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## Understanding Sustainable Biofuel Development: a sub-Saharan Africa Perspective

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### Abstract

Considerable effort has been put into developing sustainability assessment frameworks for biofuel production in developing countries. Nevertheless, their successful implementation remains problematic in sub-Saharan Africa. To address this challenge in this paper, through a thorough examination of academic and grey literature, repeatedly occurring sustainability aspects/issues were drawn from internationally recognised biofuel assessment frameworks. Theoretical framings that corresponded with the interlinking socio-environmental-economic qualities and issues for achieving sustainability through ethical implementation conformity (political ecology, development economics, social capital and institutional economics) were then used to inform development of a conceptual framework that could guide biofuel project implementation in sub-Saharan Africa to address complex sustainability issues. The supporting theories pursue sustainable development through, amongst others, an emphasis on the more equitable dispersal of costs and benefits through transparent networking in rural settings and the integration of contrasting viewpoints of diverse stakeholders in emerging economies.

**Keywords:** developing countries; sustainability; local communities; livelihoods; equality; sustainable biofuel development; Africa; marginalisation; social, economic; environment.

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Lindsay's research is interdisciplinary and uses theories and methods from both the natural and social sciences to understand environmental change and livelihood dynamics. She has field experience in

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Keitha Dunstan has been the Head of the School of Business at Bond University since November 2009. Prior to accepting this appointment, she had held several positions at Victoria University of Wellington, in New Zealand. She was the Head of the School of Accounting and Commercial Law and Professor of Accounting 2006 - 2009, Research Professor 2000 - 2006 and the founding Director of the Centre for Accounting, Governance and Taxation Research 2001 - 2007.

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Ian Duvenage has 20 years experience in agricultural project engineering, administration and agronomy. His expertise in these areas led to consultancy commissions in Africa. Since 2002 his interests turned towards sustainable development in urban and rural environments in Australia. His main area of interest and research is in sustainability engineering with a focus on renewable energy.