RECYCLING OF RICE MILL WASTES IN NIGERIA


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Abstract: The rice growing States like Ebonyi (Abakalki area), Kano and Jigawa in Nigeria are faced with problems of silica rich husk disposal. The common practices are to burn openly which causes air pollution and ash production. We have developed a cheaper method to convert the rice husk into briquettes for use as cooking fuel and the ash into cement substitute which can replace cement for low cost construction. Briquettes produced mechanically were assessed for energy yield, burning characteristics, and smoke and were compared with other fuels firewood, kerosene and coal. The ash produced from burning briquettes was converted to cement substitute by mixing with calcium hydroxide and laterite. The highest binding effect of the product was obtained with 35 per cent lime and 65 per cent ash which obtained a maximum compressive strength of 2.5N/mm$^2$ at 21 days (ordinary Portland cement produces a compressive strength of 3.65N/mm$^2$). The communities accepted the products and active mobilization was started for their utilization.