Abstract

Title: Leveraging on Innovative Technologies to Enhance Nutritional Quality of African Foods for Sustainable Diets and Food Security

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I. Abstract Body (up to 250 words)

Food and nutrition security is still a global challenge. Further, the attainment of food security remains a big challenge for most governments in Africa. Food security is a complex problem in many countries and requires sustainable solutions to ensure that everyone has access to safe food at all times. Improving food security situation in Africa requires a multi-faceted approach including looking at alternative strategies and technologies to sustainable diets and nutrition quality.

Our project aimed at developing a simulation model and innovative approach that will enable nutritionists and agriculturists work together to determine technically and financially viable optimal mixes of food commodities that the markets and households can use for better nutrition and health outcomes. Mixed research methods were used including household data collection using structured questionnaires/interviews, focused group discussion and key informant interviews

Our findings show that 80% of the population are vulnerable especially children and women which is mainly due to reliance on livestock and pastoralism as livelihood source. Frequent drought experienced makes pastoralism unreliable source of livelihood which leads to malnutrition in children and women. Over 70% of the population inhabitants live in the rural areas where health facilities are inadequate, inaccessible, and unaffordable. Poverty rate is high (83.2%) with pastoralism is the main livelihood activity (81%). Infant and Child breastfeeding practices are sub optimal (exclusive breastfeeding (68.2%), minimum dietary diversity (15.5%), poor complementary feeding. Results show that fruits and leafy vegetables possess high tolerance to droughts, pest and diseases when appropriate technologies are adopted (climate smart and nutrition sensitive). It was demonstrated that the fruits and leafy vegetables grown using different climate-smart solutions were high in micro-nutrients, phytochemicals and functional properties. Value addition using food processing technologies was shown to reduce loses in these produce by 80% and generated income for small holder horticultural farmers.

In conclusion, sustainable solutions can be achieved by using predictive models in food production and processing for sustainable quality diets in vulnerable populations.

Image I: Initiatives around food and nutrition security in arid and semi-arid regions in Africa



a) Technologies for value addition for nutrition security



b) Nutrition sensitive technologies for diet quality

II. Reference:

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III. Biography:

Dr. Catherine Kunyanga is a Senior Lecturer in the Department of Food Science, Nutrition and Technology, University of Nairobi.

Her research interest focuses on Food Technology, Postharvest Management, Food and Nutrition Security, International Nutrition and Food Safety for improved livelihoods and income generation. She is involved in a number of collaborative projects with reputable research institutions globally. She has published more than 50 papers in reputed journals and international conferences. She has been serving as an editorial board member of repute journals like PLOS ONE journals and Journal of Agriculture and Rural Development in the Tropics and Subtropics among others.

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