External Evaluation

CAFOD/CDTY Emergency Intervention
Western Equatoria, Southern Sudan
2009-2010

Water and Health Promotion Component

ECHO/SDN/BUD/2009/01061

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Contents

Summary:

This external evaluation report concerns the water and health promotion component, funded by ECHO, of a larger intervention of CAFOD to support the internally displaced in Western Equatoria, Southern Sudan. This larger intervention concerned food, non food items and seeds and tools. The complementary Real Time Evaluation report of the full intervention is available from CAFOD.

In 2009 the Lords Resistance Army started to attack civilian populations in the Western parts of Western Equatoria State, South Sudan. In the first 8 months of 2009 at least 200 civilians had been killed and 68,000 internally displaced, largely from small villages in the forest to bigger villages and towns.

CAFOD and the Catholic Diocese of Tombura and Yambio (CDTY) did a joint assessment mission in September 2009.
A Caritas International appeal was launched in October 2009, covering also the Eastern counties which are not part of this evaluation.
The action started in November 2009 with Caritas funding of about € 1,000,000.
Also in November an agreement was signed with ECHO for the water and health promotion components with a value of € 300,000. UNICEF contributed NFIs in kind, and WFP donated food in kind.

The water and hygiene intervention exceeded its target and drilled nine new boreholes, and repaired sixteen old boreholes.

The deep reach of the intervention was remarkable in this very difficult area. This can be mainly attributed to the solid roots of the diocese structures. Conflict sensitivity was excellent, and the selection of beneficiaries was non biased. The placing of the boreholes was as rational as possible in the highly fluctuant population.

The start of the intervention had serious delays due to late recruitment of the water engineer and failed procurement of survey and drilling services. There was further delay as the project had to be suspended for 43 days because of security problems. Once the work on water points had started, it proceeded remarkably fast.

The nine new boreholes functioned properly with good yield, but quality had not been tested in the first three. The sixteen repaired boreholes were not properly tested for yield and quality. These boreholes were not fully rehabilitated, but only the pump mechanism was repaired. This is not standard good practice, and initial yield results are disappointing.
A further assessment is required after the end of the project, and all boreholes, new and repaired, must be tested for water quality as soon as possible.

The hygiene promotion functioned fairly well, but was initially hampered by the delay of the means (safe water points and jerry cans) to implement the message. An opportunity was missed to include gender (water collection is a female task, and

keeps girls out of school) and protection (water collection far away in an unknown area increases the rape risk) in the hygiene messages.

This water and hygiene intervention mitigated the impact of displacement, but could, with its limited inputs, not fully reach SPHERE standards.
It was a mix of emergency (the IDPs got more water), development (the water points were mainly in the location of the host) and disaster preparedness (further displacement is likely to happen, and the hosts have more spare capacity now).

Overall, the intervention was effective and efficient, with some relatively minor concerns about the delays and some quality aspects.

This intervention once again draws attention to the fact that host populations often have a water situation that is well below SPHERE standards, even before a crisis happens.
Considerable investment is required in water and sanitation in Western Equatoria, even if peace would break out. The current displacement crisis is little known, and CAFOD and ECHO must lobby to get it higher on the (crowded) humanitarian agenda.

Background

Social and economical

The intervention took place in the western part of Western Equatoria in Southern Sudan. The area borders to Central African Republic and the DR Congo.
Tropical rainforests dominate, and the population density is low, with widespread dwellings due to the slash and burn method of agriculture. The market villages remained small until recently.
The population is largely of the (A)zande ethnic groups, with a Belanda minority in the North.
The Azande formed an independent kingdom up to 1910, extending within Sudan, CAR and DRC, with a highly developed social and governance structure, and an extensive army for its historical conflict with the neighbouring pastoralist Dinka.

Until the arrival of Catholic missionaries in 1912 the Azande were largely animist, with extensive secret societies and witchcraft rituals, described by the anthropologist Evans Pritchard. Many animist entities were incorporated in the Catholic beliefs, and the church built up a very strong presence and influence that remains up to today.

The Azande are almost exclusively agriculturalist, and developed extensive coffee, oil palm and teak plantations in the middle years of the 20th century. These were largely destroyed in the Anyanya and SPLA wars.
The Zande area however continued to have a food surplus, and functioned as a breadbasket for the SPLA, the liberation army of the South. The war provided a common enemy, and created a “marriage of convenience” between the agriculturalist Zande and the pastoralist dominated SPLA, their historic enemies.
From 2001 the Zande area provided food relief for the draught and war effected populations in Southern Sudan, facilitated by World Vision buying up surplus crops.
Only the LRA incursions, starting in 2008, ended this food security, simply because the country side became too dangerous, leading to a sharp drop in agricultural production.
It also caused a population shift from the small villages in the forest towards the larger population concentrations, and overburdened the already insufficient water and sanitation systems.

Water situation

The population of the area lived to a large degree in small villages, spread out in the forest.
Water was largely collected from small streams and ponds, almost universally not protected.
Boreholes were mainly available in the larger villages that functioned as trading centres.
The area did not experience a humanitarian crisis until 2009, so the number of

pumps constructed by humanitarian organisations was relatively limited. The return of internally displaced after the 2005 peace agreement caused however a wave of borehole constructions in these larger villages, but not in the small forest villages. No central register of water points is available. Even in the larger villages the SPHERE standards had not been achieved before the crisis.

The area is undulating with an altitude of between 500 and 800 meters, transversed by multiple small streams. These fill up during the single rainy season, but largely dry out during the dry season.
The area is covered in tropical forest, but annual rainfall is only about 800 mm.
The geology is mainly sediments and weathered gneiss, and aquifiers in the area are notorious for their feeble productivity due to the limited recharge. A high percentage of the boreholes has silted up in the past.

Timeline of the action

In the first eight months of 2009 at least 200 civilians were killed and 68,000 displaced by attacks of the Lords Resistance Army.
CAFOD and the Catholic Diocese of Tombura and Yambio did a joint assessment mission in September 2009.
A Caritas International appeal was launched in October 2009, covering also the Eastern counties which are not part of this evaluation.
The action started in November 2009 with Caritas funding of about € 1,000,000.
Also in November an agreement was signed with ECHO for the water components with a value of € 300,000.
The contract with the World Food Programme for food aid in kind was signed with delay due to verification problems only in March 2010.
The action was initially led by an Emergency Coordinator, seconded by the CAFOD regional office, and in March 2010 the permanent Project Manager and Water Engineer were in post.
Security problems caused a 43 day project suspension in June and July 2010, leading to an extension of the water component to September. The delays on the food contracting led to an extension of the food component up to the end of 2010.

Methodology

This evaluation had a dual purpose:

1) A final evaluation of the water component, funded by ECHO
2) A Real Time Evaluation of the full CAFOD intervention, including food aid, seeds and tools, and non food items, aimed at drawing lessons for the next humanitarian phase, and integration with the starting livelihood action.

These two issues are reported separately, but obviously with considerable overlap. This report covers the ECHO component. Further information is available in the more extensive evaluation report of the full intervention.

The assessment involved (a) meetings with both CAFOD and CDTY in Juba and Yambio (ii) review of documents and reports, and (iii) a field mission to Western Equatoria State. The following activities were undertaken during the field mission:

- Meetings with both CAFOD and CDTY project management team
- Community visits to observe the water projects and meet with beneficiaries, meet with relief committees, and meet with parish leaders and members to discuss their perceptions of the intervention
- Focus group discussions with committees and beneficiaries
- Transect walks
- Key informant interviews with priests, teachers and health workers
- Meetings with representatives from:
    - Other international organisations involved with IDPs, health and livelihoods (World Vision, MSF, IMC).
    - UN Agencies involved with refugee/IDP returns, livelihoods and water (WFP, IOM, FAO)
    - UN agencies and international NGOs involved with refugee/IDP returns, community development, community security etc.
    - Ministry of Agriculture.

The strategy for the evaluation was to apply multiple methods in the form of semi-structured interviews with project personnel, government officials, and staff of other NGOs; observation; record review; review of secondary data; and participatory tools with community members to obtain sufficient quantitative and qualitative data for triangulation and for reliable conclusions to be drawn concerning the evaluation questions.

The field work was shortly interrupted because of attacks by the LRA, and one location, Nagero County, could not be reached for security reasons. Five field locations (see itinerary) could however be reached.

In view of the sensitive political situation informants were guaranteed anonymity.
The evaluation was done by Dr Harry Jeene (harry@ralsa.org) and Kennet Korayi (kenkorayi@yahoo.co.uk) .
The field mission took place 27 July – 11 August, 2010, the diary is in the annex.

Achievements against expected results

Result 1: Water

25,000 people in Western Equatoria State have improved access to safe and sustainably managed water facilities

Achieved

At the time of the evaluation in early August 2010, 7 new boreholes had been completed. Two of these were observed and found functional with yields over 1000 litres per hour. We also observed one borehole that was near completion, and one that was just started in Tombura town. After the evaluation we inspected the hydro geological survey and testing documentation of all boreholes . Six[1] appeared satisfactory with proper step draw down and quality testing, and full documentation. The first three[2] lack draw down and water quality testing and had only part documentation of the borehole construction. All boreholes were between 60 and 100 meter deep, with casing and screening. Backfill seemed appropriate for the group of six, but could not be ascertained for the first three. Dynamic water levels were around 25 meters and pumps were installed around 40 meters. All pumps were India Mark II, with standard platforms.

Sixteen boreholes were repaired. These were repairs of the pumping mechanisms, not full borehole rehabilitation. This would have been impossible within the budget. No yield data were available, but pumping suggested modest yields in the 200 to 300 litres range. It remains to be seen whether these repaired boreholes remain functional in the dry season.

No water quality testing of the repaired boreholes had been done yet as water quality testing kits were awaited.

The additional water hardware was possible thanks to a shift in budget lines, agreed by ECHO. The planned purchase of mosquito nets was not necessary as these were donated in kind by UNICEF.

The boreholes were all in sensible locations benefitting both host and displaced populations.

Average per capita water use observed and reported during this evaluation was around 10 litres/person/day. This is below SPHERE standards[3], but back to pre-crisis levels according to the informants. Most of the displaced had previously used unprotected water sources, most of the hosts had at least partially used protected water sources.

The proposal specifically mentions the reduction in transmission and incidence of water related diseases. This can not be measured at population level without an extensive and expensive survey. Even then no baseline would be available.

[1] Azii, Degere, Naandi behind?, Tambura Barracks, Tambura Young Star, Gangagaribi
[2] Anderi, Naandi, Tambura 1
[3] This discrepancy between SPHERE standards to be applied to displaced, and the often lower standards in the host population, is a subject of much debate.

The SPHERE standard of 15 litres of water per person per day is a proven proxy indicator. Any use below 15 litres/day leads to an increase in water related morbidity. The CAFOD team was of the wrong opinion that 7.5 litres/person/day was the SPHERE standard. This however is the minimal survival level, and is not applicable beyond the acute phase.

Transect walks showed that for a considerable population the distance remained above 500 metres. A quantification was not possible in the time span of the evaluation. Some form of simple mapping would have been appropriate before boreholes were drilled or repaired.
Drilling locations were determined by the hydro-geological surveys, and several optimum sites from the view of population densities were unlikely to produce water, sites with a higher likelihood of producing water nearby had to be selected.

All users agreed that there had been a large improvement in water proximity. Waiting times were under 30 minutes in all observed water points.
It must be noted that pre disaster few if any locations of the hosts met the SPHERE standards.

Result 2: Committees

Water committees ensure optimal use of water facilities and the greatest impact to protect public health.

Achieved

All water points had three pump mechanics selected from the community. These seemed to be largely from the host community, which is a sensible decision, as the displaced will eventually return to their houses in the forest. The hosts will stay in the place where the borehole is.

We spoke to two female pump mechanics, and were told that about one in three pump mechanics trained was female. This brake through in traditional roles is progress on gender programming.

These women however also told us that they were attracted to this role because no previous mechanical experience was required. This was confirmed by the male mechanics.
The mechanics said that they had sufficient tools to do the work, only the fishing tool was not available. The tool sets could however not be produced. The mechanics denied having rented out their tools[4]. The mechanics had fair theoretical knowledge, but because of the absence of tools we could not determine their mechanical dexterity. All had little practical engineering experience, limited to their training only. We did not meet comprehension when we asked them how to lock two nuts. This is a very simple and essential practice to prevent nuts from becoming undone due to vibration. The pumps had these double nuts as standard, but the mechanics simply did not know how to use these. This simple but important trick had not been part of

[4] Renting out tools is common. This denies the pump mechanic the opportunity to develop dexterity and confidence.

their training. The details can be downloaded from
http://www.boltscience.com/pages/twonuts.htm
Without refresher training, the sustainability of their skills must be doubted. For further selection of pump mechanic trainees a balance must be found between selection by the community and some pre-existing mechanical experience.

The water committees were from both host and displaced, with about one third females. The observed boreholes were properly protected and very clean.
None of the committees had yet started to collect small regular sums of money for future repairs. "We will go the church if it breaks down" they said. This form of dependence on aid is all too common in Southern Sudan.
CAFOD/CDTY has no provisions for the supply of spare parts once the project is finished. Further enquiries (outside the project) showed that the nearest spare parts were in Juba, possibly in Wau.

Collection of water remained firmly in the female and child domain. Attempts at probing the workload impact of this during Focus Group Discussion did not elicit comprehension at all, neither from the beneficiaries nor from the CAFOD/CDTY staff. An opportunity to mainstream gender and protection in the water intervention had been missed.

A final judgement of the impact of the mechanics and committees on sustainability cannot yet be made. The project was slow in starting up, had failed contractors, and a security interruption, so the water points had only recently been repaired or constructed, and no new repairs had yet been required. It is a matter of concern that currently no spare parts are available anywhere in the state.

Result 3: Hygiene promotion

Public health & hygiene promotion campaigns, and distribution of bed nets reduce vulnerability to water borne disease and improve environmental health in targeted payams and villages.

Partly Achieved

Health promoters were active in each location. They had received training early on in the project. This was however several months before the water supply intervention started, or the jerry cans and bed nets were distributed[5].
The IEC materials they had received were not weatherproofed, so by the time of the evaluation, in the rainy season, none remained . The evaluators therefore could not judge whether these had been appropriate. The posters were said to have been a mix of words (language?) and pictures. As the displaced population is largely illiterate pictograms are obviously essential.

Health promoters are always most active just after their training. It is frustrating to tell people to use only protected water, if the water has not yet come, to use narrow neck containers without containers, and to sleep under bed nets without bed nets.

[5] CAFOD wishes to point out that the delays were caused by failure of the water sub-contractor and protracted negotiations with UNICEF.

Hygiene promotion is effective when the message is delivered together with the means. In the camps the means were not there.
For these IDPs who were hosted in compounds of relatives and friends (and the occasional stranger) the hygiene promotion was likely much more effective, as these IDPs had access to the means of the hosts.

The impact of the health promoters was further limited by the very short lifespan of the collapsible containers. A beneficiary aptly remarked "if containers are so important, why do they give us containers that last only a few weeks".
These containers were donated in kind by UNICEF. Collapsible lightweight items might make sense when relief items have to be flown in, but in an area with road access the sturdy standard yellow containers would have been appropriate. UNICEF is aware of the issue, and will from now on use standard containers. We saw these arrive at the last field day.

Based on house visits we estimate that more than half the bed nets distributed were actually in use. The shelters constructed by the IDPs were said to often be too small to hang a bed net in. This would have been possible, but apparently the hygiene promoters where not trained on hanging bed nets in small shelters.
Where IDPs were hosted in the compounds of residents quite some nets were given to the host. These are understandable gestures, as the hosts had been supporting the IDPs in the first few months of the crisis, and the hosts had proper houses to hang the bed nets off.
We specifically investigated whether this was a form of taxation. Our conclusion was that this was based on pre-existing relationships and true gifts, not a taxation.
Bed net use had been low before the crisis, so the action had an unintended beneficial impact on the hosts.

In the camps the displaced had not constructed latrines. They explained this by the amount of work required, and the uncertainty about the duration of the displacement.

It is a matter of concern that none of the hygiene promoters mentioned hand washing as an important measure during the group discussions[6]. Dedicated hand washing places, with container and soap, were observed in the host population, and also used by the hosted IDPs. In the camps these were not observed, at least partly because the provided water containers had disintegrated so soon.

Please see the coverage section for more discussion on shelter patterns, the disputed encampment, and the impact on hygiene.

[6] During the debriefing with ECHO the evaluators learned that a previous ECHO monitoring mission had also noted the absence of hand washing messages, Clearly no action had been taken by CAFOD/CDTY.

OECD/DAC Criteria

Appropriateness/relevance

The reach of the assessment by the CAFOD/CDTY team was excellent. The CDTY structures were in all geographical areas, with very strong community participation from hosts and displaced alike. This provided an information and security umbrella that allowed the assessment team to reach areas that other organisations could not reach. This was combined with the technical competences of the CAFOD team.

Being the only team that could reach these remote populations placed a heavy responsibility on their shoulders. The assessment had a focus on the issues where CAFOD felt that they had the competence to intervene. This led to limited attention to other needs, such as education, healthcare, gender and protection. These needs were undoubtedly there, and still very evident during the evaluation. An opportunity was missed to record these needs, and lobby other organisations to fill the gaps.

The needs assessment for water was not sufficiently detailed, and did not note that even before the displacement water supply did not meet SPHERE standards. It was also not explicitly noted that the longer walking distances to find water caused an increased risk of rape, and this important protection element was not mainstreamed into the health promotion activities.

The analysis of the context was also not completely sufficient. The context of the emergency in the Western Counties is somewhat different of the displacement issues previously encountered in Sudan.
Contrary to most food insecurity situations in Sudan, this emergency had no drought component. The region had a traditional food surplus. Before the current security crisis this was exported to Bahr el Gazal and provided the basis for the cash economy. This surplus kept the displaced alive in the first phase of the crisis. The displaced usually lost both their assets and their means to make a living, but the hosts also suffered severe asset depletion, as there was no surplus to sell.

The displacement in the Western Counties tended to be short distance and contact with the original fields was mostly maintained. People continued to attempt to access their crops, and there is evidence of back and forwards migration of at least the able bodied family members. High risks were often taken to ensure minimal nutrition. Here again this risk of rape could have been included in the hygiene promotion.

Due to the general short distances there were many existing family relationships and friendship. This familiarity lead to a high degree of hosting of IDPs. In the early phases of the displacement the host community had a food surplus, which was used generously.
The hosts also shared their water and sanitation facilities with the displaced, leading to environmental stress.

This initial displacement, towards compounds of relatives, schools, churches and clinics, was a considerable concentration of the population.
This caused a severe stress on water and sanitation in these compounds. This was already insufficient as per SPHERE standards before the crisis.

The action addressed water, but not sanitation. Especially in the camps[7] wild defecation was very prevalent.

The church played a major role in stimulating this hosting. The displaced had initially flocked to parish compounds and (parish) schools, because only these compounds were big enough to provide perceived security in numbers. The church initially organised food donations to these compounds, and soon actively began to encourage parishioners to accept displaced into their family compounds, to relieve the overcrowded and unhygienic church compounds.
We also noted that comparatively well off people in the larger villages departed to the towns, leaving their houses and gardens to displaced relatives.

The host communities did support the IDPs with immediate needs. While this was largely within blood and friendship bounds, instances of hosting strangers were also noted by the evaluation team.

In the assumptions section of the log frame CAFOD states that the security must remain stable to allow drilling and repairing of boreholes. This assumption was unfortunately proven wrong.

Gender and protection issues received limited attention. The design noted the increased time used by girls and women to collect water. It is however well described in the literature that water collection and gathering of wild foods in displacement carries a high risk of rape and abduction. According to informants a number of these rapes could have been avoided if food and water had arrived sooner. Post exposure prophylaxis, the medical treatment of rape victims to prevent the transmission of HIV/AIDS and other sexually transmitted diseases, is available in the project area in Yambio(MSF), Ezo (MSF), Source Yubu (IMC) and Tombura (IMC), but nobody in the project, staff and beneficiaries alike, was aware of this. This should have been part of the hygiene promotion.

Overall the action was in accordance with the CDTY priorities. The diocese however justly points out that food support should also have been provided to the host communities, who exhausted their resources in the initial assistance to the displaced.
The water support in contrast benefits the host community long term, while the displaced community will largely go back to using unprotected water sources once they return.

[7] See under coverage for a discussion of the "camps"

The diocese also expressed some concern that in retrospect, this action mainly addressed the problems close to the seat of the diocese, with a relative neglect of the Eastern, non Zande, parishes. While this was in line with the findings of the needs assessment in 2009, the diocese is acutely aware that it's senior management is Azande dominated, and is keen to avoid the perception the church takes an ethnic position.
During the evaluation relief operations started up in the Eastern parishes, based on a more recent needs assessment, eliminating this potential perception. The evaluators however highly commend this high degree of conflict sensitivity shown by the CDTY leadership.

The proposed overall intervention had a strong element of capacity building of CDTY. The CAFOD policy of capacity building through accompaniment is exemplary under NGOs. CAFOD and CDTY however underestimated the constraints and the challenges in this context, and no, or very limited, capacity transfer around water and sanitation happened in the water component.

The logical framework was modest. Some indicators can hardly be measured, like a low incidence of waterborne disease. The evaluators would further have appreciated clear draw down test results before borehole repair, and yield and water quality tests after completion of all boreholes. We trust that this will be done in the final month of the project.

In May 2010 CAFOD developed an M&E framework specifically for the water intervention. This framework is very comprehensive and very resource intensive. CAFOD did not implement this monitoring plan, partly because security deteriorated, and partly (possibly largely) because the monitoring plan was too cumbersome. A somewhat more feasible version would be very desirable for further interventions.

Connectedness

The project built on very long standing relations between CAFOD and the local diocese of the Catholic Church. Cordaid supported health in the diocese. Another member of the Caritas family (Germany) already supported humanitarian interventions, but had a temporary funding gap.
Caritas International launched a major appeal, resulting in this action. The funding was leveraged to obtain food in kind from WFP, Non Food Items from UNICEF and finances for water and sanitation from ECHO.

The action however did not address, for example, education and health, nor made it clear who would address these issues. An opportunity to work closer with the Cordaid health team was missed.

CAFOD however realised that the current emergency destabilised a very fragile economy, and thus is starting a livelihood programme, together with Caritas Austria, aimed at the whole population, linking relief to development.

Integration with community based structures is solid, but the opportunity for integration with structures at diocese level was unfortunately missed in this phase, while integration with state and national government structures is still hampered by serious capacity and resource gaps on the side of the authorities.
At grassroots level there was considerable overlap between the water and the relief committees. The response has clearly strengthened the community's ability to hold governance to account and it was an all too rare occurrence of true empowerment.

The project was a slow but fairly good quality humanitarian water intervention, albeit with insufficient follow up of outcomes.

Coherence

The water intervention was part of a broader CAFOD relief response that included food and non food items. CAFOD, UNICEF, MSF and IMC only addressed health and education in a limited and insufficient way.
Links to other sectors and to development, though part of the project but not funded by ECHO, were not explicit enough. None of the team had a responsibility for this link, and, for example, the impact of the seed distribution was not even monitored.
The bed net issue is another example. Many IDPs could not use the nets because these did not fit in their shelters, and shelter was not part of the intervention.
The potential for linking the next phase of the humanitarian intervention (which unfortunately seems inevitable in the security situation) with the starting livelihood intervention is excellent. Outcome monitoring of all activities needs however to be stronger.

Unfortunately there simply were not enough resources and implementation capacity to fully address this emergency in this remote area.

Coordination

A water and sanitation coordination body is active in Yambio and meets monthly.
It has participation of the government, international organisations and NGOs.
This functions mainly as an information sharing, or even airing, platform.
No reliable data base of water points in the state exists as yet, so much valuable information is lost, and will continue to get lost.
At field level the CAFOD field officers only had a very limited involvement in coordination mechanisms. Most representation functions were performed by the managerial level at Yambio, whether by design or by default.
Certainly in Tombura the field officer should have had a more prominent role.

Coverage

CAFOD/CDTY managed to reach geographical areas that others could not reach.
There is clear evidence of a deliberate ethnical balance, certainly in Tombura where the Zande group border the Belanda. Certain areas however remained beyond reach for security reasons. This deep reach is evidenced by the fact that some water interventions were done in places where food aid was not possible or much delayed

because WFP, which is bound by UN security regulations, could not do the required verification.
The local church structures did take risks that other NGOs would not contemplate. All evidence points to a non biased needs based intervention. We in particular noticed the inclusion of people of other denominations.

The displaced in general fled to the larger villages that provided a minimum of security. In the initial stages they often stayed near churches, schools and clinics. In the second stage they were often allocated small plots to build shelters just outside the village.

CAFOD kept a fair balance of bringing the water close enough to be of use to the displaced, and close enough to be useful for the schools and clinics in the long term. The somewhat difficult hydrogeology of the area was often the determining factor.

The different settlement patterns of the IDPs definitely had an impact on both coverage and effectiveness.
The evaluators observed four distinct settlement patterns:
Those who had close relatives or friends were usually given a small subdivision in the village compound, typically measuring about 20x20 metres maximum. This was sufficient to construct a small shelter and make a kitchen garden. At the time of the evaluation these people were in varying stages of constructing small (semi) permanent houses out of mud-brick and thatch. These IDPs were also allocated land for cultivation outside the village proper, but within an area that was considered secure, and where the hosts were also farming. These IDPs used the water and sanitation facilities of the hosts, and the system was under moderate stress. We found this pattern in Naandi and Yangiri.
In Source Yubu we saw this pattern near the mission station, which is about 5 kilometres from the town proper, but only for those displaced that had relatives and friends.

Other displaced (Source Yubu and Tombura town)were living together in what best is described as an informal encampment. Minimal shelters of thatch and tarpaulin were huddled closely together. Their allocated land was said to be rather unsafe. These people had no close relations locally.
This “camp” had no latrines and water was rather far, well over 500 meters in Source Yubu, overcrowded in Tombura.

In Tombura town we found some IDPs lodging with relatives and mainly engaged in the limited labour economy. The stress on the water and sanitation system in this town was already severe, and got worse with the influx of displaced.

Another group had found accommodation in a former transit camp for returnees. This camp had developed into a suburban settlement. The freshly displaced were allocated plots for housing and kitchen gardens, in between those who had settled in recent years. They also had started constructing semi permanent houses. This area

had been supplied with fair water and sanitation previously, and only repairs were needed.

According to government policy there is no encampment in this crisis. The evaluators did however find two locations that can only be described as informal camps, with conditions well below SPHERE standards. CAFOD/CDTY could have reported better on these rather poor conditions.

Effectiveness:

The intervention mitigated the humanitarian crisis and largely achieved its objectives, albeit with considerable delays.
The expected results in the proposal were phrased in a somewhat optimistic way. For example, the water intervention did not meet SPHERE standards, but these were not met before the emergency struck, and at least have now returned to the baseline. This will be the entrance point for further developmental interventions.

Security constraints slowed down the actions, and created ongoing displacements. Targets and numbers of displaced had already changed between assessment and start of the project.
Slow recruitment by CAFOD likely also was a delay factor.

The nine newly drilled boreholes seemed of good quality[8] and in the right places. The six draw down test reports seen were in the 3000 litres plus range, the actual yield as tested by us in three was over 1000 litres per hour. The water quality has however not yet been tested in three new boreholes and all repaired boreholes. This is planned before the end of the project.

The target of the "rehabilitated" boreholes has been well exceeded. These boreholes were however repaired rather than rehabilitated.
The yield of all boreholes deteriorates over time, and this is known to be a serious problem in the area. A decreased yield leads to increased load on the pumping mechanisms, and mechanical breakdown.
In a proper rehabilitation the borehole is tested by draw down, and if yield is insufficient, this is remedied by mechanical (flushing) and/or chemical (surfactant, phosphates) methods.
Water quality should also be tested for biological and chemical contamination, before resources are invested in rehabilitation.
CAFOD did not test these boreholes for yield or quality, let alone rehabilitated them, but simply repaired the damaged pumps. The yield of the two repaired boreholes seen by the evaluators, was however disappointing at only a few hundred litres per hour. Informants told us about similar low yields of other repaired pumps.
The results of all the repaired pumps might be disappointing. We strongly suggest that CAFOD re-assesses the yield and quality of all pumps in this project towards the end of the next dry season. Excellent guidance on rehabilitating boreholes can be found on the ICRC publication : BOREHOLE DRILLING AND REHABILITATION UNDER

[8] Clear and sweet.

FIELD CONDITIONS**.** This publication is largely based on the South Sudan experience. It can be downloaded from the ICRC website.

A major factor for the success of the project was the reach of the church organisations to the most remote and disadvantaged populations.

CAFOD did a small KAP survey around water and sanitation in March 2010. The sample size was insufficient at 86, disaggregated in three counties. The reported answers bore little relation to the situation observed on the ground in August 2010.

For an assessment of effectiveness by objective, please also see the expected results chapter.

Efficiency

The project was efficient.
By embedding it in a broader CAFOD appeal, overheads could be limited, and pre existing management systems of both CAFOD and CDTY kept expenses relatively low.

CAFOD did recruit a full-time expatriate water engineer. The drilling and repairs were then fully contracted out. There can be some question marks whether it is efficient to have a full-time engineer to supervise only nine boreholes. The engineer however also had a role in the water committees and the training of pump mechanics.

The delay in the implementation of the water intervention was excessive.
The engineer only arrived in March, four months after the contract was signed.
The Christmas season was one of the reasons for the delay in recruitment, but this should not happen in an emergency.
The first round of procurement of surveys and drillers had already happened, without a qualified engineer overseeing the process.
While this followed EC procedures, likely insufficient attention had been paid to the track record of the contracted parties, and the subcontractor failed to deliver after three modestly documented boreholes.
A second attempt at procuring services, with an engineer in place, equally failed.

It must however be said that conditions in the area are very difficult for a driller, with a high risk of the rig being burned, for which no insurance cover is possible. CAFOD should however paid more attention to the local track record of the companies involved, and not just selected at price.
The third contract was single source procurement, with permission, even urging, from ECHO. The company selected had just finished a large drilling contract for IOM in the same area. It performed satisfactory and fast.
In spite of repeated requests the evaluators did not speak to the subcontractor, and it therefore did not become clear why the boreholes had just been repaired, rather than rehabilitated as is the recommended practice.
Should these repaired sites turn out to dry up again soon, than the efficiency of the intervention will show a sharp drop.

CAFOD should allocate some funds from its next intervention to follow up on this issue, even if it would be just for organisational learning.

Impact

The water intervention mitigated the impact of the crisis.
The host population saw their access to safe water drop considerably when the crisis happened. This did lead to a limited amount of non violent conflict. Access to sanitation also dropped, especially in the informal camps.
Quite likely, but we have no hard data, this population concentration caused a temporary increase of water borne disease.

The emergency water intervention seems to have brought water consumption back to a pre crisis level of about 10 litres per person per day. This is below SPHERE standards.
In many cases the displaced were able to use water from a protected source for the first time ever. When they eventually return to their places of origin, widely spaced in the forest, they will fall back to unprotected sources of water.
The remaining host population will have an increased access to water, that might reach SPHERE standards.
The impact of hygiene promotion can be expected to be modest. Hygiene practice in the region is mainly limited because of a lack of means, rather than a lack of knowledge.

Sustainability

The trained borehole mechanics can ensure that minor breakdowns can be repaired, even though some doubts persist on the sustainability of their skills

The water committees can ensure that small amounts of money are collected from the users to pay for the required spare parts. In focus group discussions with water users it appeared that at least half would be willing to contribute if a breakdown happened. We did however not find evidence of any scheme that actually collected money on a regular basis in order to have the cash available in case of need.

Spare parts are not available in the whole state of Western Equatoria, and have to be sourced from Juba or Wau, hundreds of kilometres away on unpaved and insecure roads. It would be highly desirable to ensure that a spare part supplier is established in Western Equatoria. This could be within the diocese possibly as a small business unit. In view of the serious aid dependence syndrome in the region a commercial vendor may be a more sustainable alternative.

Creating a permanent record of boreholes remains problematic in South Sudan. The government capacity is as yet not sufficient. It is highly desirable to leave paper copies with both government authorities and civil society, such as the parishes. Permanent records, by inscription in the cement of pump aprons, and plaques on public buildings can be of great assistance in future maintenance.

Recommendations:

- Any water intervention in displacement must be fast.
- An assessment of displacement in a hard to reach area must take in all needs.
- When subcontracting in a difficult area, a local track record may be more important than price.
- Old and non functioning boreholes must be thoroughly assessed and fully rehabilitated, rather than just have the pump mechanism repaired.
- Testing of water quality must be done before water is made available.
- A follow up assessment of the repaired boreholes must be done in the dry season.
- Hygiene promotion must be delivered together with the means to implement the messages.
- IEC material must be strongly pictorial, in the local language, and durable.
- Message sets must be complete and the messages delivered followed up for adherence.
- Gender and protection must be part of hygiene promotion in displacement.
- Linking hygiene promotion to the health sector is highly desirable.
- A simple mapping of populations helps decision making.
- M&E frameworks must be relevant and do-able, and implemented.
- Reporting of unexpected conditions, even if these are against policy, is imperative.
- Selection of pump mechanics must be balanced between community participation and pre-existing mechanical skills.
- Long term availability of spare parts must be assured.
- Permanent records of water points must be established.
- This humanitarian crisis is little known, and seriously underfunded. CAFOD must bring this area higher on the agenda.
- Even before the crisis the water situation in Western Equatoria was well below SPHERE standards. CAFOD/CDTY must lobby for investment in this sector.

Annexes

Conflict and political development

Sudan has been embroiled in civil wars for all but 15 years[9] since independence in 1956. The latest conflict in the southern part of the country started on 16 May 1983 and resulted in deaths of 2.5 people and displacement of 4 million others. This conflict ended formally on 9 January 2005 with the signing of a Comprehensive Peace Agreement (CPA) between the government of Sudan (GOS) and Sudan People's Liberation Movement (SPLM). The CPA created the Government of National Unity (GNU), Government of Southern Sudan (GOSS) and 25 State Governments[10].

The agreement provided for a six-and-half year interim period[11], due to end in 2011, when a referendum will be held on the self-determination of the Southern Sudan. A multiparty general election was held in April 2010, which was won by the National Congress Party in the North and SPLM in the South[12].

Despite the CPA, and the general election, violent conflict in South Sudan remains high. In Western Equatoria State of Southern Sudan – bordering Democratic Republic of Congo (DRC) and Central Africa Republic (CAR) – the source of violence is the attacks by Lords Resistance Army (LRA), a notorious Ugandan armed group. The LRA attacks in Western Equatoria started in June 2008 and resulted in at least 300 deaths and 77,000 people displaced so far. The remoteness of area, and the dense tropical forest, provide a hiding area for LRA.

LRA attacks in Western Equatoria[13]

LRA entered Western Equatoria as a result of Peace talks between it and Government of Uganda under the auspices of GOSS. The Juba Peace Talks between the LRA and Ugandan government started on 14 July 2006. In the first Cessation of Hostilities Agreement it was agreed that LRA soldiers and the associated population would be gathered and encamped in Eastern Equatoria (at Owiny-Ki-Bul) and in Western Equatoria (at Ri-Kwangba) for the duration of the peace talks. However, on 23 November 2006, LRA delegation threatened to walk out of the negotiations, claiming that the Uganda Army (UPDF) had attacked their forces. It took until the 1st of November 2006 for the two parties to reach another consensus for LRA to gather at Ri-Kwangba in four weeks time. The agreement gave the LRA the opportunity to move to Western Equatoria and Garamba National Park where parts of its forces were hiding and living. LRA attacked, abducted and killed people as their forces crossed from the east bank to west bank of Nile.

[9] The first war broke out in Torit on 18 August 1955, just four before independence and lasted for 17 years. The second war started in Bor on 16 May 1983.
[10] There are ten states in Southern Sudan
[11] This includes six months of pre-interim period and six years of interim period. The pre-interim period lasted from January 9 and ended on 8 July 2005. The interim period expires on 9 July 2011. The referendum is scheduled for 9 January 2011

[13] The information in this section is based on IKV Paxi Christi's study on LRA

After a long and difficult process, the two delegations agreed on a Final Peace Agreement. All that was needed to finalise the agreement was for both Joseph Kony, leader of LRA, and President Museveni of Uganda to sign it. Kony failed to show up during these events, citing different logistical and physical problems but also signalling he wanted to understand more of the legal proceedings in light of the ICC warrants issued against him and the top leadership. This created serious doubts about his willingness to really end the conflict.

Throughout peace talks there were reports of attacks by LRA in both DRC and Southern Sudan. Then on June 5, 2008 the LRA attacked the SPLA military base in Nabanga (Ri-Kwangba), killing 23 people and burning down several houses. This triggered the Ugandan Army to state they were now to go for a military solution. The host community in Ibba and Maridi Counties became targets of LRA attacks.

After consultations between the LRA, the Office of the UN Special Envoy, the Government of Southern Sudan and the Government of Uganda, November 29th 2008 was set as the date for Kony's signing of the Final Peace Agreement. After Kony failed to turn up, yet again, on November 30, the UPDF opted for military action.

The attack on LRA, codenamed Operation Lightning Thunder, commenced on Sunday 14th December 2008. The Ugandan air force made use of airfields in Congo and Sudan and attacked LRA bases in the Democratic Republic of Congo. According to press reports, infantry units followed from Dungu, Yambio, Iba, Yei and Maridi. Although the operation was called a joint military operation, but is clearly led by the UPDF. The SPLA indicated it would not enter Congo to fight the LRA, but it would seal off the border and attack the LRA if it wanted to enter Sudan.

In the weeks following the start of operation Lightning Thunder, the people of Western Equatoria had to face the terror of the LRA again. Governor Jemma Nunu Kumba of Western Equatoria State also publicly asked the people in her state to organize themselves. In addition, she requested GOSS to pave way for the formation of Arrow Boys and security guards, as village vigilantes. Young men have taken up the call to defend themselves and are arming themselves with clubs, spears, machetes, and arrows.

Western Equatoria State sent a delegation to Juba and proposed the establishment of a local security unit, alongside the SPLA, to fight the LRA together. But GOSS has rejected the pleas concerning arming civilians, as it contradicts the government policy of disarming the population of Sudan. This is most probably linked to the tense relationship between different groups within the states of Equatoria, especially Azande versus Dinka in this context.

By early 2009 the LRA had largely moved into the dense tropical rainforest in the area forming the border between Central African Republic, The DR Congo and the Western Counties of Western Equatoria, and had intensified its attacks on civilians.

Itinerary of the field mission

Day/Date	Activity
Tuesday, 27 July 2010	• Arrival in Juba and initial briefing with CAFOD
Wednesday, 28 July 2010	• Briefings with CAFOD in Juba • Review of documents
Thursday, 29 July 2010	• Travel from Juba to Yambio • Meeting with CDTY • Meeting with State Ministry of Agriculture staff
Friday, 30 July 2010	• Meeting with Bishop of CDTY • Meeting with Director for Development and Peace CDTY • Interview with CDTY Human Resources Manager
Saturday, 31 July 2010	• Trip to Tombura cancelled due to LRA attacks • Meeting with FAO team • Meeting with WFP team • Meeting with Parish Priest, Source Yubu, in Yambio
Sunday, 1 August 2010	• Review of documents • Meeting with World Vision staff, Yambio
Monday, 2 August 2010	• Travel from Yambio to Tombura • Meetings with Parish Priest and field staff of CAFOD • Visit rehabilitated boreholes and meet with the community
Tuesday, 3 August 2010	• Visit to Source Yubu • Meeting with Relief Committees and Pump Mechanics/Hygiene Promoters • Transect walks, home visits and interview with IDPs
Wednesday, 4 August 2010	• Meeting with World Vision, International Organisation of Migration and International Medical Corps • Visit to Health Centre and interview patients (Dr Harry) • Visit to Host Community and IDP Camp, and hold two Focus Group Discussions with IDPs (Kennet) • Meeting with Relief Committee • Hold Focus Group Discussions with Hygiene Promoters and Pump Mechanics
Thursday, 5 August 2010	• Return from Tombura to Yambio • Stop over at Mupoi and Yangiri, Transect walks, crop assessment, FGD health & water • Meeting with IDPs
Friday, 6 August 2010	• Prepare reports and debrief

Saturday, 7 August 2010	• Visit to Naandi • Meeting with Parish Priest, Relief Committees and Hygiene Promoters • Visits new and rehabilitated boreholes • Visits IDP and host homes for interview and ascertain items received
Sunday, 8 August 2010	• Prepare reports
Monday, 9 August 2010	• Debrief workshop CAFOD and CDTY staff in Yambio
Tuesday, 10 August 2010	• Travel from Yambio to Juba
Wednesday, 11 August 2010	• Briefing with ECHO • Dr Harry Jeene returns to Nairobi