



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

– Concrete-section market garden wells –

I. Context

1. Name of the innovation

Concrete-section market garden wells

2. Country – Region

Chad: Kanem region

3. Organization

Economic initiative group (EIG) of Miou (DNA)

4. Who is the innovator?

Well-sinker trained by an NGO from the Christian Community (Mennonite Central Committee) in the Guéra region

5. Actors involved

Members of the EIG in the project zone

6. Starting date

January 2007

7. Type of innovation

Technical

II. Key concepts

8. Summary

The concrete sections (50 cm long x 80 cm in diameter) forming the well are made before the excavation with the help of moulds made by local artisans. The well is dug by hand with scoops or crowbars, making a diameter of 1 m. The spoil earth is removed with available equipment – a bucket (about 10 litre) attached to a rope or a shadoof converted to remove soil. The artisans lower the sections by hand with hooks attached to strong ropes. This must be done piece by piece and the cutting shoe assembled at the bottom. When the second section has been lowered, a craftsman is sent down the well to fasten the two pieces with a hook and plug all the joints with cement. All the remaining pieces are then lowered and assembled in the same way, forming a column.

9. What problems does this innovation seek to solve?

This innovation seeks to solve problems of pumping out water in wadis.

10. Factors for successful replication

It is less burdensome for rural inhabitants to assume responsibility for this type of well.

11. Main results

Concrete-section market garden wells are much preferred to other types of well in the Kanem region, since, apart from their low cost, they are easy even for young people and women to use.

12. Target group(s)

- Poor people
- Women
- Young people

13. Difficulties encountered

Transport of gravel in a desert zone

14. Financial aspects

Average cost

CONCRETE SECTION

| | |
|---------------------|-------------|
| 1 bag of cement | CFAF 12,500 |
| 2 barrows of gravel | CFAF 4,000 |
| 1 #6 iron bar | CFAF 2,000 |
| 4 metres of #8 wire | CFAF 2,000 |
| Labour | CFAF 3,350 |
| <i>Total</i> | CFAF 23,350 |

CUTTING SHOE

| | |
|--------------------|-------------|
| ¼ bag of cement | CFAF 9,375 |
| ¾ barrow of gravel | CFAF 1,500 |
| 1 #6 iron bar | CFAF 2,000 |
| 1 #8 iron bar | CFAF 3,000 |
| | |
| <i>Total</i> | CFAF 15,875 |

An onion-grower's annual income is US\$1,000.

III. Technical aspects

15.

IV. Further information

16. Key contacts

| Name | Organization | E-mail |
|--|--------------|--|
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17. Internet link

- www.fidafrique.net
- Tech-forum@fidafrique.net

18. Key documents

Rapport de Formation des artisans hydro agricoles en février 2007 par l'aménagiste rural (= Report on the training of hydro-agricultural workers in February 2007 by the rural development expert)