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“Utilisation of diversity in land use systems:
Sustainable and organic approaches to meet human needs”

Food Processing Equipment Design in West Africa Countries: Proposal of a Tool to Provide Better Understanding of the Need

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Abstract

Over the last decades, various attempts have been made in Benin, as in most West Africa countries, to improve production techniques for the food processing of agricultural products, by introducing production equipment to do the work previously carried out by women. However, it is clear that a lot of equipment failed in this sector. It's because the design of these equipment very often suffer from a lack of tool, that would make it possible to take into account very early in the design process all the various aspects of the future equipment: food processing, food composition, user expectations, using and maintenance constraints, life cycle cost, etc. To improve the design of food-processing equipment, two design experiments were carried out in Benin. The design activities were performed according to the recommendations of the “CESAM” method (equipment design for developing countries) and with the additional back up of the Participatory Design, the Scenario Based Design and the User Centered Design. The data collection and analysis method was based on an approach inspired by ethnographic techniques. My paper will provide a tool, the Functional Understanding Diagram (FUD), which I have proposed allowing better understanding of the conventional process and therefore the need. The FUD is made up of three columns. The middle column gives a description of the operation performed manually by the women. The left-hand column contains text pointers with a summary description of the operation and text explaining why the function exists. The right-hand column contains digital pointers to photos and videos of the operation.

Keywords: Food equipment design, Food processing