



– International Fund for Agricultural Development –
– Identifying and sharing innovation in Western and Central Africa –

– Tropical Manioc Selection (TMS) –

I. Context

1. Name of the innovation

Dissemination of new varieties of disease-resistant cassava: Tropical Manioc Selection (TMS).

2. Country – Region

Western and Central Africa

3. Organization

International Institute of Tropical Agriculture (IITA)

4. Who is the innovator?

IITA

5. Actors involved

- Research institutes (IITA and national research services)
- Policy-makers in Ghana and Nigeria
- The New Partnership for Africa's Development (NEPAD)'s initiative regarding cassava processing

6. Starting date

Variety developed in 1977 but adopted since 1984

7. Type of innovation

Technological innovation and information-sharing

II. Key concepts

8. Summary

In 1977, IITA developed a variety of cassava known as Tropical Manioc Selection (TMS), which is particularly resistant to cassava mosaic disease. However, it was not adopted by farmers in Nigeria, Ghana and other coastal countries until the mid-1980s. The apparent success of the innovation process is a result of:

- ✓ The growth of the Ghanaian and Nigerian urban market for cassava and its products, due partly to the major increase in the urban population but also to changes in eating habits;
- ✓ The processing of cassava into a range of products for human consumption (gari and various cooking methods), animal feed and other industrial products;
- ✓ The existence of a processing industry using local equipment made by local craftsmen and suited to producers in terms of capacity and use time: the use of processing equipment has led to an increase of 50 per cent in the labour used in processing, while the use of high-yield disease-resistant plant material has led to an increase of more than 40 per cent in yields with no application of fertilizer.

9. What problems does this innovation seek to solve?

The technical problem connected with cassava diseases that cause a significant loss in yields

10. Factors for successful replication

The development of high-yield varieties is not a sufficient condition. It is important also to mention that the State has played a decisive role in this innovation process. In Nigeria, for example, the State undertook the following actions:

- ✓ Suppression of subsidies on imported food products such as rice in 1984, leading to a growth in demand, and in the domestic market and production;
- ✓ Establishment of a policy of free multiplication and distribution of new TMS varieties to producers;
- ✓ Cassava processing using a cheap, simple technology with easily available local equipment.

11. Main results

The use of processing equipment has led to an increase of 50 per cent in the labour used in processing. The use of high-yield disease-resistant plant material has led to an increase of more than 40 per cent in yields with no application of fertilizer. The new varieties have been widely adopted by farmers in the region. A pan-African cassava initiative was launched by NEPAD and the African Union in 2004.

12. Target group(s)

- Poor people
- Processors
- The State, which facilitates access to the innovation through programmes disseminating new technologies

13. Difficulties encountered

It took some time for the technology to be adopted for lack of political support. Once this obstacle had been overcome, new high-yield varieties were widely adopted in various Western and Central African countries where cassava is a major crop.

14. Financial aspects

Access to seed (or cassava cuttings in this case) is not always easy, especially for vulnerable households. One of the factors that encouraged adoption of TMS was the free distribution of cuttings to farmers by Ghana's government services.

III. Technical aspects

15.

There are several varieties of TMS cassava. The technical characteristics of the TMS 30572 variety in Benin are given as an example: average root yield (12 months), 25 t/ha; potential production (18 months), 45 t/ha; production cycle, 12 to 18 months; gari content (12 months), 16.5; resistance to mosaic disease, average in the early stages; resistance to bacterial blight, good; resistance to mealy bug, average; resistance to green spider mite, poor.

IV. Further information

16. Key contacts

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17. Internet link

<http://www.iita.org>

18. Key documents