

**Lutheran World Relief – Lutheran World Federation/
Department for World Service –Mauritania**

**Construction and Rehabilitation Project
in the Brakna and Trarza Regions of Mauritania
HDA-G-00-02-00135-00**

Final Report

I. Executive Summary

Thousands of people lost their homes, crops were devastated and cattle lost following the excessive rainfall that struck the Brakna and Trarza regions on 9-11 January 2002. The devastation caused by this rainfall was intensified by subsequent freezing winds, thus weakening the already vulnerable population of these areas.

In light of this event and its dramatic health and socio-economic consequences, Mauritanian officials appealed for a rapid response of emergency relief from the international community. LWF, in collaboration with the Mauritanian Red Crescent and the United States Peace Corps, undertook activities in the following two objectives:

Objective 1 – Provision of Shelter:

- Rebuild 576 houses in 25 villages in the districts of Boghe, Bababe, and M’Bagne in the Brakna region (386 housing units) and the districts of R’Kiz and Mederdra in the Trarza region (190 housing units) - 476 houses with steel frames and 100 using woodless construction methods.
- In every site, train a mason on construction and maintenance techniques

Objective 2 – Environmental Protection and Reforestry:

- Construct 15 hectares of green belt to stabilize sand dunes and protect crops - 3 hectares in each of 5 villages
- Plant an average of 4 hectares of trees in each of 10 villages to assure a durable supply of wood
- Train the beneficiaries in the planting technique as well as the maintenance of both the protection belts and the trees.

I.

II. Achievements

The project achieved the following:

Objective 1 – Provision of Shelter:

- The Mauritanian Red Crescent and the United States Peace Corps constructed 200 housing units in the Brakna region.
- In the Brakna and Trarza Regions, LWF constructed 376 housing units (186 in Brakna and 190 in Trarza)
- For the Brakna region the project was generally able to find skilled masons for the shelter construction activities, in the Trarza region however such human resources were often more difficult to find. On the job training was therefore provided in 10 villages of the Trarza region to develop sufficient capacity in construction and maintenance techniques. A total of 20 semi skilled masons and 30 unskilled laborers benefited from this on the job training, which was provided by expert masons under the supervision of the construction engineer and the construction supervisor.

By type of structure, the achievements are as follows:

- **344** “Metal Frame” constructions distributed as follows:
 - 302 in the Brakna, including 167 implemented by LWF and 135 implemented by the Red Crescent/ Peace Corps
 - 42 in the Trarza implemented by LWF.
- **214** “Donkey Back” constructions distributed as follows
 - **66** in the Brakna, including 19 implemented by LWF and 47 implemented by the Red Crescent/Peace Corps.
 - **148** in the Trarza implemented by LWF.
- **18** woodless constructions (CSB) in the Brakna implemented by the Red Crescent / Peace Corps.

Details are provided in Appendices 1-3.

Objective 2 – Environmental Protection and Reforestry:

At 3 shelter construction sites developed by the Mauritanian Red Crescent and the United States Peace Corps, environmental protection and reforestry activities were undertaken by LWF. In 1 village (M’Beida) a greenbelt of 3 hectares was developed, and in 2 villages (Silbe and Regba) a total of 6 hectares of trees were planted as production wood. LWF developed another 5 greenbelt sites totalling 13 hectares and planted a total of 12 hectares of trees at 4 other wood production sites. Details can be found in Appendix 4.

At each site where the project developed environmental protection and reforestry activities, a committee of 5 persons was trained. For the 12 sites where such activities were undertaken, a total of 60 persons were trained. Per site, two persons were trained in tree nursery activities, another two in tree planting techniques, and one person was trained to be responsible for the general supervision of the environmental protection and reforestry activities. Technical staff of LWF conducted these trainings.

Of the fifteen greenbelt sites initially planned in the project document, twelve (12) were planted (80% of goal), and of the projected forty hectares of trees, thirty-four hectares were planted (85% of goal) of implementation. 100 % achievement in this sector was prevented because of the following reasons:

- Three years of consecutive drought in the country made tree-planting activities increasingly more difficult due to the drought situation in the planned intervention area. Trees are traditionally planted at the end of the September ‘rainy season’, when the soil is humid enough to support the young plants without watering them. This technique was not always possible in 2002 due to the prolonged drought.
- Moreover, most environmental protection and reforestry sites were not yet ready for planting activities during the traditional of August and September. The best period to start the necessary tree nurseries would have been March/April (as plants will then be mature enough for the August/September planting season), but this timing was not possible as the project only started in June/July. Plants therefore had to be supplied from other existing nurseries, which was not always readily available in all project areas.

III. Constraints and Solutions

As in all programs of this nature, which are established in an emergency context, it is obvious that some difficulties and constraints may occur during its implementation. Flexibility is necessary to face or to avoid the obstacles encountered on the projects path. With this project, it is reflected as follows:

- The significant rainfall deficit recorded in 2002 worsened the emergency situation that resulted from the January 2002 disaster. There is a food shortage in the area, decreasing the mobilisation and production capacity of the affected population. According to the design of the steel framed shelters, the project was to provide walls (mud bricks) up to one meter in height, and the remaining section up to roof level was to be the contribution of the beneficiaries. Due to the harsh conditions in the project area related to the drought, this contribution was often difficult to obtain. The project decided to complete the remaining open wall section with fabric. This approach met the immediate need of protection. Completion of the mud brick walls by the communities will take place at a later stage, when the communities are less involved with other urgent activities.
- Transportation costs exceeded the initial estimates. Due to the remoteness of many of the project sites, much of the necessary materials could not be obtained in the project areas and thus had to be purchased or produced and transported long distances. For example the metal house frames had to be produced in Nouakchott.
- Scarcity of qualified manpower in the concerned villages made difficult efficient implementation of the required activities. Nevertheless, we were able to find some very qualified and effective workers also, with sound expertise and experience. These experienced workers were then mobilized to guide the less qualified workers in those villages with no qualified workers available. This was especially the case in the Trarza region, where the project arranged such on the job training by skilled construction workers in approximately 10 villages.
- Adjusting to the unforeseen expenses required making some adjustments in the technical choices during the implementation such as:
 - Resizing of the shelters (donkey back construction models) to conserve resources while still maintaining the minimal standards.
 - The conversion of the variable ‘‘woodless construction’’ into metal frames or donkey back in the designated Red Crescent/Peace Corps areas. While the woodless construction has its benefits, it is clear that this model is not appropriate for emergency situations due to the implementation deadlines and the cost of the final product. A woodless construction made of mud bricks takes about 14 days to complete and costs about 800 USD, whereas a steel-framed shelter finished with fabric can be prepared in 4 days for about 500 USD. The woodless construction shelter type is entirely made of bricks, whereas the steel frame type only uses bricks up to one-meter height (rest of wall completed with fabric). Use of steel-framed shelters allowed for the reduction in construction costs and time.
 - A two-month no-cost extension was requested and granted to complete all components of the project as specified in the project documents. Factors behind the request for the extension included:

- Delay in the approval of the project proposal submitted to OFDA. OFDA agreement was only signed by the LWF/WS in early August 2002. This delayed the agreement between LWF/WS and the Mauritania Red Crescent, delaying implementation.
- Changes in provincial governors and local authorities. Major changes and transfers in local administration that took place during the months of July and early August further hampered the progress of the project as major decisions (joint verification of sites and beneficiaries) by key officials had to be put on temporary hold pending the finalization of the transfers by the government.
- Visit of the Country President to the Brakna region between 27 June and 1 July 2002 also meant that key government officials and LWF/WS staff in the region became involved in the preparation of the in the President's visit.
- Environmental protection and reforestation efforts have been hindered by certain problems related to land rights and ownership.

The project used this opportunity to build awareness and consciousness in the target communities and to validate the list of beneficiaries.

IV. Expenditure Issues

In addition to the items mentioned above, the project under-expended in both cost share and OFDA-funded items. The explanations are as follows:

- 1) Cost share under budget: Two reasons contributed to the significant lower cost share amounts than those budgeted:
 - a. The actual amounts paid for the purchase of the two ford vehicles and yamaha motor bikes turned out to be much cheaper than we budgeted for, and
 - b. Office furniture and computers: most of the existing furniture and computers were utilised for this project as they were still considered to be in good condition, hence the lower expenditure.
- 1) Salary Cashier: Two cashiers were foreseen in the budget at each of the two regions. However only one Cashier from Brakna region was actually engaged for the project. The Trarza Cashier was not engaged for the project, due to the absence of banking facilities and since transactions turned out to be less than was planned, the region was adequately served from the capital Nouakchott
- 2) Salary Planning, Monitoring and Evaluation. Costs for this position were mainly office related duties as the concerned officer had restricted travels for field duties due to health consideration. However field related duties were adequately covered by other colleagues, including the Representative and the Programme Coordinator.
- 3) Travel Per and Construction labor: Most of the qualified masons were found to be actually available in the areas of intervention at cheaper rates (in comparison to rates in Nouakchott) than would have been the case had masons been brought from elsewhere including Nouakchott. This led to a significant cost savings in travel per diem. as staff did not have to

undertake extensive travels to transport and deploy construction crew from one site to another, and in construction labor as qualified local masons were utilized. Training of local masons at the project site was therefore minimum in most cases.

- 4) Construction materials Cement: Prices for cement was found to be much competitive in Nouakchott as opposed to the regional capitals, and while this may have lead to a high increase in transportation costs, cement was sourced from Nouakchott directly to the project sites where possible or else to the regional warehouses. The consequence of changes made to dimensions of both types of houses from 7m by 5m to 5m by 4m resulted in the reduction in the quantity of cement required, hence the lower costs.
- 5) Construction material steel frames, steel doors and window frames. Although these are separate budget line items, they are to be "considered together" as price concessions were often awarded by suppliers for quantities of metallic door and window frames in consideration of huge quantities ordered for steel frames. In addition, as the preference for the types of houses of the communities became better known, changes were made to include more donkey back type houses which do not require neither steel doors nor steel door frames. Construction steel frames were comparatively more expensive than budgeted for, even after allowing for changes in the dimensions of the houses.

V. OFDA Field Visit

Mr Charles A. Setchell, Urban Planning and Urban Disaster Management Specialist with USAID/OFDA Washington, visited the project from 25 - 27 January 2003. A briefing was provided on the project activities, together with partner agencies Mauritanian Red Crescent and Peace Corps, and project sites were visited in the Trarza and Brakna regions. Upon the return from this field visit, a de-briefing meeting was conducted in which Mr Setchel shared the following main observations:

- The beneficiary selection procedures and results were well targeted. It was noted that the most affected and vulnerable people had benefited from this project. The implementing partners' sound knowledge of the concerned communities through previous interventions played a mayor role in this, as the organizations very well understand the affected areas. It was also observed that these areas were challenging to work in.
- The project created an opportunity to become more knowledgeable about the population and its constraints in such areas as food security, health and organizational structures. This provided a good basis for further interventions in those communities.
- The targeted populations were using the houses completed under this grant. Moreover, with the provision of fabric to complete the walls for the steel framed shelter types, the occupants are adequately protected from the elements.
- Shelter size was adequate. Discussions were held on the size of the shelters (5 by 4 meters), which was found to be somewhat limited for bigger families and whether or not larger but cheaper houses could have been built. It should be noted that the size is generally accepted in local village context.

- The size of the environmental plots was found to be somewhat small and thus the utility of the exercise questioned.
- The logistical constraints of emergency operation in Mauritania were noted also. It is an immense country, and distances are huge. A more concentrated pattern of shelter construction sites would have been logistically less demanding.
- The project improved capacities of implementing partners and authorities. This was particularly the case for the development of emergency response capacity and the introduction of shelter relief activities. It is the first project in its kind in Mauritania.
- Staff of implementing agencies and US embassy could benefit from emergency training workshop, and the possibility should be explored if such training could in future be organized in Nouakchott.

The implementing agencies found this visit and subsequent discussions very useful and suggest that such support/contact should be organized from the onset of the project so that maximum benefit of recommendations and guidance by experts could be assured.

VI. CONCLUSION

Despite the delays and hurdles facing the project, the final results were satisfactory. The partners and the targeted population expressed their satisfaction, particularly of the construction component. The high degree of population participation in the implementation of this project, including identification of the most vulnerable families, is a critical component to its success, as was the good working relationship between the implementing partners.

The targeted number of houses, as indicated in the achievements section, was achieved thanks to the flexibility of the project team and the donor. As noted, the choice of the construction model was given to the population and was based on their traditional habitats and their customs. The metal frame option was more appropriate for the river valley areas of the Brakna and the Bas Delta and the donkey back model was more appropriate for the areas covered by dunes such as the Trarza.

The environmental component of the project is only the beginning. Implementation was negatively impacted by the present rainfall deficit and on-going drought. The project activities focused on establishing protection such as fencing and on choosing plants based on their species and their growth rate. With proper follow-up and training, the greenbelts themselves could serve both 'protection' 'production' purposes. The follow up and consolidation of the achievements will be assured by the regular projects of LWF operating in these areas and in close cooperation with the population. Despite the interventions of this project, the targeted population remain in a fragile and precarious state as the current drought and rainfall deficit compound the damages created by the excessive rainfall and the frigid temperatures of last year.

APPENDIX 1

LWF SHELTER CONSTRUCTION - TRARZA REGION

Department	Village	Number of shelters constructed	Total
R'kiz	Oum El ghoura*	10 DB	60 units
	Tekane	10 MF	
	Ammara	10 DB	
	Legatt*	10 DB	
	R'kiz ville	20 DB	
Rosso	Jeder**	10 DB	40 units
	El Mouhguen	30 (1MF, 29 DB)	
	Rosso**		
Keur Macène	N'diogo *	10 MF	30 units
	N'khaila **	02 MF	
	Keur Macène	08 MF	
	M'Balal	10 MF	
Mederdra	Tiguent	10 DB	38 units
	Mederdra	15 DB	
	El Khatt	06 DB	
	El wafa / Bor Tores	07 DB	
Boutilimit	Bir	5 DB	10 units
	Rabié/Rachid	5 DB	
	Tenga/Araf/Bou Wa**		
Ouad Naga	Ouad Naga	10 DB	10 units
Pilot Sites	Nouakchott	02 (1MF, 1DB)	02 units
Total		(148 DB, 42 MF)	190 units

Note:

DB - Donkey Back Construction

MF – Metal Frame

* Environmental Protection sites

** Environmental Production Sites

APPENDIX 2

LWF SHELTER CONSTRUCTION - BRAKNA REGION

Department	Village	Number of Shelters Constructed	Total
Aleg	N'goural *	8 MF	93
	Taiba	8 DB	
	Dar Naim	8 (1 DB, 7 MF)	
	Bouna Tavragh Zeina	17 MF	
	Maal Ville**	6 MF	
	Jedida	7 MF	
	Djeiwar Village	10 DB	
	Bouhdida Village	11 MF	
	Choggar*	9 MF	
	Aghchotguit ville	9 MF	
M'Bagne	Mouftah El khair	10 MF	23
	Bouchama	13 MF	
Bababe	Medine	10 MF	70
	Tajala	10 MF	
	Naiim	10 MF	
	Abaari	10 MF	
	Haya saada	10 MF	
	El Voor	10 MF	
	Haya tawvigh / Jedida	10 MF	
Total		(19 DB, 167 MF)	186

Note:

DB - Donkey Back Construction

MF – Metal Frame

* Environmental Protection sites

** Environmental Production Sites

Appendix 3

MAURITANIA RED CRESCENT (MRC)/ PEACE CORPS CONSTRUCTION
BRAKNA REGION

Department	Village	Number of Shelters Constructed	Total
Boghé	DarEl Barka	10 MF	
	Diana	25 (13 MF, 12 DB)	
	Sinthiane	20 (11 MF, 9 CSB)	
	Boufel	10 MF	
	Regba**	35 DB	
	Ould Birem	35 MF	
	Silbé**	10 (9 CSB, 1 MF)	
	N'Goural Guid	20 MF	
	M'Beidia/Awa*	25 MF	
	Rweïmdi	10 MF	
Total		(135 MF, 47 DB, 18 CSB)	200 units

Note:

DB - Donkey Back Construction

MF – Metal Frame

CSB - Woodless Construction

*Environmental Protection Sites

** Environmental Production Sites

Appendix 4

Environmental Achievements

**Technical data of villages “Environment” of OFDA Project
Implemented by LWF**

Region	Department	Village	Hectares Greenbelt	Hectares trees
Trarza	Keur Macene	N’Diago	3	
	Keur Macene	N’Khaïla		3
	Rosso	Rosso		3
	Rosso	Jeder El Mouhgen		3
	R’Kiz	Oum El Ghoura	2.5	
	R’Kiz	Legatt	2.5	
Brakna	Boghe	Silbé		3
	Boghe	Regba		3
	Aleg	Maal		3
	Boghe	N’Goural	2	
	Aleg	Choggar	3	
	Boghe	M’Beïda/Awa		3
		Total	13	21

Note: All environmental protection and reforestry activities under this project agreement have been implemented by LWF, including those sites where the shelter construction was done by MRC/PC.