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Fostering the Use of Banana and Plantain Fibers from Agricultural Residues for Improving Income Generation and Food Security in Ghana - How to Construct an Example Project

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Abstract

As for the limited availability of resources worldwide, it is and will continue to be increasingly important to make use of renewable resources. Next to the rising food demand, especially the growing demand for plant based materials, including textile fibers for clothing, will require suitable strategies to improve efficiency so as to ensure sustainability in the emerging bio-economy. Currently, cotton fibers and various synthetic fibers provide the main supply for the textile industry. In order to meet the increasing fiber demand expected for the coming decades, it will be necessary to put more emphasis on developing alternative plant based sources for the textile sector.

In this article we investigate how banana and plantain residues could be incorporated into an example fiber value web and thereby offer income alternatives to Ghanaian smallholder farmers. By relying on a so far underutilised resource, an economic benefit can be expected without compromising food security. Using secondary information and key person interviews, we assess the framework conditions like opportunities, institutional requirements, and potentially involved stakeholder, which need to be considered when attempting to set up a practical example. In this context, our key focus is the use of the whole plant biomass and thereby target the most efficient use of agricultural and other inputs in banana and plantain cultivation.

Our results indicate that there is a substantial interest of private (German) enterprises to make use of the high quality long fibers contained in banana and plantain pseudostems. Using suitable, low-tech equipment, the fibers could be extracted and processed in the rural producer areas, and then offered to textile producers at various levels: local, regional, or international. If targeting export, it appears to be highly important to ensure certain quality standards, quantities and reliability of supply. Overall, we conclude that there is a significant potential for local farmers and private enterprises to achieve mutual benefits. Consequently, spill-over effects are likely to lead to a more general economic development of rural areas. Case specific, however, there is still need for identifying suitable varieties as well as developing contacts and collaborations between stakeholders.

Keywords: Banana fiber, Ghana, plantain fiber, value web