

The Project for Development Plan of Hydro-agriculture in Ouergha River Basin

Project Site

Rharbia, Province de Taounate



1. Background of Project

In Morocco, agriculture is a major industry supporting the national economy. However, production was unstable because farmers mainly depended on rainfall, making crops subject to drought and other natural disasters. On account of this, the development of hydro-agriculture was promoted by the Government of Morocco. Ouergha river basin was set as a priority development area of hydro-agriculture development and agricultural land protection. An agricultural development plan was also formulated, which aimed at improvement of agricultural productivity through the construction of medium- and small-scale dams. Following this, Morocco requested Grant Aid from Japan to implement the plan.

2. Project Overview

(1) Period of Cooperation

FY1995-FY1997

(2) Type of Cooperation

Grant Aid

(3) Partner Country's Implementing Organization

Directorate General of Hydraulics, Ministry of Equipment

(4) Narrative Summary

1) Overall Goal

The foundation for hydro-agriculture production in the Ouergha river basin is established.

2) Project Purpose

Pilot model of water supply facilities for domestic use and livestock through the construction of small-scale dams and irrigation facilities and upgrade of existing infrastructure is established.

3) Outputs

- a) Small-scale dams are constructed.
- b) Irrigation channels are installed.
- c) Water supply facilities for domestic use and for livestock are installed.
- d) Construction work of river basin protection is executed.

4) Inputs

Japanese Side

Grant	Total 1.17 billion yen (E/N amount)
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Moroccan Side

Land
Facilities for river basin protection

3. Members of Evaluation Team

Facilities study:

Masato ISHIMORI, Grant Aid Management Department, Office Technical Coordination and Examination, JICA

Operation and maintenance study:

Kenji TAKADA, Welfare and Labor Relations Division, Personnel Department, JICA

Interpreter:

Tadao ARAI, Japan International Cooperation Center

4. Period of Evaluation

12 September 1999-22 September 1999

5. Results of Evaluation

(1) Efficiency

Procurement of construction machinery and execution management both proceeded on schedule. All

construction materials were procured within the country. Most of the equipment procured was made in Morocco or in Europe, so it could be maintained and repaired in the country. As such, inputs were efficiently completed as planned, and dams and irrigation channels covering 108 hectares and six domestic and livestock water supply facilities were established.

(2) Effectiveness

Since the amount of rainfall was insufficient and, thus, impoundment was small, it was difficult to evaluate the conditions of operation at the time of evaluation. However, some faults were found concerning the construction of dams¹⁾.

Although both domestic and livestock water supply facilities were not operating at full-scale due to the shortage of water, 14 households in model areas drew water directly from dams and efficiently used the water for domestic use and for their cattle.

(3) Impact

It was impossible to examine the impact on agriculture because irrigation facilities were not functioning. On the other hand, water supply facilities for domestic use and for livestock were used not only by the fourteen households in model areas but also in ten surrounding villages, thereby producing greater impact than expected even at the time of low rainfall and impoundment. In addition, the project reduced the workload of water collection for women and children, who normally spent three hours on the task.

(4) Relevance

This project was carried out based on "the Development Plan of Hydro-agriculture in Ouergha River Basin" and master plan formulated by JICA's development study requested by the Government of Morocco. Also, the development of irrigation and supply of water for domestic use targeted by this project fitted the needs of the Ouergha area, and so the project was highly relevant.

(5) Sustainability

Directorate General of Hydraulics, the implementing organization on the Moroccan side, had high-technology for dam construction, rich experience and the financial resources. Based on sufficient rainfall, the repair costs for the facilities could be covered by revenue from hydro-agriculture, and so future sustainability would be expected to be adequate.



Cultivated land in the Ouergha river basin (a well is seen at the center)

6. Lessons Learned and Recommendations

(1) Recommendations

As dam construction technology and the system of operation and maintenance for machinery were both at a high level, it was evaluated that Follow-up cooperation would not be necessary.

However, a comprehensive evaluation to examine the relevance of constructed dams should be carried out a few years later, since the required reservoir for the operation of irrigation facilities would be largely affected by the amount of rainfall. Also, the condition of the dam reservoirs should be examined for a minimum of five years, since the scale of dams and reservoirs were built based on the assumption that a shortage of water would occur once every five years.

¹⁾ Repair work on faulty parts was carried out later by construction workers.