

Biodiesel production from *Jatropha curcas* : the Nigerian and Tanzanian experiences and implications for Africa

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Abstract

Environmental and economic concerns have been driving the development of alternative green and renewable liquid fuels for transport for several years across the globe. Many African countries have joined this movement which saw the promotion of *Jatropha* for biodiesel production. The paper reviews these developments using Nigeria and Tanzania as case studies. It is clear that more than a decade of this policy campaign has yielded very limited success. It is evident that across the African landscape, *Jatropha* farmers hopes have been dashed, investments in *Jatropha* Biodiesel have failed and environmental degradation in some countries has occurred in the promotion of *Jatropha* plantations. It therefore becomes imperative to go back to the drawing board for a thorough techno-economic review. *Jatropha* clearly is unsuitable, both economically and environmentally, for biodiesel production and there is need to fund research to screen other indigenous African plants seeds for biodiesel production. There is also need to introduce Biofuels Production in higher education curricula in African countries



Biography:

Prof Idris Bugaje was educated in Nigeria and the UK where he had his PhD in Energy Engineering in 1993 from the University of Newcastle Upon Tyne. Having worked in the industry for 3 years and over 36 years in academia his current research area is Renewable Energy with focus on biofuels. He has built pilot plants for both biodiesel and bioethanol production in the past years.

Speaker Publications:

1. Haruna Ibrahim, Abdulkarim S. Ahmed, Idris M. Bugaje and Ibrahim A. Mohamed-Dabo, 2018, Product Qualities of Biodiesel Produced from a Process Intensify Pilot Plant, Chemical Science International Journal, 22(2): 1-13.
2. Moses T Yilleng, Emmanuel C Gimba, George I Ndukwe, Idris M Bugaje, David W Rooney, Haresh G Manyar, 2018. Batch to continuous photocatalytic degradation of phenol using TiO₂ and Au-Pd nanoparticles supported on TiO₂, Journal of Environmental Chemical Engineering, Vol 6, No. 5, pp 6382-6389.
3. Y.Alhassan, H.S.Pali, N.Kumar, and I.M.Bugaje, 2017. Co-liquefaction of whole *Jatropha curcas* seed and glycerol using deep eutectic solvents as catalysts, Energy, Volume 138, 1 November 2017, Pages 48-59.
4. Suleiman Saad and Idris M Bugaje, 2016, Biomass Consumption in Nigeria: Trends and Policy Issues, Journal of Agriculture and Sustainability, Vol 9 (2): 127-157
5. Haruna Ibrahim, Abdulkarim S. Ahmed, Idris M. Bugaje and Ibrahim A. Mohamed-Dabo, 2016. Transesterification of *Jatropha* Oil Devoid of Co-product, Glycerol. American Chemical Science Journal 15(4): 1-13.

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