



**- International Fund for Agricultural Development –
- Scouting and Sharing Innovation in Western and Central Africa –**

- MECHANICAL PEELER -

I- Background :

1. Name of innovation:

MECHANICAL PEELER

2. Country - Region:

NIGERIA, WEST AFRICA

3. Organization:

NATIONAL CENTRE FOR AGRICULTURAL
MECHANIZATION (NCAM), ILORIN

4. Who is the innovator?

FATAROY (NCAM'S COLLABORATING FABRICATOR)

5. Actors involved:

FATAROY

6. Implementation date:

2006

7. Type of innovation:

TECHNOLOGICAL

II- Key issues :

8. Summary:

- This machine is used for peeling cassava root for various kinds of small-and medium scale processing.
- Averages 85% peeling efficiency.

Up to now peeling, a basic process for all the various derivatives, is one of the major constraints for the processing of cassava roots: Peeling by hand is tough and labour-intensive, the loss of root flesh is with an average of around 20 % high. The cost of labour is high. In consequence the output is low and limits the processing capacity.

The machines developed so far face problems of high loss and a low peeling efficiency, meaning that the peel is not removed properly, mainly due to the high variability of the root sizes.

This machine responds to these problems with an average peeling efficiency of 85% (85 % of the shell is removed from output roots and the rest of the shell is easily removable by hand) and a loss of ca. 5 % (meaning that practically only the shell is removed, while the precious inside of the root is almost untouched).

The machine can improve the efficiency and capacity of semi-industrial processing units (Gari, Foofoo, flour, starch), possibly run by smallholder processing groups.

9. What issue does the innovation address?

Addressed problems.

Peeling by hand is tough, the cost of labour is high, the loss is with an average of around 20 % high. In consequence the output is low and limits the processing capacity. The machines developed so far face problems of high loss and a low peeling efficiency, meaning that the peel is not removed properly, mainly due to the high variability of the root sizes.

Response through the innovation

This machine responds to these problems with an average peeling efficiency of 85% (85 % of the shell is removed from output roots and the rest of the shell is easily removable by hand) and a loss of ca. 5 % (meaning that practically only the shell is removed, while the precious inside of the root is almost untouched).

10. Key success factors for replication:

- Expected high demand due to peeling problems in the rural areas.
- Availability of materials and equipments.
- Availability of design specifications.
- Easy to operate.
- Limited maintenance requirements.

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

- Accessible to small-scale enterprise groups.
- Gender and youth friendly, because the operation of the machine is physically much easier than hand peeling.

12. Difficulties encountered:

- Lack of machining tools (fabricator).
- Erratic power supply.
- Lack of funds for field testing, extension and commercialisation.
- Peeling efficiency needs to be increased to 95-100% range.
- Lack of funds for replication.

13. Financial aspects:

Cost- 0.30million

III- Technical Summary :

14.
IT CONSISTS OF PRIME MOVER, PEELING UNIT, OUTLET AND INLET CHUTE

CAPACITY: 800 kg/hr
MATERIAL: Mild steel/stainless steel
PRIME-MOVER: 7HP Diesel Engine
DIMENSION: 2.4m x 1.2m x 1.5m

IV- Follow up :

15. Key contacts:

Name	Organization	Email
EXECUTIVE DIRECTOR	NCAM	ncam@skannet.com kayconi@yahoo.com

16. Useful web link:

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17. Key documents: (Name of the document + Link or Contact or Co ordinates)

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