

## Ex Post-Evaluation Brief

### Mauritania: Small-scale Dams in Hodh el Gharbi



<b>Programme/Client</b>	Small-scale Dams in Hodh el Gharbi; BMZ no.: 1998 66 153*	
<b>Programme executing agency</b>	Direction de l'Aménagement Rural (DAR); Ministère du Développement Rural (MDR)	
<b>Year of sample/ex post evaluation report: 2010/2013</b>		
	<b>Appraisal (planned)</b>	<b>Ex post-evaluation (actual)</b>
<b>Investment costs (total)</b>	EUR 3.86 million	EUR 8.77 million
<b>Counterpart contribution (company)</b>	EUR 0.025 million	EUR 0.03 million
<b>Funding, of which budget funds (BMZ)</b>	EUR 3.84 million EUR 3.84 million	EUR 8.74 million EUR 8.74 million

\* random sample

**Project description:** The project encompassed the rehabilitation of a total of 10 small-scale dams in the Hodh El Gharbi region in south-eastern Mauritania, covering an irrigated area of approx. 915 ha. It also included infrastructure measures (erosion control structures, dug wells etc.) plus consulting services. In the course of implementation, the project scope was supplemented by the construction of 8 village water supply systems in the immediate vicinity of the rehabilitated small-scale dams.

**Objectives:** The overall objective was to improve the living conditions of the population, as measured by a sustainable increase in household incomes generated by irrigated agriculture (small-scale dams component) as well as a reduction in water-borne diseases (drinking water component). The project objective was the sustainable utilisation of the potential created for irrigation, and the sustainable operation of the water supply systems. The indicators were: increase in agricultural production, increase in supply rate for water of sufficient quality, continuous supply and improved hygiene

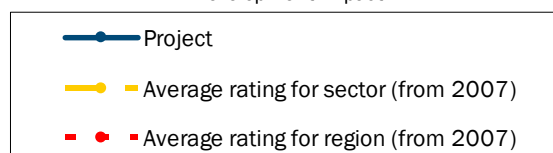
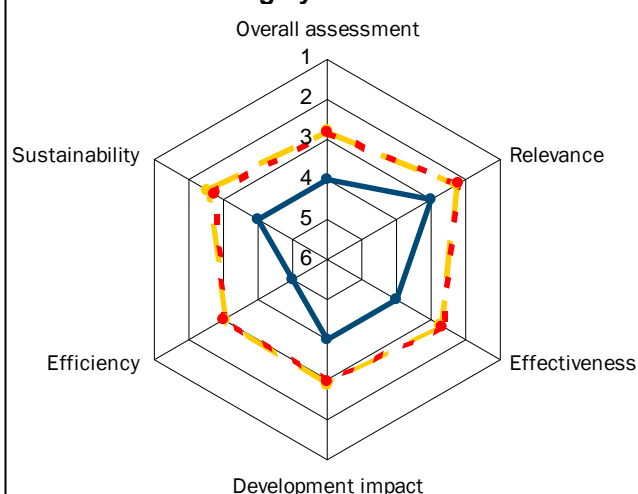
**Target group:** The predominantly poor population living in the immediate vicinity of the dams (at appraisal: approx. 795 households/ 5,800 persons; today around 1,730 households with approx. 12,630 persons).

#### Overall rating: 4

Neither the area under cultivation nor the intensity of use developed on the scale materialised as anticipated. Moreover, adequate and sustainable maintenance is doubtful at best, as needed repairs are being conducted only partially and even then on a rudimentary basis. Of the 8 drinking water systems promoted, only one is more or less still operational.

**Points to note:** Despite a decline in grain self-sufficiency, poverty in the project region has fallen, and data indicate that the food situation has stabilised. This is mainly a result of the increase in livestock farming, which farmers currently see as profitable. In this connection, it would have been worthwhile to analyse the agricultural systems and their various segments (livestock breeding, irrigated cropping etc.) when preparing the project.

#### Rating by DAC criteria



## EVALUATION SUMMARY

### Overall rating: 4

**Relevance:** When the project was appraised in 2000, the core problem was identified as being the structural food deficit of households at the highly marginal locations in the project region. Since then, local grain production in the region has declined, and according to unofficial estimates has covered only around 20 to 30% of the population's total requirement over the last few years. From today's perspective, the conclusions drawn from the above problem analysis need to be re-evaluated: Given the very high costs to the national economy, and the remaining unsolved problems associated with sustainably increasing local food production, it is doubtful whether the project objective identified at appraisal - to secure self-sufficiency in food for rural households, was appropriate for such a marginal location. The same question applies to the issue of rural migration that was addressed at the level of the overall objective. With locations of this kind, rural migration *per se* should be seen in a more differentiated light, i.e. not exclusively negative. Based on poor results of the first, KfW decided not to implement the second phase that had already been agreed at government level. The significant decline in poverty incidence at regional level was probably due - among other things - to the very pronounced growth in animal production as a main source of livelihood. This enables farmers to offset chronic deficits in local grain production with food purchased, using the increased income generated from animal husbandry. Presumably, the significance of increased local grain production due to small-scale dams for generating income was overestimated at appraisal. As a result, too little attention was paid by planners to the real priorities of rural households when securing their livelihoods from various sources of income. In retrospect, the relevance of the project is also significantly compromised by the lack of a clearly outlined agricultural development strategy, as well as weak ownership on the part of the Mauritanian Government, and especially the ministry responsible for agriculture. On the other hand, the earlier "small-scale dams" projects in the neighbouring Tagant region, which proved positive when evaluated in 1997, demonstrated that the project approach in comparable regions with sufficient irrigation potential can be successful. No donor coordination of note took place, though this was not particularly significant for the project under evaluation. **Sub-rating: 3**

**Effectiveness:** Overall, the revised project objective of sustainably utilising the potential created for irrigation schemes and increasing agricultural production was achieved only to a limited degree. Extrapolating the average intensity of use of around 75% observed so far, a total production of around 255 t sorghum per annum or approximately 150 kg per beneficiary household can be assumed. This is equivalent to a per capita production of around 20 kg per annum, or approx. 10% of the annual requirement. Even if corrected for an increase of nearly 100% in the number of participating households since appraisal, the results still fall short of the original expectations (which were: an increase in production of 100 kg per capita per year; corrected figure: 50 kg). The main reason for this is the significantly lower actual intensity of use than the level assumed at appraisal. Moreover, cultivation of the le-

guminous crop *niébé* has been expanded at the expense of sorghum cultivation. According to farmers, *niebé* cultivation is a more attractive option that generates comparable monetary yields per unit area at less cost. On the other hand, the project objective subsequently formulated for the drinking water component, which was to satisfy basic needs of the beneficiary households by supplying them with safe water, was not achieved. This was because the systems realised – with one exception – are no longer in operation today. **Sub-rating: 4.**

**Efficiency:** The project's efficiency is rated as inadequate. For the small-scale dam component, specific investment costs of approximately EUR 6,100/ha exceeded the figure estimated at project appraisal by more than 100%. This is the main reason for the negative profitability from a macroeconomic perspective – in contrast to the previous projects in the neighbouring region of Tagant. In retrospect, this low profitability is barely warranted even if we take into account enhanced food security as a direct result of increased local production - even more so, since the sustainability of yield increases to date is precarious. For the drinking water component, the unit costs (around 217 EUR/inhabitant as pure investment costs) are also very high, and the infrastructure put in place is now largely out of use. The latter is partly the result of technical difficulties (problems operating the solar-powered pumps, poor water quality, defective pipes), as well as administrative and organisational problems on the beneficiaries' side. Despite the relatively high proportion of consultancy costs in both components, the project ultimately did not succeed in supporting the project executing agency and user groups in designing and effectively implementing appropriate, sustainable operating strategies. **Sub-rating: 5.**

**Overarching developmental impact:** Due to the limited achievement of the project objective, only minor contributions could be made toward achieving the overall objective (improve the living conditions of the population). The increase in household income from food cultivation induced by the project is to be rated as low. Although farmers are now turning more toward food crop cultivation on the irrigated land, the increase in income is only between 2 and 3% (depending on the assumed family size ) of the monetary poverty line calculated for 2008. The benefits envisaged from the drinking water component, e.g. reduction in health risks caused by water-borne diseases, could not be achieved because the infrastructure is not in working order. **Sub-rating: 4.**

**Sustainability:** In general, the beneficiaries are neither able to perform preventive maintenance on the dams nor to identify and appropriately rectify any resulting faults in a timely manner, especially where this requires the use of machinery. The project executing agency is not meeting its task of performing annual safety inspections and determining repair needs, nor does it have a regular budget for the execution of such maintenance and repair works. During the initial years of operation, the users had created saving deposits for larger dam repairs. Once the project and the accompanying support had been completed, however, this was completely abandoned. Technical problems have arisen meanwhile, the precise causes of which are almost impossible to identify. In the medium to long term, they are

likely to lead to a reduction in the area of irrigable land. This will in turn reduce existing production levels, which are already relatively low. The drinking water component must be seen as a failure, as all the systems put in place are today no longer in working order, with one single exception. In other words, this component completely lacks sustainability. **Sub-rating: 4.**

## Notes on the methods used to evaluate project success (project rating)

Projects (and programmes) are evaluated on a six-point scale, the criteria being relevance, effectiveness, efficiency and overarching developmental impact. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

1	Very good result that clearly exceeds expectations
2	Good result, fully in line with expectations and without any significant shortcomings
3	Satisfactory result – project falls short of expectations but the positive results dominate
4	Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
5	Clearly inadequate result – despite some positive partial results, the negative results clearly dominate
6	The project has no impact or the situation has actually deteriorated

Ratings 1-3 denote a positive or successful assessment while ratings 4-6 denote a not positive or unsuccessful assessment

### **Sustainability is evaluated according to the following four-point scale:**

Sustainability level 1 (very good sustainability) The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability): The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected).

Sustainability level 3 (satisfactory sustainability): The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability): The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and is very unlikely to improve. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. Ratings 1-3 of the overall rating denote a "successful" project while ratings 4-6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (rating 3).