



FEDERAL REPUBLIC OF ETHIOPIA



Water Supply and Drought Prevention in Mille & Chifra Woredas of Afar Region”

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Evaluation Report

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I. Summary

1 Brief description of the project and framework conditions

It is the objective of the “Water supply and Drought Prevention in Mille & Chifas Woredas of Afar Region, Ethiopia” - Project to provide safe water supply for drought-affected, poverty-stricken pastoralists and for their livestock living in the Districts of Mille and Chifra in the Afar region of Ethiopia, and to prepare the project beneficiaries for upcoming drought periods. Project holder is the local Non-governmental Organisation “Afar Pastoralists Development Association (APDA)”. Welthungerhilfe is monitoring the project implementation and is responsible for the provision of technical assistance to APDA. The planned project period is between July 2007 and March 2009. Estimated total project costs are of 300,000 Euro. The project is co-financed by the BmZ.

The Afar regional state is a characteristically dry region with a human population of around one million. The region is characterized by pastoral land use systems adapted to the prevailing arid to semiarid climate. The pastoralists keep approximately 11 million head of livestock. Shortage of water is the main problem in the Afar region. The target group is composed of members of the Afar population. More than 120,000 pastoralists are living in the project Districts of Mille and Chifra. The project proposal estimates the size of the direct target group to 34,000.

2 Outcomes and impacts

The provision of additional water supply facilities for the population and for livestock will certainly contribute to achieving the project’s overall goal to improve the survival security of needy target groups and their pastoral basis of life. The availability of additional quantities of water for the use during the dry period can result in improved economic conditions in the project region. Livestock breeding and agricultural production will be enhanced. But the provision of largely unsafe water qualities is likely to have negative impacts on the health situation of the project beneficiaries. In particular, this is true in those cases where only a dam/pond and no birkat has been provided by the project to one community. Both, population and livestock are obliged to use the same water resource resulting in further deterioration of the water quality. Without any additional measures cases of diarrhoea and of other water-related diseases will probably occur more frequently, resulting in additional hardship and additional expenses for medical treatment for the project beneficiaries. The effects could be improved considerably if the population is sensitised effectively for an appropriate use of the different water qualities made available and if additional constructive measures will result in an improvement of the water quality. The quality of the hitherto implemented hygiene awareness campaign will probably not result in improved hygienic practices of the beneficiaries.

To some extent, nomadic life might change due to the provision of water supply facilities. Parts of the communities might stay for longer periods or even settle down in the vicinity of the water points, while only selected members of the families will take livestock to more remote grazing areas, by this carrying on the nomadic pattern. Project activities will contribute to alleviate the living conditions – of women in particular – and to set free additional time and vigour for other activities to improve well being and livelihood of the benefiting population. Before the project intervention, mainly women had to walk large distance to fetch water with the help of donkeys and leather containers. If additional, new water points are established by the project, these distances can be reduced considerably.

Building a permanent water point in a rainy season pasture zone could result in a change of status of pasture to dry season pasture with negative impacts like overgrazing, degradation of pastures, and desertification, but sites have to be analysed individually. Increasing animal populations resulting from improved water availability may further step up the pressure. But from on site visits to dams constructed earlier, destruction of vegetation from livestock invasion cannot be reported.

The improvement of pioneer techniques in the construction of rainwater catchment facilities is a contribution to Welthungerhilfe's objective to help people help themselves. The project can contribute to achieving the millennium development goals to reduce hunger and poverty by half and to reduce child mortality by two third.

3 Sustainability

For many years after completion of the project activities, the provided birkats and dams/ponds will serve as water resources for livestock and humans, by this improving the pastoral livelihood and food, nutrition and survival security for the nomadic population. There is a rather positive outlook on the sustainable effects, of the provided birkats in particular, if regular maintenance works are actually carried out. Rainwater collection is a traditional way to create water resources for the dry seasons between the rain periods, a method which is known to most of the beneficiaries. The benefiting population is well aware of the „ownership“ of the structures and of the requirements for adequate maintenance of the provided water facilities. Birkats constructed within the frame of previous project activities seem to be well maintained. The water basins have obviously been desilted regularly and the beneficiaries carried out minor repair works. Dams/ponds were constructed mainly with the help of heavy machinery. This raises questions about the ownership of the structures and related responsibilities for the maintenance of the facility. But as seen on a retention dam built several years ago, silting up of the retention basin can hardly be counter-acted by the beneficiaries themselves. Desilting of such volumes of sediments would require the use of heavy equipment like dozers and excavators, which is certainly beyond the possibilities of the pastoralist water users. On the other hand, it will often take several years until the retention dam cannot be used anymore and replacement is required.

4 Relevance

Water shortage is the central problem in the Afar region. A study carried out by ACF proposes to develop well-based pastoral water strategies for dry season and rainy season pasture zones. A project intervention focusing on the improvement of the water supply situation for man and animal in that region is certainly relevant to the needs of the benefiting population.

The project purpose that „the target group has regarding water-supply (quantity and quality) for humans and animals additional resources at disposal and disposes of exemplary pioneer techniques in the sector“ is relevant to achieving Welthungerhilfe's objectives to improve living conditions. The objective of APDA's commitment in the project region is to improve the well being of Afar pastoralists through empowerment and establishing appropriate and accessible social and economic services. To improve the availability of water for humans and animals is relevant to APDA's objective. To enhance exemplary pioneer techniques in the water sector does respect APDA's working principles to work with the existing community capacity, to train people from the community as the development actors and to use indigenous knowledge and skills, and is therefore relevant to the objectives of the partner organisation.

The herewith evaluated project measures are generally relevant in the sense of the underlying BmZ concept. To meet basic infrastructural needs is one of the sectors of support of the concept. The provision of rainwater collection facilities can be seen as the basis infrastructure for a future sustainable development in the project region. While the participatory principle and gender aspects are respected by the project, institutional support is provided only rudimentarily. In view of the possible negative impacts of the project measures on the health situation of the beneficiaries, the Evaluator cannot confirm respect of the do-no-harm principle.

5 Effectiveness

Detailed needs assessments and baseline surveys were carried out to a limited extent only. The given project period of 20 months would have allowed to carry out state-of-art baseline surveys and needs assessments. Instead, needs were mainly identified on the basis of information already at hand within APDA. Needs were also identified during the initial planning workshops, in which community representative participated actively. However, women were involved in the planning workshops to a limited extent only.

Generally, the project planning matrix is of acceptable standard. The project's overall goal (survival security improved) describes the wider sectoral objective, to which the project is designed to contribute. The project purpose (availability of additional water resources and knowledge improved), the project's central objective does describe service utilisation as a causal outcome of the project results. The Evaluator assumes that – resulting from the project activities – in total the following project outputs should be achieved:

- 10 double-cisterns and 6 retention dams are provided
- Knowledge of beneficiaries in planning, construction and maintenance of water harvesting facilities and in hygienic practices is improved
- Know-how of APDA in water harvesting measures is enhanced

Birkats and dams were planned by senior APDA staff and by Welthungerhilfe's planner, both with a technical background. Alternative solutions to rainwater collection were not identified. According to the project proposal, there is no indication that the annual amount of rainfall has decreased dramatically during the last 20 years. To improve water quality, the constructive layout of the birkat could be improved. The size of the birkats could be increased to come closer to a more efficient outcome of the project measures. For the planning of dams, professional hydrological assessments and plannings were not carried out. The expected run-off was not calculated. In many cases, this led to some uncertainties about the dimensioning of the dam. In view of the largely unacceptable water quality, which can be provided with rainwater collection facilities, the project should have planned the introduction of water filters at household level. Furthermore, frequent chlorination of the birkats should be an integral part of the project. The project planning did not comprise an adequate hygiene awareness campaign.

Focal points of APDA's activities are basic education, health, women's empowerment and marketing and income generation. APDA is a very enthusiastic organisation having a vision for the Afar people. APDA is the most important actor in the Afar region and networking of APDA is well developed. Although the organisation has managed the construction of birkats and dams in the past, APDA's water sector is neither well equipped nor well organised. APDA's project management is not up to the required standard. Some capacity building and management training is required to professionalize the work of the organization. In view of the limited management capacities and project-related experience of APDA, mainly Welthungerhilfe is responsible for the monitoring of the project through its project officers and technical advisers.

At the time of the project evaluation, 5 of in total 10 birkats and 4 of in total 6 dams/ponds have been completed. The construction of additional 5 birkats and additional 2 dams/ponds seems to be feasible within the remaining project period of more than six months. From rough on site inspections, construction works were carried out in accordance with local standards and in acceptable quality. But neither water quality nor water quantities provided with the help of the birkats are in accordance with internationally accepted standards. The water quality has never been tested by APDA. In many cases, the selection of birkat locations and rainwater collection areas was not satisfactory. Some of the retention dams constructed by the project do not dam a (occasional) water course at an optimum topographic location, but were dug in more or less open plains (not even slopes), therefore representing a pond instead of a retention dam.

The knowledge of beneficiaries in the maintenance of the provided water facilities is satisfactory. It can be assumed that their knowledge in planning and construction of rainwater collection infrastructure has improved significantly during the construction works. Likewise, this is certainly true for APDA's enhanced know-how, although further technical assistance is still required. Water-related hygiene awareness of the water users has not improved significantly, if one takes e.g. the unhindered invasion of animals into the drinking water collection areas or the ongoing use of water from dams/ponds for human consumption into account. In order to achieve the project's objective in a more effective way, the input of additional technical assistance – during site selection in particular – and additional inputs to improve water quality (water filters, possibly chlorination, solar water disinfection) and hygiene awareness are required.

6 Efficiency

The project proposal stipulates that up to 34,000 people will use the provided facilities. On site visits revealed that often not more than 200 households or maximum 1,400 persons are using one birkat. The determination of the number of users of the dams/ponds is difficult, but the Evaluator assumes that the number is approximately double. The Evaluator estimated the total number of beneficiaries to 28,400. Taking total project costs¹ of 300,000 Euro into account, the cost/beneficiary ratio for the overall project is of 300,000 Euro / 28,400 beneficiaries = 10,60 Euro/beneficiary. For rural water supply projects based on rainwater collection, not involving any major technical equipment like pumps and boreholes, this ratio is rather high compared to similar projects in other countries. Usually, cost/beneficiary ratios for comparable projects are located within the range of 5 to 10 Euros/beneficiary. Taking only the pure construction costs for the individual measures into account, the ratios of 8,2 Euros/beneficiaries for birkats and 4,2 Euros/ beneficiaries for dams/ponds are acceptable.

An overall monitoring and evaluation system does not exist. Monitoring of project results was done by the Welthungerhilfe project officer and by APDA's field staff. APDA has not employed a monitoring expert for this task. Outcomes and impacts are not systematically recorded, analysed and translated into improvements in the project work. Project monitoring should concentrate more on impact monitoring. Water consumption, number of water users should be monitored and water qualities should be tested regularly.

7 Annual cross-cutting theme

The improvement of pioneer techniques in the construction of rainwater catchment facilities, as set out within the objective of the project, is seen by the Evaluator as contribution to Welthungerhilfe's objective to help people help themselves. This is also

¹ including construction costs and overhead costs

reflected in two of the three project results to be achieved: improvement of the knowledge of beneficiaries in planning, construction and maintenance of water harvesting facilities and in hygienic practices as well as improvement of the know-how of the local partner organisation APDA in water harvesting measures. In this regard, the project follows Welthungerhilfe's self-help approach at least during situation analysis and project planning, for both the target group and for the local project holder APDA. The actual practice shows, that the implementation of the project measures to improve the know-how of the local partner organisation APDA in water harvesting measures does conform with the principles underlying the self-help approach of Welthungerhilfe to a rather limit extent only. The technical knowledge transfer from Welthungerhilfe to APDA could be intensified in respect of the only limited know-how available within APDA.

8 Most important recommendations

- Site selection for the construction of birkats should be improved.
- Welthungerhilfe should provide more intensive technical assistance to APDA and should provide support in the management sector.
- To improve water quality, the constructive layout of birkats should be improved. Sizes of birkats could be enlarged to collect more rainwater.
- Both – one retention dam and one birkat – should always be provided for one community.
- APDA should be provided with a water test kit including user manual. Water quality of birkats should be tested on all sites before the end of the rainy season.
- Appropriate water filters for the use at household level should be identified.
- Hygiene and health training should be enhanced focusing on aspects like contamination of water collection area and safe water storage.
- APDA's should organise its water sector adequately. A specific water and sanitation desk headed by a water engineer should be formed.

9 General conclusions

- Detailed needs assessments and baseline surveys are required to adequately plan the outcome and impact of a rainwater collection project.
- Without any detailed needs assessments and baseline surveys the outcome and impact of a project, especially on the socio-cultural, economic and ecological situation can hardly be planned and failure of the project is not excluded.
- Water quality and water quantities used for human consumption are to be in accordance with internationally accepted standards (WHO, SPHERE standards).