

The Impact of Science and Innovation in Industrialization For Social Economic Development in Bungoma Sugar Belts

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Abstract

This paper investigates the impact of Science and ICT in industrialization for social Economic development in Bungoma County in western Kenya region. The subject of science specifically technological innovation and its impact on firms' performances in different counties is yet to be exhaustively explored hence prompting need to do the study. This is because few research efforts have been made to investigate the low rate at which the sugarcane farmers are benefiting social economically from the different sugarcane factories set up. In order to enrich the literature, this paper assesses the derailed development of different innovative firm capacities of the different sugar factories by- products. The different by products include sugar, bagasse, molasses, green leaves, press mud and sugar cane wax. This study looks at the gap of innovation that will focus on different uses of the sugarcane by-products which can be highly beneficial not only in the Bungoma sugar belt but also the entire Kenya's economy. The sample study has focused on the different sugar factories in the county through observation and administering of questionnaires. Data collected was analyzed using correlation analysis and hierarchical regression analysis. The correlation result shows that product innovation and process innovation will have significant positive impact on the social economic development of the county. However, the regression result confirmed that product and process innovations has led to low yields to farmers and the factories at large leading to poor social economic development. This is because the by products from the sugar plant have not been put to proper use by developing innovative industries like, fodder firms to process sugarcane green leaves, fibre industry to make cattle feeds from bagasse, citric acid from molasses firm and Electricity generation hence leading to increased industrialization due to tapping of already available raw materials that has been untapped. Generally the study will focus on different feasible innovations in sugarcane industries. Additionally, through this innovation it will reduce the regular uprooting of sugarcanes due to farmers' frustration due to poor or low payments by the current sugar industries since the firms are focusing on only sugar as main product. In conclusion science and ICT in industrialization for social economic development through innovations on the different sugarcane products are critical elements for enhancing the continuity in sugarcane farming and improving people's life in the entire Bungoma County.