

Agricultural Residues as an Alternative Source of Fibre for the Production of Paper in Kenya A Review

John Odhiambo Otieno, Treezer Nelly Okumu, Morelly Adalla, Fredrick Ogutu, Boniface Oure

Abstract

The pulp and paper industry is primarily dependent on fibrous wood for pulp and paper production. However, this over-dependence on fibrous wood poses serious environmental challenges such as the diminishing of the fibrous wood stocks, deforestation, emission of greenhouse gases, and global warming. Therefore, to mitigate these environmental challenges associated with its utilization for paper and pulp production, other sustainable raw material sources can also be considered for the production of paper and pulp. There are enormous benefits associated with the utilization of non-wood fibres as an alternative and sustainable raw materials source for the production of paper and pulp. These benefits have in the recent past prompted millers in China, India, Brazil, and the USA to consider the utilization of non-wood fibres in paper and pulp production.

In Kenya, the pulp and paper industry is very much dependent on fibrous wood for production and the industry is yet to fully embrace the utilization of nonwood fibres for paper and pulp production. Further, the dependence on fibrous wood has contributed significantly to the decline of paper pulp and paper production, deforestation, and rise in paper importations due to insufficient raw material supplies. The importation of paper and pulp products has further led to the collapse of the paper industry in Kenya. The sector stands a chance of revival and vibrancy through the utilization of the abundant agricultural residues and feedstocks lying in the agricultural fields across the country. Similar experiences elsewhere have proved that the abundance of agricultural waste can be utilized for the production of paper and pulp due to their excellent fibre content for specialty papers, and easy pulpability. The agricultural residues are therefore considered a quintessential alternative and sustainable source of raw materials for the pulp and paper industry. Moreover, their utilization will mitigate environmental impacts such as deforestation, climate change, and pollution .

Keywords: Pulp, paper, agricultural residues, non-wood biomass, Kenya

