Evolution of the Jatropha Biofuel Niche in Ghana - DTU Orbit (21/10/2019)

Evolution of the Jatropha Biofuel Niche in Ghana
This article draws on the multi-level perspective (MLP) and global value chain (GVC) frameworks to analyse the drivers and trajectories of foreign private investment in biofuel production in Ghana. The analyses are based on a narrative of the evolution of a niche for jatropha production in Ghana spanning the period 1995–2004 and including detailed company case studies. Relating to the MLP framework the factors analysed influencing internal niche processes are alignment of expectations, network formation, and learning and knowledge sharing, while those relating to the GVC framework are value chain attributes, including chain structure, governance, ownership, and access to land and capital. The study identifies significant entry barriers to establishing new agriculture-based value chains for global biofuel markets, especially high volume requirements, high capital needs and international market risks, which contributed to the collapse of the jatropha sector in Ghana and thus to the failure to capitalise on the initially high expectations of biofuel production. We also found a low level of learning and knowledgesharing between jatropha niche actors in Ghana, which, alongside weak public R&D support, reduced access to locally specific technical and managerial information. The report presents an example of non-evolutionary niche development, which goes beyond the European experience of industrial niche development on which the MLP framework was first established. The importance of investors and policy at different levels of the value chain illustrates the synergies that may be obtained from combining the MLP and GVC frameworks in research on energy transitions in developing countries.

General information
Publication status: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership, Systems Analysis
Contributors: Nygaard, I., Bolwig, S.
Number of pages: 40
Publication date: 2017

Publication information
Place of publication: Technical University of Denmark
Publisher: UNEP DTU Partnership
(UNEP DTU Partnership Working Paper Series 2017; No. 1).
Electronic versions:
Source: PublicationPreSubmission
Source ID: 132023563
Research output: Working paper › Working paper – Annual report year: 2017 › Research › peer-review