction materials

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Agricultural activities have soared astronomically which resulted to massive generation of agricultural wastes. These agricultural wastes require proper handling to prevent them from constituting an environmental risk factor to human health. Agricultural wastes have been found to be good pozzolanic materials (a supplement or partial replacement for cement) in Civil engineering construction works. In most cases, they have richer chemical composition as construction materials when they are incinerated to ash. The process of their conversion to ash is purely a combustion reaction which inevitably releases large amounts of carbon monoxide and carbon dioxide into the atmosphere. These gaseous substances are very poisonous and as such are global problem. The careful handling of these dangerous gases during the process of conversion to ash has received very little attention in previous studies. Therefore, this paper recommended a simply designed system arrangement for the combustion

of the agricultural wastes to ash and provision for the conversion of the poisonous gases into substances that are of economic value to man to save the atmosphere.

### Speaker Biography

Okonkwo U N received B.Eng (Civil) from Federal University of Technology Owerri, M.Eng (Geotechnical Engineering) from Bayero University Kano and Ph.D (Geotechnical Engineering) from University of Nigeria Nsukka. He is currently a Senior Lecturer in the Department of Civil Engineering of Michael Okpara University of Agriculture Umudike as well as a consultant to Civil and Construction Engineering firms. He is also a registered Engineer by Council for Regulation of Engineering in Nigeria (COREN) and a member of American Society of Civil Engineers (ASCE). He has been teaching courses related to Soil Mechanics and Structural Foundation Engineering up to Postgraduate level for about twelve years now. He has to his credit many publications and also a reviewer as well as a member of editorial board in some reputable journals. He is happily married with three children.

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