Final Report

Provision of Safe Water, Hygiene & Sanitation Programme

Host Communities/ IDPs and Returnees in Southern Sudan

1st February 2006 – 31st January 2008

Presented to:
Basic Services Fund (DfID)

Basic Information about the Organisation and Partners

Name of Lead Organisation	MEDAIR
Address of Lead Organisation	Croset 9,1024, Ecublens, Switzerland
Grant Contract Number	510004.012
Project Title	Provision of Safe water, Hygiene and Sanitation Project
Contract Amount	£544,608 ARCADIS / £586,287 DFID BSF
Contract Start Date	1 February 2006
Project Location(s)	Awoda, Aweil Centre County, **Northern Bahr el-Ghazal State** Payuer, Melut County, **Upper Nile State** Atar, Khorfulus County, **Jonglei State** Ayod, Ayod County, **Jonglei State**
Period Covered by this Report	1 February 2006 – 31 January 2008
Serial Number of this Report	FINAL REPORT
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Annexes

Annex A – Maps
Annex B – Financial report
Annex C – Audit report

Project Basic Data

The goal of this project was to raise the standard of living in Southern Sudan through improved health and productivity by expanding access to potable water supply systems, hygiene and environmental sanitation. The project aimed to assist (host) communities, returnees and IDPs in Southern Sudan through the provision of three services: 1) potable water by drilling boreholes, developing shallow wells, and rehabilitating disused water points; 2) the subsequent training of local staff in management and technical skills to take over the water points (capacity building); and 3) complementary hygiene and sanitation awareness campaigns. All of these activities were aimed at relieving strain on severely stretched services, and helping to alleviate suffering.

Population data

State	County	Population			Targeted Beneficiaries[1]	Actual Beneficiaries[2]
		Host	Returnee	IDP		
NBEG	Aweil Centre	12,888	2625	1870	6,250	6858
Jonglei	Ayod	57,000	Unknown	Unknown	1,250	1,000
Jonglei	Khorfulus	38,083	1798	4790	1,250	1,400
Upper Nile	Melut	85,000	11,858	Unknown	10,000	3,090
				Total	**18,750**	**12,348**

[1] Calculated in 2005 by assuming 1000 persons served by borehole or shallow well, and 5 persons per latrine
[2] Calculated in 2008 by assuming 500 persons served by borehole, actual households using shallow wells (with average of 6 persons per HH), 6 persons per HH latrine and and 50 per public latrine (Atar and Ayod)

GENERAL OVERVIEW

As per the end of the project period, all the funds have been spent up to 100%. All the 10 boreholes for Payuer and all the 5 shallow wells for Awoda have been completed, installed with hand pumps and commissioned for community use. The hardware has been coupled with intensive software on hygiene and sanitation and in building the capacities of the local staff to own, manage and sustain the installed structures. The programme has provided services to a large number of returnees and host communities – providing real peace dividends to a region ravaged by war.

Early rains in 2007 did affect planning, movements and operations, especially in construction of the demonstration latrines in the Black Cotton soil of Melut County. Some of the other challenges met during implementation are described in more detail below.

Nevertheless, communities have generally been supportive and thankful for the services provided. This has been clearly evident in their willingness to carry on the work in the absence of Medair and in their comments during the implementation and follow up meetings. These are some of their sentiments:

Participants:
"I'm very encouraged by you as you are training the women to take care and protect the borehole, can you do more trainings? Your training is good" *Trasa Achalla*

"The water is good and clear, before we drank from the riverside and if the borehole breaks it will be repaired, no one will go to the riverside again" *Dandoor Shoot*

"Before we were suffering because of water, when Medair come and make borehole in near my home and gave us clean water, and when I learnt Medair will learn me well and guide me to learn the borehole and become the village water committee , I am very happy" *Mary Akot*

Community leaders:
"Before we were dependent on the SPLA but they had done nothing so they looked for an NGO to help Awoda, then Medair came. Awoda is now independent, 20 boreholes, metal sheeting for the roof of hospital. The others in the county are now surprised when they hear of Awoda. We want to thank Medair in Nairobi for sending their teams to Awoda" *Payam Administer*

"We suffered a lot because of water, we had to fight monkeys at the water, but now we have clean water at our homes, it is safer" *Prisons Supervisor*

"We want to thank the Medair teams that have come to Awoda, they have taught us much, our children aren't dying of diarrhoea and malaria anymore. We want to send our thanks to the Medair in Nairobi for sending their teams to Awoda; because of Medair we now have 9 doctors, TBA's, vaccinators and 20 boreholes. People in Awoda are trained." *Executive Chief*

RESULTS

Objective 1: To provide safe water sources to host communities, IDPs and returnees

The project targeted provision of safe drinking water through 5 shallow hand dug wells in Awoda, and the drilling of 10 boreholes in Payuer. Also targeted was potential rehabilitation of 5 water points.

Objectives on the shallow wells and boreholes have been achieved. However no water points for rehabilitation have been found in the areas of our work. The planned funds for this have been used mainly for over delivery in the area of latrines. This was discussed and agreed upon with BSF representatives.

The wells in Awoda have been located in the villages without boreholes. This provision of clean water has helped to reduce the number of waterborne disease cases reported in the PHCU clinic in the location. In Payuer, the boreholes have been located in the village and in the farmlands where many of the population migrate during the cultivation season. The boreholes in the farmlands will mean people can stay in the area to cultivate instead of travelling back to the villages to collect water – a journey of 6 hours.

The water points have been greatly appreciated by the communities, especially in Awoda – the Payuer community requires a lot more encouragement to accept and use the boreholes, which have produced a lot of saline water so far. Exact figures of water usage are unknown. Many families have left the area and it is unclear when or if they will return. Reasons for this are numerous: some are seeking employment in the oil fields; other are out in search of food.

Awoda had relatively less challenges in implementing clean water points compared to Payuer, which included the following:

- Casual workers' demand for high casual pay (compared it to the offers given in the oil fields)
- Low retention level of locally trained personnel, who left to look for jobs in the high-paying oil fields within the county
- Saline water, which requires continued effort in training and encouraging the community to use, as it is still safe and within WHO standards, and is preferable to raw river water
- Low support from the county authorities who are not regularly in the area
- Low community participation coupled with high expectations of peace dividends

Awoda has had relatively higher development in the way of safe water provision and at this time its needs are well met. The county population is just under 13,000 and further details of water supply in the county are not known. Medair's work was limited to Awoda.

Tools and spare parts have been left with the communities and kept under the safe guard of the payam administrator. If there is no payam office, such as in Payuer, the items are stored in the Medair compound for distribution. However, Medair retains a presence in Melut County and once the local structures are in place in Payuer, the parts will be handed over.

Provision of Safe Water Points – Shallow Wells

Shallow Wells	Number achieved	Timescale 2007				Final Beneficiaries	Comments
Aweil Centre County - Awoda	5 shallow wells	Sept	Oct	Nov	Dec		
	❖ Jebel Timsa	√				30 HH	
	❖ Timoli		√			34 HH	
	❖ Moni			√		30 HH	• Has a low yield
	❖ Jebel Adjobi			√		45 HH	
	❖ Awoda Market				√	32 HH	• Seasonally dry - is expected to recharge and continue serving the population again
Final						171 HH = 1026 ben's (6 per HH)	Awoda has another 20 boreholes that are located in the villages without the shallow wells and is serving the rest of the population in the location

Provision of Safe Water Points – Boreholes

Melut County	Total number of Beneficiaries	Time scale 2006			Time Scale 2007				Comments
		Mar	Apr	May	Jan	Feb	Mar	Apr	
Malek	**500**	√							
Mading	**500**	√							
Belgo	**500**		√						
Nyayok	**500**			√					
Panamthi	**500**				√				
Panamdit	**500**					√			
Malich Panamdit	**-**						√		Farmlands correspond to villages within Payuer - inhabitants will move into the farmlands for the cultivation season
Malich Panamthi	**-**						√		
Malich Belgo	**-**							√	
Malich Malek	**-**							√	

Objective 2: To promote awareness of sound hygiene and the use of good sanitary practices in the communities served by water programme

Latrine construction:

Latrine construction has always been a challenging issue to implement in Southern Sudan, mainly due to the traditional cultural beliefs and stigma attached to construction and use. Continued health and hygiene promotion throughout the implementation period has seen an improved acceptance and increased number of constructed latrines in use in the locations – especially in Awoda where most of the households now have latrines and are using them.

Payuer, Melut County, has remained a very challenging location to implement latrines, mainly due to:

- Geological soil structure which is not stable and keeps collapsing, especially during the rainy season, and would require lining which is not easily affordable by the community
- Retrogressive beliefs attached latrine use which are limiting i.e. If a man is seen going to a latrine they will not get a wife

This has discouraged the community and been a hindrance to the programme outputs – however, continued sensitisation and subsiding of the rains have seen an improved acceptance of latrines, with 7 latrines initiated in the location.

Hand-washing points were installed at public institutions in Awoda, and at the few latrines which were constructed in Payuer. Further hand-washing points will be installed in Payuer in support of ongoing sanitary activities, as and when the community increases the number of latrines.

Payuer is a location that requires continued support and training on the importance of latrine use, especially in the two recently established schools in the location. Medair will continue to work with the emerging political structures – such as Village Development Committees and the County Health Department – to ensure that good sanitary practice is prioritised across the county.

Promote awareness of sound hygiene and good sanitary practice		25 Pit latrine construction in each of the 4 locations	30 Hand washing points installed nr public toilets	200 Water buckets distributed to encourage latrine usage	Comments
Awoda	**Actual Figures**	**972**			Even though 25 latrines had been planned for in this location, a latrine campaign done in 2006 during a hepatitis E outbreak saw a total on the listed number highlighted in both public institutions and a household level
			5		Issued to be installed for the public latrines (PHCU, School, Market, police)
				1974	**1974** Buckets were received in AWODA for HP distribution. The summary of distribution is as follows: **736:** Distributed to community using latrines **400:** HP supervisor for distribution later to people making latrines **10:** Given to community for road construction for Webwa, a local NGO, for drawing and storing water for the community **828:** Balance in the EPI store at AWODA for future distribution ❖ Additional buckets were distributed in 2006 during Hepatitis E outbreak and they acted as incentives to encourage the communities to construct household latrines ❖ Individual households are responsible for maintenance: some of the household latrines are used and maintained well, while others need continued training and encouragement by the locally trained HHPs on proper maintance ❖ The buckets and lids are currently used for drawing and storing water at household level which reduces chances of contamination
Payuer	**Actual Figures**	**8**			❖ This dug but later collapsed during the rains and people were reluctant to dig
		7			❖ Initiated as demonstration latrines in five villages adding drainage channel along side the super structure. Payuer still continues to require support in use and maintenance of latrines.
Atar	**Actual Figures**	**28**		**600**	❖ These buckets were distributed in Atar during a AWD/Cholera out break in 2006
Ayod	**Actual Figures**	**20**	**6**		❖ Medair did not support any activities in Atar and Ayod the whole of 2007, due to a shift in strategy and focus on one state (Upper Nile)

Objective 3: To increase the number of skilled local Sudanese to maintain new and existing water points and educate the community on good sanitary practices and hygiene awareness

The project targeted building the capacities of the local staff through training of village water committees, pump mechanics, shallow well committees, village level caretakers, hygiene and health promoters and water/hygiene supervisors. This has been with an effort of involving the community at all stages of project cycle, for ownership, participation and sustainability. Medair was supporting the local trained teams with incentives while on ground and in operation.

The project has impacted positively in the locations especially in Awoda where most of the trained local staff have continued to remain active in mobilising, training and maintaining the water points even without continued support of incentives.

Payuer has also befitted from the training and community involvement approach, but has experienced problems due to low community leadership support and high expectations, partly created by its geographical location in relation to the oil fields. Continued effort by the Medair field staff in mobilising, training and encouraging the community has seen an improvement in acceptance and participation. Continued encouragement is still needed in Payuer – again, Medair will continue to build the capacity of the local structures in 2008.

Communities are encouraged to have at least 2 female members per VWC. This ensures sustainability of the committees when the men are away working.

VWC functionality has a large variance. Awoda has numerous functional VWCs which meet frequently; on the other hand, Payuer VWC meetings are less frequent, yet do occur. A typical example of committee fatigue is the committee for Nyayok: of the original 5 only one remains; the rest of the committee have left the area.

VWC training is typically 5 days in duration, and refreshers normally 3 days. Pump mechanics are trained for 10 days, as a group, and are given practical experience with hand pump repairs. Medair also tries to include pump mechanics in the actual drilling process, so they have a better overall idea of what goes into producing a borehole and what role they will play. Mechanic refreshers vary from 2 days to 5, depending on attendance figures.

Medair is planning to train a County Water Coordinator for Melut County, as part of the County Health Department. This will be a position first discussed and planned with the local authorities, and must be sustainable. The two-year training will be conducted in the Kenya Institute of Water, and the costs shared between Medair and the local authorities.

Training

Number of skilled local Sudanese increased	Target	Actual Number trained	Number of Women trained	Number of days for training
Up to 20 Village Water Committees established and trained	20	41	84	5
Up to 20 Trained Pump Mechanics Trained	20	22	0	10
Up to 20 Village level caretakers trained	20	19	0	4
Up to 40 hygiene promoters trained across all four main locations	40	80	29	4
Up to 4 Hygiene supervisors trained across all four main locations	4	4	0	5
Up to 6 local water coordinator trained across all four main locations	6	3	0	5

Number of skilled local Sudanese increased	Awoda	Payuer	Atar	Ayod	Total number	No. of females trained	Comment
Up to 20 VWCs (x5 members each)established and trained • Shallow well committees trained • VWCs trained	5 20	- 16	- -	- -	**5** **36**	**-** **84**	2 hand pumps are managed by the same VWCs in village and farmlands in Payuer
Up to 20 Pump mechanics trained	10	12	-	-	**22**		The committee are selected by the leaders and the community from the residents and of the community and most of them are still active, while some have left for Aweil and Melut. Follow up meetings have been held to replace those who left, and to encourage them to continue being active and to support the water points
Train/refresh 20 Village level caretakers	5	7	2	5	**19**	**0**	Each shallow well / borehole has a village level caretaker (from the nearest house to the water point). They do need regular support by the water supervisor to continue being active.
Up to 50 Hygiene and health promoters trained	30	25	25	-	**80**	**29**	The hygiene promoters are trained from the community, and carry on the training of HHP messages to the community at house hold and village level with the main key messages being , drink safe water, wash your hands and use a latrine.
Up to 5 hygiene supervisors trained in all four locations	**1**	**1**	**1**	**1**	**4**	**0**	English required for reporting produced challenge to find female supervisors.
Up to 6 Water Coordinators trained	**1**	**1**	**1**	**-**	**3**	**0**	Due to structure change in the County Health Department this figure was reduced
16 supervision visits carried out	**5**	**6**	**-**	**-**	**11**	**-**	Follow up visits to Atar and Ayod could not be conducted due to ongoing insecurity

CONCLUSIONS AND RECOMMENDATIONS

This project spanned 4 different counties, in very different locations across Southern Sudan. This represented Medair's areas of operation in late 2005, when the proposal was written, and reflected the more mobile modus operandi of Medair operations at that time. In 2006 Medair was required by the Ministry of Health, in their decision to implement the Basic Package of Health Services (BPHS), to select one county to work in, and considering the underserved status of Melut County in Upper Nile, this area was to become the focus of our work.

Awoda, by the time Medair departed, had become a well served community in terms of water provision, health care, sanitation, and a haven for some IDPS, returnees and refugees. A receptive and cooperative host community had taken on the messages of sanitation, health and hygiene. In terms of project design, the decision for hand dug wells was made in 2005, after initial research in 2004. The result has been fairly good, with only 1 well being dry in the dry season, and one with a low yield. These two are expected to perform better when the water table rises in the wet season.

Ayod and Atar, both more difficult to operate within due to security problems, were to receive no new safe water points on this project, but received outputs in sanitation and hygiene, water source management and latrine construction. Insecurity in Atar forced the evacuation of the area during pump mechanic training, and the team was unable to return after this. The area still remains volatile, with problems in neighbouring Khorfulus breaking out in February 2008. Both Ayod and Atar also benefited from Medair's medical programme, although the clinics were handed over to other NGOs at the end of 2006.

The switch in strategy to a single county has significantly helped the planning and efficiency for Medair's operations. Working in 4 locations reflected Medair's mandate to operate in areas with no other NGO activity – this was a smaller-scale style of operation that prevailed during the war, but was much more expensive in terms of logistical support. With the benefits of peace, and the subsequent investment as well as increased oil revenues flowing in, basic infrastructure should start to be implemented across the region, making ground transportation within the country far better, and a much better alternative to flying. However, the locations Medair has worked in are remote, and the time it will take for the dividends of growth to reach these areas could be longer than expected. Tribal tensions still exist in these areas, and until these are resolved, it is likely development will not occur.

Upper Nile state remains the only state in Southern Sudan administered by the NCP. Medair's operations in Payuer (Melut County) traditionally relied on consultation with the SSRRC counterpart on ground, and all planning and movement was carried out in consultation with them. However, in tandem with the more focused multi-sectoral approach to Melut County, Medair decided to establish a logistics base in Malakal, supporting the programmes in Melut via the river and by road. This has led to a much more efficient operation, and has reduced support costs considerably.

The base setup in Malakal and Melut started in September 2006. This was also the first opportunity to meet with state water authorities, and to start relations with the relevant Ministerial counterparts, as well as state-level SSRRC. Cordial relations and coordination with these bodies have been ongoing since this time.

Medair had conducted a geophysical survey of the Payuer/Malek Payam in May 2004 and there was deemed to be a low risk of finding unpalatable water, but concerns were mainly of low yield. There is a high yield in most of the boreholes drilled, but only one has palatable water. The rest have a saline taste which has improved over time, and with higher usage of the borehole would disappear. The reality is that people are not utilising the borehole as much as expected, and although there has been a marked improvement in taste since first sinking the holes, the population still remains resistant to use.

Borehole maintenance and management training, in the form of pump mechanic and VWC training, was conducted in all sites where a new water source was established. Refresher training was conducted in all locations and VWCs were assessed in their function and understanding of their role. The success of both these aspects is again dependent on the host community and its acceptance, but also relative to the overall expectations of the community and the prevailing economic climate. The results from Awoda and Payuer were marked by a notable reluctance of the Payuer community to engage in the programmes – despite the high expectations of peace dividends from the oil fields in Melut County. This contrasted to Awoda, where community willingness to participate and take responsibility for the programmes resulted in more outputs.

The pump mechanics, being male, have often left the area in search of remunerative employment elsewhere. All pump mechanics trained by Medair have been male, and in the case of Payuer, 8 of the original 10 mechanics trained simply left to find paid work in the oil fields. Rural Water in Malakal is now recommending that women be trained as pump mechanics, and that the heavy labour component of the work be carried out by male casual labourers. This would bring sustainable skills to villages. Medair will implement a pilot training for women, and will assess acceptance of this in the village context.

VWC members traditionally volunteer. They have also been established separately to other health and management committees within the community. This approach will be improved by the consolidation of these committees into Village Development Committees (VDCs), which will report to the County Health Department. This in turn will report to state level authorities. This new structure has been actively developed in partnership with GOSS over the project period, and will ensure the sustainability of all Medair's programmes in Melut County.

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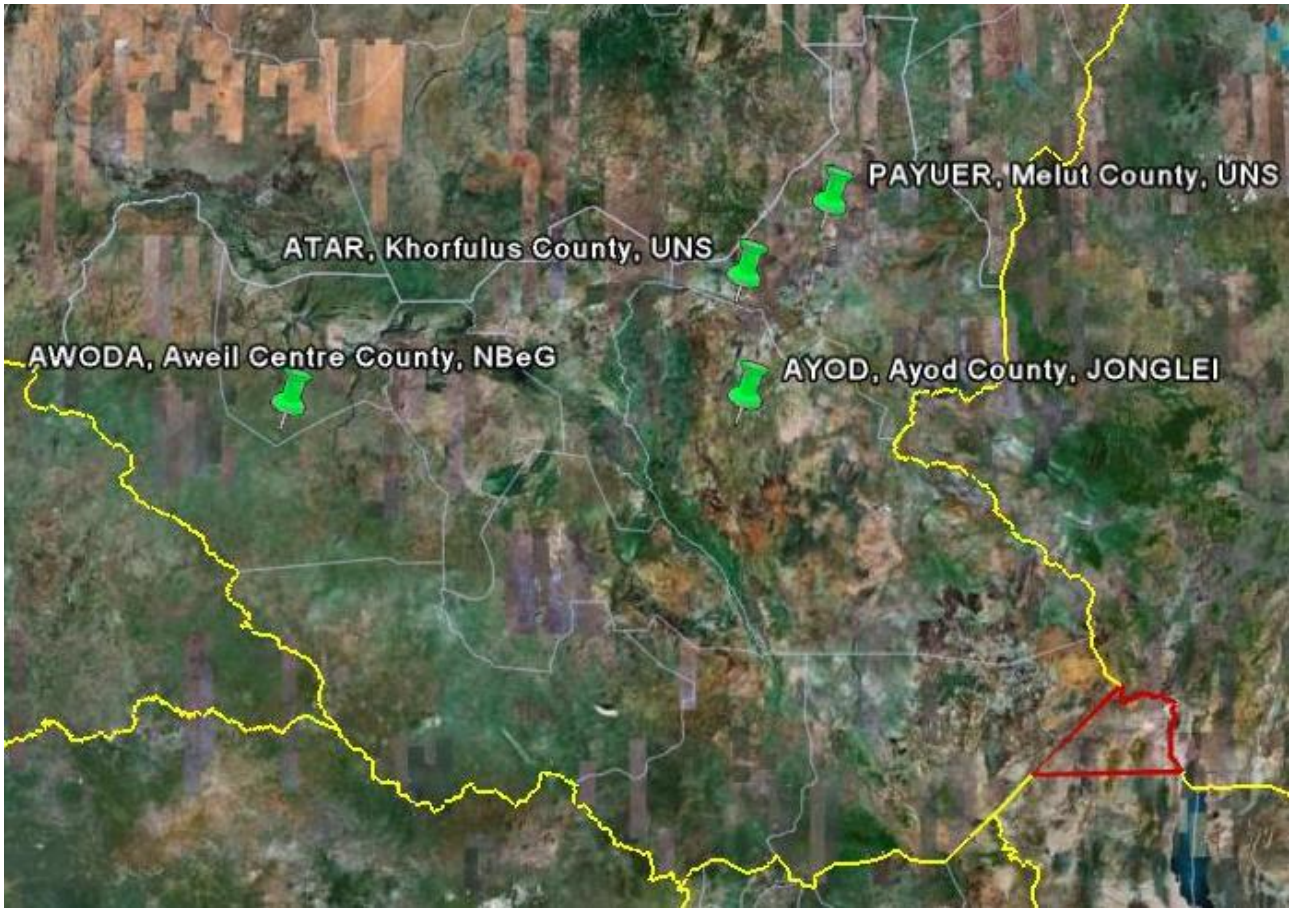
The context of Southern Sudan has changed enormously over the past two years, and Medair's operations have changed with it. While the communities of Awoda, Ayod and Atar have benefited enormously from the partnership between Medair and the Basic Services Fund, the population of Payuer and the rest of Melut County stand to benefit the most from Medair's decision to focus its operations there. This is an area with a long history of marginalisation, violence, oil exploration and displacement, and its people have suffered immeasurably. There have been no other NGOs providing basic services during the project period, and the county was also underserved during OLS.

Now, as the CPA enters its fourth year, there are real prospects for long term, sustainable improvements in Melut County, both in terms of infrastructure and also human resources. Oil revenues have begun to make their way into the county coffers, and the arrival of a new Commissioner at the beginning of 2007 saw a marked improvement in relations with the local authorities. Whereas in the past Medair would have looked to a developmental NGO to handover their operations, now Medair is able to commit to building up the capacity of the county structures in preparation for an eventual handover of the programmes to them.

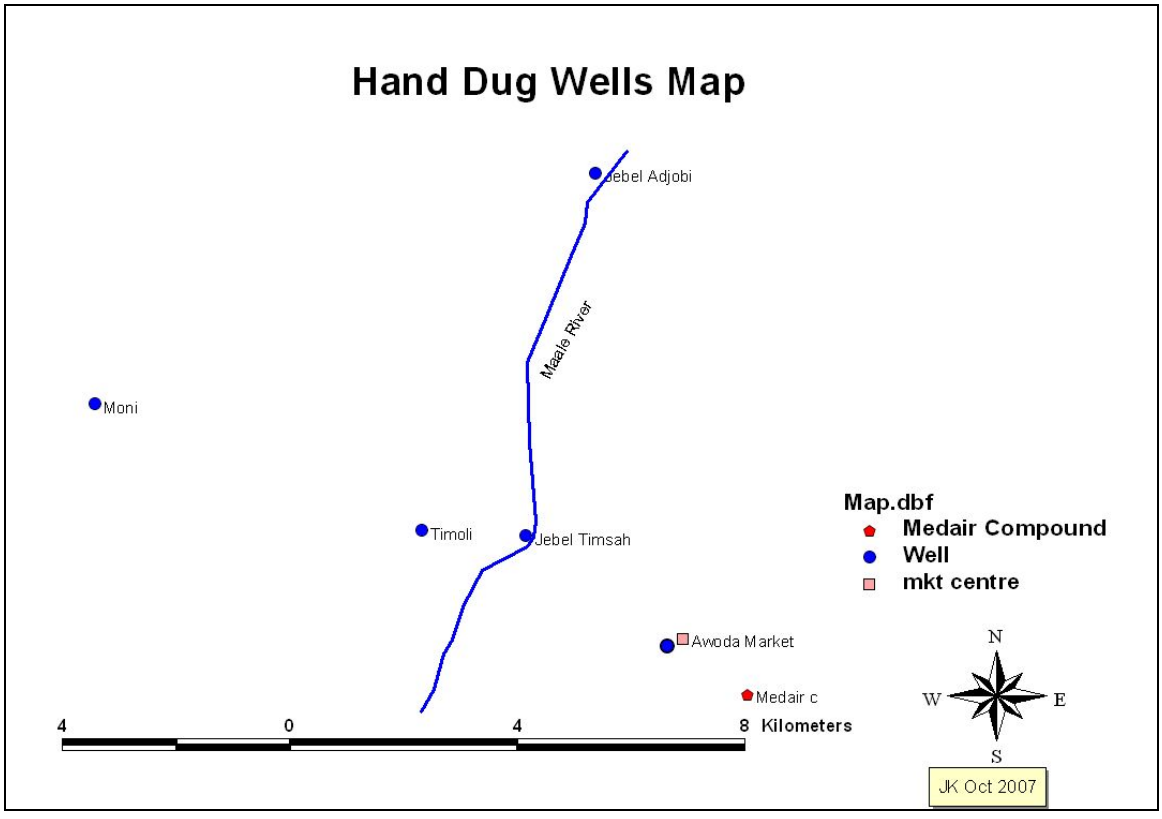
Medair is very grateful for the support of the Basic Services Fund during the project period, and despite the current uncertainty of the funding environment in Southern Sudan, as we continue to operate in a transitional phase, Medair is hopeful that basic services will continue to be funded in the future.

Annex A – Maps

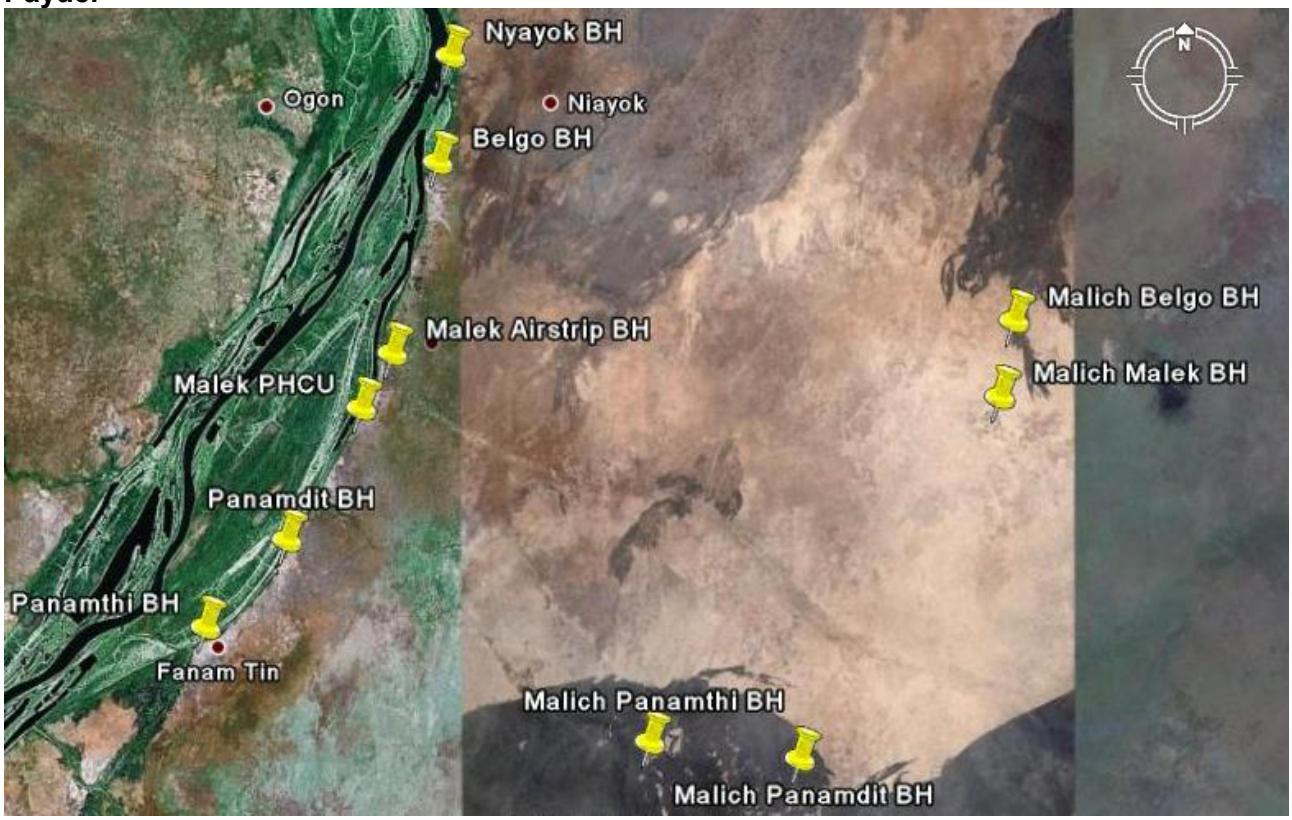
Project Areas - overview



Awoda



Payuer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