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SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

Community Management and Sustainability of Hand Pumps in Jebel Aulia, Sudan

Stanslaus Tombe Bönda, Sudan

The issue of hand pumps management and sustainability is of grave concern in many parts of Sudan especially among Internally Displaced Persons (IDPs). One such example is the area of Jebel Aulia, located 40 km south of Khartoum. After many years of neglect, the hand pumps management and sustainability system that had been established in the area failed. Some of the root causes for the failure are attributable to the local government authorities. A great asset that can be of benefit to NGOs faced with assisting communities manage and sustain their resources such as hand pumps are community leaders who have influence among their people. One of the best ways as we have witnessed is to tackle hand pumps management and sustainability by organizing the communities first at the lowest possible level. These people at the lowest levels should also be given a say in how their affairs are conducted.

Introduction

The Adventist Development and Relief Agency (ADRA) is an INGO that has been working in various parts of Sudan for the last 27 years in the field of relief and development. ADRA first intervened in *Jebel Aulia* in 1991 when it executed a water wells drilling and hand pumps installation project in *El Salaam* IDP camp. It later on extended the same activity to *Dar el Salaam* and *Khura Salaam*. ADRA is currently executing a project in the three areas that has HIV/AIDS awareness, health, hygiene education and hand pumps management and sustainability components.

The three areas of *Khura Salaam, Dar el Salaam* and *El Salaam* camp in *Jebel Aulia* province have a total population of 239,000 people. The areas are adjacent to each other. Some tribes in the three areas pay allegiance to the same chiefs, an added advantage to the intervention. *Dar el Salaam* which was established in 1992 has 8 residential blocks with a total population of 128,000 people. *Khura Salaam* has a population of 11,000 and was established in 1998. *El Salaam*, established in 1991 is still officially an IDP camp and has a total population of 100,000 people.

From 1991-2003, ADRA in collaboration with UNICEF and MSF/Holland drilled a total of 344 wells (refer to Table 1 and Figure 1 below) in the three areas and installed them with India MKII and Afridev hand pumps. These projects had hand pump mechanics training components whereby 100 were trained. A management and sustainability system was established involving establishment of spare parts sale centres.

By 2002, it was evident that the hand pumps management and sustainability system that had been established had totally collapsed. By then 184 (53.5% of the total number) hand pumps were not operational (refer to Table 1and Figure 1 below). The consequences of these were:

- increase in time (by ½-1 hour) people spent on collecting water and
- increase by 20-30 % in the price of water purchased from donkey cart owners.

Reasons for failure of the management and sustainability system

1. Political government programs took precedence over other Popular Committees (PC)[1] priorities.
2. Corrupt PC members embezzled/misappropriated funds such as for water tariff. Consequently, the community lost trust in them.
3. Donkey cart owners some of whom were members of the PC were against the existence of hand pumps and cases of sabotage by them were reported.
4. Lack of incentives/motivation for the trained hand pump mechanics.
5. Reluctance from Water and Environmental Sanitation/ Khartoum State Water Corporation (WES/KSWC) to assist the community regarding access to hand pumps spare parts.
6. The community had no direct say in running affairs related to the hand pumps.

In 2002/2003, attempts by ADRA to revive the collapsed hand pumps management and sustainability system were totally rejected by the community. They acknowledged the

need to revive the system considering the difficulties they were facing regarding access to potable water but they didn't want the PC to be in charge of the hand pumps.

After several heated meetings (Photograph 1 below) and workshops with the community and their influential leaders (chiefs, PC members, Pastors, Imams, etc), it was finally agreed in 2004 to form entirely new water committees without or with a minimal role for the PCs. To achieve this we had first to:

- train 100 influential community leaders in hand pumps management and sustainability in 2004 and 2005.
- mobilize the community to form the water committees and revive the failed system. A total of 182 group discussions and 2,172 home visits were conducted by ADRA's Community Hygiene Promoters (CHPs) for this purpose.
- Seek WES support and participation in reviving the system (it has to date provided hand pump spare parts worth US$10,271 while ADRA has invested US$27,000 in the above 2 activities and workshops for capacity building).

The technique the CHPs used to overcome resistance by the community to forming the new water committees was to first convince the influential community leaders to accept the idea. The CHPs had training in community management and social mobilization issues.

Group discussions which were conducted for an average of 5 neighboring households were held in the evening and weekends because these are the times when most people are at home. Any member of these house holds can therefore participate in the group discussions. Both women and men were in the same group during the discussions. Topics covered during group discussions were: water committees, hand pumps ownership and sustainability and water tariff.

The home visits for community mobilization were also used for follow up on progress of the water committees formation and performance and water tariff. Each CHP visited an average of 5 households per day.

For easy management, efficiency and transparency, the community decided that each water committee should be

- small at sub-residential block level.
- composed of 5-6 members and
- in charge of not more than 3 hand pumps.

These water committees would then form a higher level central committee encompassing the whole area.

Since there are 340 (not counting the 4 abandoned) hand pumps in the three areas, a total of 98 water committees with 496 members were formed (refer to Table 2 below). It was up to the community at sub block residential level to decide who should be-some one they trusted and deemed capable of the task-a member of a water committee. Each committee has a chairperson, secretary and treasurer. Upon completion of formation of the water committees, a process which surprisingly lasted only 8 months (refer to Table 3 below), we organized 6 workshops for 338 of the members (refer to Photograph 2 below). The aim was to

- build their capacity (topics included management, administration and finance).
- discuss introduction of the water tariff.
- Form a central coordinating body.

Main strategy for achieving objective

(see Box 1 below)

Box 1. Main strategy for achieving objective

a. Involvement of influential leaders
b. Focus group discussions
c. Home visitations

Some major achievements of the water committees (May 2005-March 2006):

- Conducted 26 workshops for the community in the three areas.
- Constructed 4 new well platforms to replace damaged ones and repaired 222 hand pumps with support from ADRA and WES.
- Fenced 26 hand pumps to keep away animals.
- Mobilized the community and conducted. 115 general cleaning campaigns including around the vicinity of hand pumps.
- All 98 water committees have started collecting water tariff from the community with 43 of them performing well in this regard.
- A total of 363 homes have been visited by the water committees to discuss issues related to hand pumps and environmental hygiene.
- Formed 2 central water committees (which have been registered as associations with the ministry of Social Welfare of Khartoum state), one for *Dar el Salaam* and a second one for *El Salaam* and *Khura Salaam*. The registration will legally enable the community to open a bank account for keeping their money which at this stage is still kept by the water committees.

The impact of the new approach

- Community member's negative attitude towards hand pumps sustainability has changed to a positive one, consequently they have to date collected Sudanese Dinars (SDD) 1,700,000 equivalent to US$7,658 for water tariff.
- 99% of hand pumps in the three areas are operational at any given time because those broken down are repaired immediately by the water committees.

- Hand pump spare parts are now readily available since fund for their purchase is available.
- Vicinities around hand pumps are very clean and environmental sanitation in the area has improved.

Table 1. Status of hand pumps as of January 2002

Area	Total #	# in working condition	# broken down
Dar el Salaam	204	80	124
Khura Salaam	48	38	10
El Salaam camp	92	42	50
Total	**344**	**160**	**184**[2]

Table 2. Distribution and membership of the water committees

Area	# of committees	male	female
Dar el Salaam	50	150	140
Khura Salaam	08	11	29
El Salaam camp	40	60	106
Total	**98**	**221**	**275**

Challenges

- Lack of hand pump maintenance tools. The few available ones are the personal property of some people. The owners demand for a considerable sum of money for the tools to be used for hand pump maintenance. The water committees are however, planning to buy tools which are available at WES using money from the water tariff.
- The sense of ownership of hand pumps is still a problem within some sections of the community. Some people are not willing to assume ownership for the pumps. This problem is being addressed by the CHPs and water committees during home visitations and group discussions.
- Some community members are hesitant about paying water tariffs. We encouraged the water committees to be as transparent as possible in carrying out their duties. We also advised them to conduct regular meetings with the community through which they can update them (each committee now holds meetings on monthly basis with its members to report on progress and for financial accountability). This way they will be transparent and clear doubts in the minds of many.
- Peace agreement to end civil war in the south of Sudan. Some IDPs who have decided to return to south Sudan are showing reluctance in paying water tariff. This could affect the system negatively.

Conclusions

- The community should be fully responsible for selecting the people they want to be in charge of the management of their hand pumps.
- The involvement of community leaders such as Chiefs, Sheikhs, Pastors, Teachers etc is a crucial factor for such an intervention. This strategy is very vital because they are traditionally highly regarded by the society and therefore their involvement in the program will solicit faster acceptance by the community.
- It is only if the community is empowered and has a sense of ownership that it will be motivated to fully participate in solving problems that concern them like in the case of hand pumps.
- Transparency is important in management of community resources to avoid mistrust among the various members.

Note/s

[1] Grass root political government service committees
[2] Includes four (4) hand pumps that were beyond repair



Photograph 1. A heated group discussion



Photograph 2. Water committee members during a workshop

Table 3. Progress of formation of the 98 water committees (2005)

	May	June	July	August	September	October	November	December	Total
Dar el Salaam	1	6	14	6	1	6	10	6	50
Khura Salaam	1	1	-	-	1	-	4	1	8
El Salaam camp	-	2	2	1	-	13	21	1	40
Total	**2**	**9**	**16**	**7**	**2**	**19**	**35**	**8**	**98**

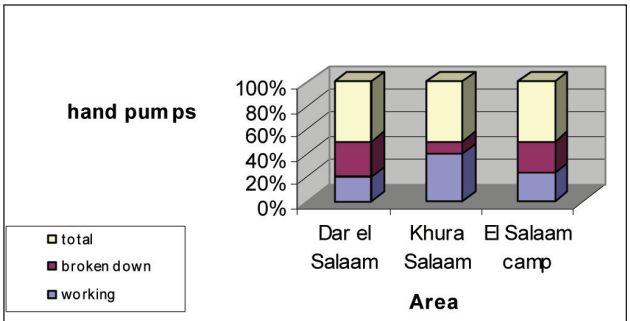


Figure 1. Status of hand pumps in the three areas in January 2002



Photograph 2. Water committee members during a workshop

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