



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

**– Drip irrigation –**

**I. Context**

**1. Name of the innovation**

Drip irrigation in market gardens in the Diéri zone

**2. Country – Region**

Senegal

**3. Organization**

Agricultural Development Project in Matam (PRODAM)

**4. Who is the innovator?**

PRODAM

**5. Actors involved**

- Technical support and advice services or research and development services (agriculture, water, National Agency for Agricultural and Rural Advice, local development support centres etc.)
- Projects and programmes, NGOs
- Local communities
- Farmers' and umbrella organizations
- Private experts in drip irrigation

**6. Starting date**

2005

**7. Type of innovation**

Technologies and practices

**II. Key concepts**

**8. Summary**

With the aim of effectively reducing poverty in a structurally defective agricultural production zone, PRODAM, in association with local people, launched an intensive production system based on the use of micro-irrigation. Initiatives have focused on:

- The installation of a drip system to rationalize water use while improving productivity (increased yields, reduced plant health risks)
- The connection of market gardens (3 to 5 ha) to the boreholes of beneficiary villages in order to reduce investment costs
- Social and financial mobilization of emigrants and the rural community in support of the beneficiaries in financing part of the investment for the market gardens (about 25 per cent)
- Establishment of a technical and organizational support mechanism composed of the PRODAM and permanent technical services (water, agriculture etc.) in anticipation of the project's departure

**9. What problems does this innovation seek to solve?**

In terms of climate, Diéri is extremely disadvantaged and faces such difficulties as:

- Low rainfall and difficulties for rain-fed crops to complete their growing cycle
- Absence of flood recession crops (sorghum and cowpea) since the construction of dams, causing a significant foodcrop shortfall
- Scarcity of water resources
- Food insecurity and general poverty, accelerating men's emigration
- Women's poor access to resources
- Women's low income

**10. Factors for successful replication**

This system is currently being replicated in the private sector, for emigrants have already started to finance drip irrigation programmes on their own land with support from the PRODAM (cf. Semmé). The conditions for replicability are:

- The existence of a borehole whose discharge rate can cover the water needs of local people and a market garden of 3 to 5 ha
- The capacity of local people to mobilize financial participation, which is highly symbolic if judged by the members' contribution (about CFAF 10,000 to 15,000, i.e. CFAF 3 to 4.5 million for a group of 300 people)
- The demonstrated productivity and profitability of the drip system, contributing hugely to the commitment of the beneficiaries after their first visits to trial areas (a net annual income of CFAF 16 to 28 million on 3 to 5 ha)
- The support of emigrants and rural communities who are now participating in the effort to finance market garden areas for people in their respective localities
- The initiative's capacity to become self-supporting in view of the net income the beneficiaries can derive from it

**11. Main results**

The market gardens are intended to increase the incomes of vulnerable groups (women's and young people's organizations) whose access to resources is uncertain (land, seasonal loans etc.). Moreover, these two groups constitute the largest section of the population and bear the brunt of the economic difficulties facing rural households. These market garden areas could eventually become a horticultural production pole for a total area of 50 ha (by 2010), capable of generating CFAF 300 million a year.

## 12. Target group

Local producers

## 13. Difficulties encountered

The following points need improvement:

- Insufficient involvement of the rural community and the Local Consultative Mechanism for Farmers' Organizations in the process of identifying beneficiaries and financing installations
- Insufficient training of beneficiaries regarding technical packages, the cropping calendar and production equipment
- The need to establish a network of market gardens in order to plan production better and provide organizational solutions to marketing problems (group purchases and sales, support for the establishment of a mechanism of fruit and vegetable stalls in urban centres, support for market research etc.)

## 14. Financial aspects

The contribution of CFAF 10,000 to 15,000 per member is required in order to ensure beneficiaries' participation for a group of about 300 people. Two modules for market gardens are advocated:

Module	Capital cost (CFAF)	Metal fencing (CFAF)	Total cost (CFAF)	Beneficiaries' contributions	
				Total (CFAF)	Percentage
3 ha	7,000,000	3,000,000	10,000,000	3,000,000	30%
5 ha	11,000,000	4,000,000	15,000,000	4,000,000	27%

## III. Technical aspects

15. The main technical aspect is social mobilization, entailing identification of the groups targeted by the project. To this end, the rural community and the Local Consultative Mechanism for Farmers' Organizations are called to play their part through a series of information and awareness meetings, involving the water supply and agricultural technical services etc. This whole approach entails particularly the following elements:

- Organization of visits by future beneficiaries to current trials
- Mobilization of the participation of beneficiaries supported by rural communities and emigrants
- Establishment of a partnership formed of beneficiaries, the borehole committee and the water service to deal with ways of incorporating the market garden into the village water supply system
- Monitoring and support for production and marketing activities (support and advice, training)

## IV. Further information

### 16. Key contacts

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### 17. Internet link

[www.prodam2.org](http://www.prodam2.org)

### 18. Key documents

L'Irrigation goutte à goutte en zone Diéri (= Drip irrigation in the Diéri zone)