Unfermented cassava flour

I. Background:

1. Name of innovation Unfermented cassava (Manihot Esculenta Crantz) flour: a promising processing and conservation technique for the value chain **2. Country – Region** Cameroon, Central Africa **3. Organization** - Roots and Tubers Market-Driven Development Programme (PNDRT) - CAIC common interest group **4. Who is the innovator?** PNDRT and Louis Djilemo	**5. Actors involved** NGO Women Entrepreneurs' Initiative Centre, cassava growers, bakers, fritter-makers, traders, agrifood companies **6. Implementation date** March 2006 **7. Type of innovation** Technological and knowledge-sharing

II. Key Issues:

8. Summary
Cassava is a tropical species native to the Americas and is grown in tropical zones with one or two rainy seasons and total annual rainfall of 600 mm to more than 4,000 mm. The future of this crop in developing countries in general and African ones in particular is based largely on its products, which include starch, miondo, tapioca and cassava flour. However, all these products are faced to varying degrees with the problem of conservation. This situation led us to take a closer look at such products as unfermented cassava flour. In the medium and long terms, this product can provide income for rural inhabitants and thus help reduce the threat of poverty.
The potential of unfermented cassava flour has not yet been fully tapped. Its strong points are good quality, odourlessness, pure white colour, a granularity similar to that of wheat, perfect uniformity, good moisture content, capacity to replace wheat flour in about 90 per cent of its uses, particularly in breads, cakes and pastries, and good conservation for about six months in the right conditions. However, production of this flour suffers from a number of constraints, including those linked to its cutting up, drying and grinding. These constraints have now been removed by establishing appropriate techniques, which can be used in both urban and rural contexts.
With a clear political will, unfermented cassava flour should therefore make it possible especially for farmers growing cassava roots to improve their income through better guaranteed marketing of their produce, thus enabling them to improve their living conditions, starting with a reduction in unemployment and poverty.

9. What issues does the innovation address?
- Problems connected with the odour, colour, size of grain and sensory qualities of cassava flour
- Problems of conserving cassava
- The need for new market outlets for cassava
- The need to increase cassava producers' income

10. Key success factors for replication:
- Simplicity of the process
- Easy adaptation of existing equipment
- Multiple use of the end product
- Good conservation of the end product
- Easy installation of the unit in cassava production zones
- Establishment of the production unit depending on the promoter's financial possibilities

11. Accessibility: (Poor, gender, youth, migrants…)

11. Target groups
- Poor people, both rural and urban
- Women cassava producers' groups
- Young people (creation of new jobs in various spheres – planting, processing unit, use of the flour obtained in breads, cakes and pancakes)

12. Difficulties encountered
Cutting up or grinding, construction of the drying oven, milling, bagging

13. Financial aspects
- Cassava tubers or roots are purchased at between CFAF 30 and CFAF 40
- The drying oven (a major constraint) can be built for between CFAF 100,000 and CFAF 1,000,000
- The capacity of drying ovens ranges from 200 kg to 1,000 kg of fresh pressed cassava, with a drying period of 48 hours
- The lifetime of the oven depends on the construction cost (bark or peel and wood are used as fuel)
- The average production cost of 1 kg of unfermented cassava flour is between CFAF 200 and CFAF 250

III. Technical Summary:

Production process for unfermented cassava flour
- Harvesting or gathering of roots
- Reception and weighing
- Removal of stalks and peeling
- Washing
- Cutting up or grinding
- Wringing out or pressing
- Crumbling or sifting
- Drying (in the sun or especially in an oven)
- Milling or grinding
- Sifting

IV. Follow up:

15. Key contacts:

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16. Useful web link:

http://www.fidafrique.net/article764.html
www.pndrt-cm.org

17. Key documents (document title + link or contact or other details)
Louis Djilemo, Transformation et intérêt de la farine de manioc non fermentée [Processing and potential of unfermented cassava flour].