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Transforming Cassava into Bread: The Contribution of Food Science and Technology Research at IITA to the Agro-Industrial Development of Cassava in Africa

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Abstract

This paper explores the underlying food science and technology research advances and technological innovations that led to the development of unfermented high-quality cassava flour (HQCF) technology by IITA. It traces the policy imperatives that nurture the broad application of the techniques for transforming cassava into bread. From 1995 to 2000, IITA spearheaded the development and pilot-testing of HQCF technology at small-scale in Africa. Further research and collective action by a variety of stakeholders led to a technology progression from sun-drying to pneumatic-drying of cassava. Thereby, reducing the commercial risks for the processors and generating better income opportunities for smallholder farmers. The investment and policy initiatives adopted by Nigeria and other countries, aimed at commercialising the HQCF technology, have enhanced the use of cassava both as an urban food item and as an industrial raw material. National and international research partners collaborated to develop proven agricultural technologies that addressed some of the cassava production constraints. The capacity of value chain actors was built, and technical support was provided to support the agricultural development agendas of some African governments. In evaluating the role of postharvest activities on nutrient availability and food access, the consultative group on international agricultural research (CGIAR) in 2000 commended the exemplary outcome of IITA's research on HQCF processing. In particular, the CGIAR observed that fostering private sector involvement in processing of cassava into HQCF would increase the possibility of creating an agro-industry that could absorb cassava produced by the smallholder farmers through processing into HQCF. Consequently, IITA and other partners increased the thrust towards private sector participation, leading to the commercialisation of a broad range of post-harvest technologies for processing cassava into value-added products. Private sector investment in HQCF processing plants has created demand for at least 50,000–65,000 MT of cassava roots per annum, which is expected to increase to at least 2.0 million tons by 2010. Therefore, the HQCF example demonstrates how a focus on research for development, partnership with other actors, training and technology dissemination efforts can influence public policy and stimulate public and private sector participation to achieve rural agro-industrial development.

Keywords: High quality cassava flour, private sector involvement, processing, unfermented