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“Filling gaps and removing traps
for sustainable resource management”

Sustainable Flour House: A New Concept on Cassava Processing

TAINA SORAIA MULLER, J.V. RIBEIRO DE CARVALHO, L.S. LIMA LEMOS, N.L. LOSS, I.
LINHARES JUNIOR, P.F. ONOFRE, A.C.B. FERREIRA

Federal University of the South of Bahia, Brazil

Abstract

Culturally, the cassava (*Manihot esculenta* Crantz.) is the most cultivated crop by local small farmers in the far South of the Bahia State, in Brazil. A mainly rural region, under Atlantic rainforest domain, where social and environmental conflicts are common. Most of the informal business trade is based on clandestine manioc flour processing units (known as Flour Houses) and responsible for the main source of income for smaller farmers. The process of cassava into flour generates Manipueira, a toxic liquid indiscriminately discarded in the soil or watercourses. The lack of basic sanitation protocols, a very low quality undocumented flour, and environmental pollution led the Department of Justice to order the closing and destruction of Flour Houses, which would cause a significant impact to poor population. These facts associated to technological barriers and defective value-chain motivated the creation of the Program for Sustainable Flour House. A sustainable processing system optimised to avoid waste and pollution, to create jobs and increase income generation. To fulfil the sanitary requirements by law, the flour house was divided into dirty and clean areas, to receive the roots from field for cleaning procedures, and the cleaned decorticated root for flour processing, respectively. The air circulation is kept by netting of the wide open windows. The rainwater is collected in a cistern and destined to retrofitting use. Solid residue and black waters are discarded into a evapotranspiration basin for fruit production. The Manipueira is collected in a system assembled by polyethylene water tanks for posterior multi-purpose use on the rural property. The wastewater is disposed on agroforest systems, which promote water percolation and food production. This adequacy aimed to optimise water cycle and residue management as employment and income increasement. So far, five families, have been benefited by adjusting the Flour Houses to current policies, it has saved their rural property from been notified by state prosecution and improved their main income activity.

Keywords: Employment, smallholder, toxic residue