## **INGRAM, VERINA** [S8-P31]

*Evaluating the impacts of plantation and forestry operations in Africa - methods and indicators* Co-authors: Edwin van der Werf, Environmental Economics and Natural Resources Group, Wageningen University, and CESifo, edwin.vanderwerf@wur.n; Enoch Kikulwe, Bioversity International and Gottingen University, enoch.kikulwe@agr.uni-goettingen.de; Justus Wesseler, Agricultural Economics and Rural Policy Group, Wageningen University, justus.wesseler@wur.nl

This study explores how the impacts of plantations and associated industrial operations (such as charcoal, milling, poles, carpentry and wood-based products as well as carbon credits) can be evaluated. This work is situated in the context of renewed interest from investors, governments and enterprises in the potential of planted forestry operations in Africa to generate multiple revenue streams and contribute to economic and social development. However, doubts have been expressed by communities, environmental and social NGOs about recent experiences and their impacts have been strongly contested. This paper provides a novel framework which is being used to examine the impacts of the entire chain at different stages of development - including tree nurseries, plantations and conservation areas, clients and consumers in three East African countries. A generic theory of change is developed which sets out the range of activities, stakeholders and intended impacts, based on cases and a causal relationships identified by investors, private sector and researchers. This and a literature review guide the indicators proposed to assess economic, social and environmental impacts, both intended and unintended, direct and indirect, and on cumulative and landscape levels, and limits to which counterfactuals and control groups can be used to undertake a baseline in 2015/2016 and evaluations in 2017, 2018 and 2019. Issues explored include the effect of plantations and associated industrial operations on increased and improved availability of infrastructure in developing countries; institutional and contractual public-private frameworks; chain governance; corporate social responsibility, and the use of certification schemes. The extent impact evaluations based on quantitative, qualitative and spatial data are possible and the data required to enable such evaluations are discussed, as well as using bottom-up indicators from other stakeholders. The findings are discussed in relation to current initiatives such as the Global Impact Investing Network (GIIN) IRIS metrics and Finance Alliance for Sustainable Trade's impact indicators in sustainable forestry. Linking up with existing initiatives allows experiences to be shared with impact evaluation and research communities, and the development of scientifically robust yet pragmatic mixed-method evaluation frameworks to be furthered.