

INTERNAL REVIEW OF NCA SOUTH SUDAN'S THREE YEARS WATER, SANITATION AND HYGIENE PROGRAM

DRAFT

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To: Anne Masterson, NCA South Sudan

Copy: Florence Tandstad, NCA South Sudan

By: Manfred Arlt, Advisor Water and Sanitation, Hygiene

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EXECUTIVE SUMMARY

An internal review of NCA South Sudan WASH programme was carried out in the period 18th to 30th of June 2012 guided through a Terms of Reference. The WASH programme consisted of a project funded by the Norwegian Ministry of Foreign Affairs (NMFA) for the period 2010-2012 implemented in Easter Equatoria State and Warrap State and a UNICEF funded project for the period 07.2011 – 09.2012 implemented in Warrap State. A mixed method approach to data collection and analysis was developed using purposive sampling of a small number information sources. Data collection tools were questionnaire survey, Focus Group Discussion, Semi-structured Interview and technical checks at site. The review revealed that NCA’s WASH programme is very relevant in relation to rights holders needs and policies of GOSS. The programme is effective achieving many of the expected results and specific objectives. However, it is likely that some results will not be achieved especially of the NMFA funded project. The applied bidding system for construction leads to that the programme was implemented in an cost- efficient way. When designing water supply where rain-water harvesting system is an alternative the different alternatives should be compared with each other applying established criteria (feasibility study). The WASH programme has a range of impacts such as sustained O&M system in the counties NCA is active. Sustainability of water supply is not likely due to reasons such as lack of systematic follow up and support of water committees, lack of preventive maintenance, no full cost recovery for maintenance and repair, spare parts are given for free, lack of lead and guidance from the GOSS, and too few water points leading to too many users per water point and consequently rapid wear out of HP and NCA’s role in spare parts supply chain.

1. INTRODUCTION AND PURPOSE OF THE REVIEW

NCA started operations in Sudan in 1973, with a large multi-sectoral, highly operational program in Eastern Equatoria. During the drought in 1998 NCA expanded its support to Wau in the then greater Bahr el Ghazal (BEG) region. After the CPA, the greater BEG region was sub divided into various states, one of them being Warrap State where NCA later moved to continue provision of services to the people of this region.

In 2010 NCA received approval for funding for a three year programme from the Norwegian Ministry of Foreign Affairs which sought to support capacity building for governance and sustainable peace, gender justice and to contribute to securing sustainable access to basic social services and food security in Eastern Equatoria State. There was a particular focus on Magwi and Lafon Counties but some ongoing activities in Warrap and Bahr al Ghazal States were also included in order to secure a smooth phasing out period over the forthcoming two years (see annex TOR). In 2011, NCA SS received funding from UNICEF for providing WASH services to internally displaced people, returnees and host communities in Warrap State.

The objectives of the review were:

- To evaluate the performance of the NCA WASH sector in meeting the objectives and targets in the project logframe
- This review aims at providing NCA with a clear perspective on the lessons learned and the best practice recommendations for the design of future WASH interventions in South Sudan.
- To identify any additional capacity needs with regard to the implementation of effective responses
- To evaluate the connectivity between WASH activities and NCA's country and global strategies with a particular focus on recommendations regarding the development of linkages between thematic resources and tools within NCA and their application at field level
- To ensure the coherence of NCA's WASH programme with Government and cluster strategies

The scope of the review was to cover the period January 2010-June 2012. Based on the consideration of the overall context, the reviewer should assess the relevance of existing programme goals, including whether these goals have been adjusted to changes in the context over time.

The internal review was carried out in the period 18th of June to 30th of July 2012.

2. REVIEW APPROACH AND METHODOLOGY

In order to achieve the purposes of this the internal review of NCA SS WASH programme, the author planned to use qualitative and quantitative methods for data collection as a mixed methods approach. At each site a range of data collection methods was used for information gathering and verification of information. The geographical review area will be EES and Warrap State, South Sudan. The reviewer planned to use a relatively small sample size due to time limitations applying purposive sampling. The purposive sampling was carried out by NCA SS WASH officers in the two states.

Data collection was prepared using a matrix where the review factors such as relevance and impact. Each review factor had between two and four review questions. To each question indicators were

developed. A criteria was assigned to each indicator (Table 1). The criteria was decisive for the use of a data collection tool and the source of information.

A second matrix for the investigation of sustainability was developed based on Harvey & Reed (2004). Table 2 shows sustainability factors, evaluation criteria, data collection tool and source of information.

Factor	Review question	Indicator	Criteria
Relevance	To what extent have the activities carried out by the WASH sector suited the priorities and policies of the target group and NCA?	WASH services match demand of target group	Expressed user satisfaction
		NCA SS WASH programme is in line with GOSS sector policies	NCA SS WASH programme is in line with GOSS sector policies
		NCA SS WASH programme is in line with GSP 2005-10 and GSL 2011-15	Specific programme objective is in line with GSP 2005-10 and GSL 2011-16
	To what extent are the objectives contained in the logframe still valid?	Programme objective match and respond to target group needs and are in line with GOSS sector priorities in 2012	Objectives are in line with expressed needs of beneficiaries
			Objectives are in line with sector priorities
	Are the activities, outputs and indicators of the WASH programme consistent with the overall goal and the attainment of its objectives?	Activities, outputs and indicators logically lead to the achievement of objectives	Activities, outputs and indicators logically lead to the achievement of objectives
	Are the activities outputs and indicators of the programme consistent with the intended impacts and effects?	Activities, outputs and indicators contribute to the intended impact	Activities, outputs and indicators likely contribute to the intended impact
Effectiveness	To what extent were the objectives in the logframe achieved / are likely to be achieved?	Project objectives are /likely to be completed and objectives achieved	Completed expected results compared with planned expected results
	What were the major factors influencing the achievement or non-achievement of the objectives?	Major factors for achievement / non-achievement of the objective are identified	Underlying causes of achievement/ not achievement identified
			Measured changes in terms of water quantity, quality, time used for water collection
Efficiency	Were the activities carried out by the WASH sector cost-efficient	Activities were carried out as cost-efficient as possible	Best bid and expected quality of work selected
	Were the objectives achieved on time?	Programme objectives are likely to be achieved in given time frame	Likelihood of achievement of objectives
	Was the sectoral programme implemented in the most efficient way compared to alternatives?	Alternative solutions to challenges were compared and best solution selected	Best solution in terms of costs, effectiveness and context
Impact	What has happened as a result of the project?	Project results are likely to contribute to equitable access to social services	Expressed changes in the lives of beneficiaries in terms of time use and other criteria
	What real difference have the activities carried out by the WASH sector made to the beneficiaries?	Expressed effects of improved access to social services	Expressed changes in the lives of beneficiaries in terms of time use and other criteria
	How many people have been affected?	Disaggregated data on population reached by the programme	Number of beneficiaries disaggregated by sex and age
Sustainability	To what extent are the benefits of the WASH activities likely to continue after donor funding ceases?	Benefits are likely to continue after programme completion	Likelihood of continued flow of benefits
	What were the major factors which influenced the achievement or non-achievement of sustainability of the project?	Main factors contributing to sustainability identified and assessed	Sustainability criteria adapted from Harvey & Reed (2004)

Table 1: Review factors, indicators and assessment criteria of NCA SS WASH programme

Warrap State: Onji Charles, NCA WASH officer, Warrap State, Roda A. Joseph, translator, Mr. Mawit Daniel Dau, NCA WASH officer, Mr. Emanuel Skomolo, NCA WASH officer, Mr. Madut Madut, NCA WASH officer.

The internal review has its limitations. NCA SS WASH programme consists of different projects in two states and is ongoing for years. The review was able to get an insight in a fraction of the programme. The number of information sources was limited due to limited amount of time and resources available. The small number of information sources and purposive sampling has as consequence that results are indicative. The scope of the TOR limits the review to the NMFA funded project 2010-2012. However, the programme had also a UNICEF and an ACT alliance funded project in Warrap State.

3. ANALYSIS AND RESULTS,

3.1 Relevance

The author tried to find out whether the programme initiatives and its intended results were consistent with the Government of South Sudan's (GOSS), State and County policies and priorities. Additionally, the author examined the extent to which the programme activities were meeting the needs and priorities of women and men beneficiaries and whether they were acceptable within the local context.

- *To what extent have the activities carried out by the WASH sector suited the priorities and policies of the target group and NCA?*

The government of South Sudan at its different levels such as national and county level has elaborated relevant legislation for the water, sanitation and hygiene sector. They are as follows:

The GOSS elaborated and published a Water Policy in November 2007. It was as "a corner stone in the development and management of water resources in the country after the historic signing of the Comprehensive Peace Agreement (CPA) on 9th January 2005". The Water Policy addressed specific issues in relation to Water Resources Management (WRM), Rural Water Supply and Sanitation (RWSS), and Urban Water Supply and Sanitation (UWSS) the three main sub-areas of water policy. In addition it established guiding principles and objectives in relation to each of these sub-areas.

The overall objective of Rural Water Supply and Sanitation Policy was the most important for NCA's South Sudan's (SS) Water, Sanitation and Hygiene (WASH) Programme 2010-12, because NCA's WASH activities were concentrated in rural areas. The objective is "to improve access to safe water supply and sanitation facilities and to promote hygiene education for all people living in rural areas of Southern Sudan." The Policy continues with specific objectives and key issues and priorities.

In June 2011, the GOSS by its Ministry of Water Resources and Irrigation published Water, Sanitation and Hygiene (WASH) Strategic Framework, a sub-strategy of the Water Policy. The Strategic Framework intention is to move away from ad-hoc interventions to well-planned and well-targeted development programmes. This Strategic Framework is a step for putting into practice the

principles laid out in the Water Policy of 2007. It identified priority areas for future interventions and spells out a number of approaches that these will have to use.

The strategic approach to Sanitation and hygiene (S&H) suggests incremental improvements based on the generation of demand responsiveness, combining sanitation infrastructure construction and the provision of sanitation and hygiene related products. The level of S&H promotion services would be raised, leading to improved hygienic practices. The approach is community based and follows an integrated approach to rural and urban sanitation and hygiene which seek to minimise subsidy levels for hardware inputs. The three strategic components for the sanitation and hygiene strategic framework include creation of an enabling environment, demand creation and accelerated provision of products & services.

The strategic approach to rural water supply is based on demand responsiveness, targeting of priority areas, and combining water supply with sanitation and hygiene improvements. The approach recognizes the important role of communities in the management of their water sources and ensures emergency preparedness and response. Service and support provision to consumers is strengthened through an integrated and incremental capacity development of state and local government. The strategy is geared towards the creation of an enabling environment; sustained services and provision of accelerated services.

At county level the local governments have elaborated County Strategic Plans 2012-14 which is an instrument for governing the smooth running of the County development activities and serve as a coordination mechanism among the development actors in the County including the private sector.

NCA's South Sudan WASH programme has as overall goal that the people of Eastern Equatoria (EES) and Warrap States (WS) enjoy accountable governance, sustainable peace, gender justice and equitable access to basic social services, water and food security. It has as specific objective to improve access to water, sanitation and hygiene for poor and marginalized communities. Main activities of the WASH programme in EES are rehabilitation of hand pumps fitted boreholes, drilling of new boreholes and installation of hand pumps, facilitating and training of water committees and handpump mechanics, and construction of sanitation facilities in educational and health institutions.

NCA WS WASH programme has as main activities provision of water and sanitation services to IDPs such as drilling of boreholes fitted with hand pumps, construction of multi-family latrines, and facilitation and training of water committees. Other activities are rehabilitation of hand pumps, facilitation and training of water committees, construction of construction of sanitation facilities in educational and health institutions, introduction of School Hygiene clubs, household (HH) sanitation and hygiene promotion.

The activities of the WASH programme in both states are in accordance with the GOSS priorities as described in the relevant legislative documents and consequently relevant.

The review team interviewed several staff of GOSS at state and county level. The author made several observations: Firstly, the GOSS has policy and strategic framework in place, but there is a general lack of by-laws aiming to guide implementing stakeholders in the execution of activities. This means that there is a general lack of guidelines from GOSS of how to implement activities such as construction standards or water tariffs. Secondly, some of the interviewed GOSS staff showed to have a low competency level in WASH related issues, policies and guidelines. Thirdly, it seemed

that there is a general lack of means at the operational level of GOSS of the WASH sector, meaning WASH county commissioner. This situation is an obstacle for an effective functioning of government at the lowest level.

The questionnaire survey in the different villages resulted in an indication of relevance of NCA's activities in the WASH sector. For instance, NCA SS rehabilitated the hand pumps in 2010 and facilitated and trained water committees in the village Iboni in Lopa/Lafon County in 2011. Iboni has about 5000 inhabitants, five hand pumps and is situated at the foot of a mountain range. A seasonal stream passes close by the village. The water from the hand pumps is very important for the water security of the population during the rainy season and dry season. About 87 and 97% of the respondents of the survey stated that the water from the hand pumps is the most important water source for the rainy and dry season respectively. Alternative water sources during the rainy season were seasonal streams, rainwater harvesting and a traditional well. Water from the hand pumps was used for drinking and cooking (100% of the respondents), laundry (93% of the respondents), personal hygiene (80% of the respondents), and dishwashing (73% of the respondents). Water from the hand pumps were also used for productive use such as watering animals especially during the dry season (67% of the respondents) and watering of gardens (47% of the respondents). 33% of the respondents used the seasonal stream for bathing and 27% of the respondents for laundry. A traditional well was used for watering animals by 20% of the respondents. This simple statistics is indicative for the high relevance of NCA SS work in Iboni. The importance of functioning hand pumps and drilled wells is especially visible in the dry season, because the hand pumps are the only reliable water source in an acceptable distance to the village. It was mentioned that there are pools filled with rainy water about three hours walk in the mountains.

A similar situation was in Jong, IDP resettlement area in Warrap State. The 4,500 people living in this settlement were internally displaced people (IDP) having fled Abyei in July 2011. In March 2012, NCA SS supplied these people with water by drilling 7 boreholes equipped with hand pumps. All respondents of the questionnaire survey stated that water from the hand pumps is the most important water source in the rainy and dry season. There are few alternative water sources. In the rainy seasons 57% of the respondents stated to use water pools which collect rainwater and 27% of the respondents stated to use shallow well for watering animals. Some few people had access to a man-made water pool collecting rain water also called Hafir during the dry season. All respondents stated to use water from the hand pumps for all domestic tasks (drinking, cooking, personal hygiene, laundry) and 40% stated to use it for brewing in the rainy and dry season. During rainy season 13% used water from the hand pumps and 53% during dry season for watering animals. Also this example shows the very high relevance of NCA SS work.

- *To what extent are the objectives contained in the log-frame still valid?*

NCA SS WASH programme had two main donors with respective project documents, objectives and expected results:

Firstly, the UNICEF funded project in Warrap State mainly targets the emergency situation of IDPs and returnees. In addition the project has a component of carrying out an inventory of water points and water quality testing. The project aims to improve access to WASH services for poor and marginalized communities in West Gogrial and Twic Counties. The number of population directly reached shall be about 182,600 people with about 87,700 women. The objective of this project

relates to the exceptional situation of an emergency but has also components which are important for long-term such as the inventory. It has therefore to be considered as a temporary objective which will be valid as long as the emergency is ongoing.

Secondly, the WASH programme funded by the Norwegian Ministry of Foreign Affairs (NMFA) is implemented in EES and Warrap State. It was planned to be implemented in EES, but on a later point in time it was decided to implement it also in Warrap State. The objective is to improved access to water, sanitation and hygiene for poor and marginalized communities.

The Network for Water and Sanitation International South Sudan (NETWAS, 2010) presented a Knowledge, Attitudes and Practices (KAP) Survey on Water, Sanitation, and Hygiene & Nutrition in 7 States of Southern Sudan which describes the WASH related situation in South Sudan. The author is of the opinion that the objective in the NMFA proposal is still valid today by comparing the situation described in the KAP survey and the situation experienced by the author with the objective stated in the proposal.

- *Are the activities, outputs and indicators of the WASH programme consistent with the overall goal and the attainment of its objectives?*

The overall objective of the NMFA funded WASH project was to contribute to accountable governance, sustainable peace, gender justice and equitable access to basic social services, water and food security. NCA SS tried to contribute to the achievement of this objective with activities in different sectors such as health, education, peace building and WASH services. The WASH component of this programme had as specific objective to increase the number of people who have gained access to at least basic water supply service level. This objective is in line with NCAs' Global Strategy 2005-10 and GLS 2011-15. Increasing the number of people with access to improved WASH services required "tailor-made" expected results and activities reflecting the reality in South Sudan. A relevant and descriptive baseline for the WASH sector was carried out by NETWAS (2010). NCA SS planned a mix of activities and results for achieving the specific objective. We may distinguish two categories of activities and expected results: firstly, activities leading to direct increase of number of people with access to WASH services. In this category are activities like drilling and equipping boreholes with hand pumps, rehabilitation of hand pumps, construction of school sanitation facilities and spreading knowledge about "good" hygiene behaviour. Secondly, activities leading to indirectly to increase of number of people with access to WASH services. In this category we need to mention training of handpump mechanics, water committees, support and enabling the GOSS to deliver services.

Bearing this in mind, the author is of the opinion that activities, outputs and indicators are consistent with the overall goal and the achievement of its objective.

The indicators of this project clearly define the "what" of what is expect to be achieved in figures and facts. The WASH sector in South Sudan is lacking some guidelines from GOSS how activities should be carried and standards, also called by-laws. In this context project indicators would gain quality if quality criteria would be integrated into the indicator. For instance the following indicator: 45,000 people have continued access to at least 15L of water per day and within 1km of their homes - 60 bore holes repaired/maintained.

This indicator is written in 2009 where an emergency situation was ongoing with a perspective of going over to a rehabilitation phase. The indicator allows 750 people per repaired handpump at a distance of 1000m collecting at least 15lpcd. SPHERE standards give a guideline of maximum 500 people per handpump at a distance of 500m collecting at least 15lpcd. National South Sudanese

standards for boreholes with hand pumps (GOSS, 2009) state 500 people during emergencies at 500m distance to point of collection collecting at least 15 lpcd. Guidelines for normal times are 250-500 people at 1000m distance to point-of-collection collecting at least 20 lpcd. WHO guidelines define access to basic water supply service level with 250 people at 500m distance to point-of-collection collecting at least 20 lpcd. In the case that a water point would not comply with WHO guidelines, the water point would not be counted as access to improved water supply. This means that the indicator above does not comply with SPHERE standards or national standards.

An alternative to the indicator above could be:

45,000 people have gained access to at least basic water supply services level complying with SPHERE or national or WHO standards, 250-500 people per water point, living at a maximum distance of 500m collecting at least 20 lpcd of safe water (in this way the number of rehabilitated boreholes need to be increased or the number of beneficiaries needs to be reduced).

- *Are the activities outputs and indicators of the programme consistent with the intended impacts and effects?*

The intended impact mentioned above is ... to contribute to accountable governance, sustainable peace, gender justice and equitable access to basic social services, water and food security. The author is of the opinion that activities, outputs and indicators of the programme are consistent with the intended impacts and effects.

3.2 Effectiveness

The author investigated the effectiveness of the WASH programme which is a measure of the extent to which an aid activity attains its objectives. There are two questions to respond:

- *To what extent were the objectives in the log-frame achieved / are likely to be achieved?*

NCA's SS WASH programme is/was composed by three projects:

Firstly, the UNICEF funded project in Warrap State that started in July 2011 and ended in June 2011. NCA SS has got an extension for implementing activities of three month ending on September 30th. This project is somehow out of scope of this review since it is not mentioned in the TOR for this review. The objective of this project is mentioned above. A range of expected results were planned and activities carried out in order to achieve the objective. The status of completion and achievement of expected results are shown in the table 3.

Expected Result	Status of achievement by end of June 2012	Comments	Approximate nr. of beneficiaries
20 handpumps rehabilitated			Each handpump supplies water to 500 people, hence 10.000 beneficiaries.
20 Water committees formed and trained		The water committees are supposed to manage the rehabilitated hand pumps.	
2 RWH schemes built in	1 RWH with 5m ³ close to	The rainfall pattern in Warrap State is such	About 450 pupils per

schools with 1 and 5m ³	completion;	that the RWH system can only be used during about 5 months; the tank size was given by UNICEF; RWH can only be a supplement to another existing water source in the way it is designed;	school, hence 900 beneficiaries;
16 school latrines built with 5 cubicles each with hand washing		Construction of school toilets was delivered together with facilitation of Hygiene Clubs (see below). According to project reports the ratio number of pupils per toilet is between 100 to 200 pupils per toilet. This is not in accordance with SPHERE standards or internationally recognised best practice in the WASH sector.	About 150 pupils per toilet cubicle, 80 cubicles constructed, hence 12.000 beneficiaries;
2 latrine blocks with 3 cubicles each constructed in one health centre			Unknown number of people supposed of using health centre.
10 villages ODF through CATS 1000 latrines constructed	10 villages selected, 6 villages identified, in 4 villages activities started in April 2012	It is likely that 10 selected villages will be addressed, but it is unlikely that 1000 latrines will be constructed. Reason for this is that it is unclear if CATS is applied and timing is not in favour for latrine construction since it is the main cropping season;	1000 family latrines times 7 persons per family is 7.000 beneficiaries
10 Parents Teacher Associations and hygiene clubs established in 10 schools	Koajok Primary Boys school Hygiene Club established and functioning	10 PTAs and hygiene clubs are facilitated and established linked to the construction of school toilets, hence the number of beneficiaries is the same as mentioned above;	
10 schools supported with school WASH through competition and global hand washing day		It was mentioned that the formed hygiene clubs were/will be instrumental during Global Hand-washing Day;	
20 hygiene promotion campaigns in 20 villages	During Global Hand-washing Day in October 2011 a larger hygiene campaign was carried out in consortium with other actors. The campaign had activities such as dramas, march, sport competitions, talk show on radio;	It was said that the campaign during the Global Hand-washing Day would replace the campaigns in 20 villages	Unknown
Water source inventory in all six counties - to Directorate for Water and Sanitation	Inventory completed, but problems with data processing;		Likely to be completed by end of September, no direct beneficiaries;
250 water samples collected and tested	Water testing kit purchased and delivered; training received in use of test kit; water test activities not started;		Likely to be completed by end of September; no direct beneficiaries;

Table 3: Expected results, status of achievement and approximate number of beneficiaries of UNICEF funded WASH project in Warrap State for the period July 2011-June 2012.

The achievement of 100% Open Defecation Free (ODF) villages by end of September will depend on the quality of how Community-approaches to Total Sanitation (CATS) (see annex for principles of CATS) will be implemented and resources allocation. It is not likely that 1000 latrines will be build by the end of September.

The table above shows a lack of some information. It was not possible for the author to get comprehensive information due to too limited time in the project and narrative reports which were partly confusing because activities and expected results for each project were not clearly separated.

The number of targeted beneficiaries was about 182,600 people with about 87,700 women. Adding together the likely number of beneficiaries in the table, there will be about 30,000 beneficiaries plus an unknown number of beneficiaries reached with hygiene message. This large discrepancy between planned number of beneficiaries and likely number of beneficiaries is indicative that the number of people supposed to be reached and documented in the proposal is unrealistic.

Secondly, is the **ACT appeal** funded emergency response with activities in the WASH sector in **Warrap State**. The project was implemented in the period August 2011 to March 2012. This project is out of the scope of this internal review, but needs to mentioned. The ACT appeal funded facilitation and training of committees, construction of 50 multi-family latrines, drilling of 7 boreholes and training of local leaders. The project activities targeted internally displaced people (IDPs) which were resettled to an area close to Jong village. The author and review team visited this settlement. The project activities were completed in March 2012.

Thirdly, the **Norwegian Ministry of Foreign Affairs (NMFA)** funded a WASH programme that was implemented in **Warrap State and Eastern Equatoria State**. A number of activities were planned and aimed to lead to expected resulted which were supposed to lead to the specific objective of this project. The objective of this project is mentioned above. The table 4 tries to summaries the status of achievement by June 2012.

Expected Result	Status of achievement by end of June 2012	Comments	Planned finalization and approximate nr. of beneficiaries
45000 people have continued access to at least 15L of water per day and within 1km of their homes - 60 bore holes repaired/maintained;	Warrap State: 10 hand pumps rehabilitated; 10 hand pumps identified EES: 5 hand pumps rehabilitated;	EES: 15 hand pumps rehabilitated in 2010 using CHF funds;	Warrap State: Rehabilitation of 10 hand pumps is likely to be completed before December 2012; Number of beneficiaries per handpump is 500 people;
60 hand pump technicians trained and 60community water committees established;	Warrap State: 24 Pump mechanics trained; 20 bicycles to pump mechanics provided; 20 water committees formed and members trained; Facilitation and training of 10 water committees planned for after rehabilitation of hand pumps;	EES: 25 Pump mechanics trained using CFH funds;	Warrap State: Training of 10 water committees likely to be carried out in August; EES: 7 committees likely to be carried out in July 2012;

	<p>EES: 8 water committees facilitated and members trained in 2011; 5 water committees facilitated and members trained in 2012; Training of 7 committees planned in 2012;</p>		
40 facilities (schools and clinics) have installed rooftop rainwater harvesting systems;	<p>Warrap State: 1 RWH system in clinic in Alek constructed; 4 RWH in schools in Alek; Preparation of construction of RWH under way EES: 3 RWH systems constructed in schools in 2011; 4 RWH in process of implementation in 2012;</p>		RWH system likely be carried out in July;
80 latrines stances built or rehabilitated in 40 schools and clinics;	<p>Warrap State: 5 blocks with 3 stances constructed; Construction of 5 unites with 3 stances each planned EES: 2 blocks with 4 stances each constructed in one school in 2011; 4 blocks with 4 stances each planned in schools in 2012;</p>		Warrap State: Planned unites likely to be implemented by end of December;
36000 people are reached by WASH hygiene promotion messages and awareness campaigns in cooperation with UN and other partners;	<p>Warrap State: 6 hygiene promoters in Jong IDP resettlement area supported; Radio talk shows about hygiene planned; Formation and training of 10 hygiene & sanitation clubs in 5 Schools EES: No hygiene promotion was carried out;</p>		Warrap State: Radio talk shows likely be implemented in October; Hygiene clubs likely started in August ;
County and state authorities are able to coordinate and guide activities in concurrence with National Water Policy and based on reliable baseline data	<p>Warrap State: Capacity building of County WASH staff planned; EES: 6 motorcycles given to Magwi county water and sanitation department; Working equipment and means of transport given for the work of County commissioner for water and sanitation;</p>		Warrap State: Capacity building of County WASH staff likely be implemented between August-December;
	<p>Warrap State: 10 boreholes drilled and equipped with hand pumps in Koajok resettlement area; EES: 2 boreholes drilled and equipped with hand pumps in Lopa/Lafon;</p>	Warrap State: The result was reported as funded by ACT appeal;	

Table 3: Expected results, status of achievement and approximate number of beneficiaries of NMFA funded WASH project in EES and Warrap State for the period May 2010-June 2012.

The NMFA project planned and budgeted a number of activities, expected results and objective on the basis of an expected amount of funds to receive from NMFA (see project proposal to NMFA, 2010). As far as the author is informed, NCA SS received half of the amount proposed, but did not as a consequence of this revise and document adjusted activities, expected results and objective. As a result of this there are expected results and objective which cannot be achieved with the funds available.

The author had the impression that results reporting of NMFA project, UNICEF project and ACT alliance projects were not clearly enough separated from each other or marked in a way that it is clearly distinguishable. This bears the risk to report the same activities and results to several donor agencies.

We can summaries that it is likely that most of the expected results of the UNICEF funded project will be achieved by the end of the extended implementation period. Consequently, specific objective is likely to be achieved. However, the author sees a challenge for the reporting of the number of beneficiaries, because he believes that the planned number of beneficiaries was unrealistic. It is likely that several expected results of the NMFA funded project will not be achieved.

- *What were the major factors influencing the achievement or non-achievement of the objectives?*

The achievement of the specific objectives for each project depends on the achievement of expected results. The resources made available for carrying out activities are supposed to produce the planned result. It was assumed that the security situation is such that planned activities were able to be carried out. According to NCA staff, the security situation was conducive for project implementation.

The achievement of expected results as mentioned above for the UNICEF and NMFA funded projects might be explained with specifically having competent and dedicated personnel working in the WASH programme and generally in NCA SS. Additionally, NCA SS general capacity permitted their achievement.

It was also mentioned some factors which have influenced the non-achievement of some expected results:

- The WASH project funded by NMFA was funded for the period May 2010 to December 2012. NCA's WASH program in EES operated with funds from CHF until December 2010. This means that the implementation period for this WASH project in EES was reduced by 7 months.
- NCA SS allocated one WASH officer for the project in EES and one WASH officer for the project in Warrap State. The number of staff in Warrap State was increased with 3 WASH officers when having received funds from UNICEF in July 2011. The WASH officer of EES was sent to work in an LWF project for a one month period during the first quarter of 2012. These facts show that allocation of staffs for carrying out planned activities specifically of the NMFA funded project was insufficient.

- The WASH officer of EES and the WASH officer and team leader in Warrap State are going to stop working for NCA in July 2012. This is going to influence the achievement of expected results particularly of the project in EES.
- The project proposal funded by NMFA mentions a number of targeted beneficiaries of 45,000 people benefitting from improved access to water supply and 36,000 people reached with hygiene messages for the case that the proposal would be funded as proposed. NCA SS received about half of the proposed budget and consequently reduced the allocation of funds to the WASH programme by half. However, as far as the author is informed, NCA SS did not adjust activities, expected results and number of beneficiaries to the reduced amount of funds available.
- NCA SS planned the WASH project which was funded by NMFA at the end of 2009 with its budget and an exchange rate of Norwegian Crone to South Sudanese Pounds of 2.6NOK:1£SS. In 2010 the construction costs of institutional latrines with 3 cubicles were 19,000£SS. By June 2012, the exchange rate changed to about 4NOK:1£SS. The construction of institutional latrines with the same specifications costs 35,000£SS. This shows that with the devaluation of the South Sudanese pound NCA SS gets fewer infrastructures in 2012 with the planned budget 2009 than planned.
- Referring to the components for household sanitation through CATS approach, NCA WASH officer and team leader was trained in CLTS approach by UNICEF in August 2011. He trained NCA's WASH staff during one day training in September 2011. The communities were mobilized during one day and digging tools for digging pit latrines distributed in April 2012. The questionnaire survey in Mangar village was carried out in June about two months after mobilization of the population. The survey showed that all people use the bush for open defecation. Only 20% of the respondents stated that it is very important to have and use a latrine, but 40% of the respondents stated that it is not important at all to have a latrine. 46% of the respondents stated to remember an event where construction of latrines was talked about. 38% of the respondents stated that the event was a public meeting, 15% of the respondents stated the event was the radio and 15% stated the event was in a hospital. The event(s) was important for few people few respondents stated that this event had consequences for their daily live. One respondent stated to dig a pit for a latrine, one respondent started with hand washing before eating and one person stated consequences for personnel hygiene. The survey indicates that the one day mobilisation had not the effect as expected. CATS approaches requires specific skills. Eventually, the relevant staff for implementing these activities would need further training and experience in CATS. Additionally, timing is not in favour for latrine construction since it is the main cropping season.

At one occasion the topic of underlying assumptions and programme theories were brought up for discussion with programme staff. The meaning of programme theories was not easy to communicate. The major assumption mentioned as basis for achieving objectives was security in the programme area.

3.3 Efficiency

Efficiency is a criterion that measures the qualitative and quantitative outputs of a programme in relation to the inputs. It is an economic term which signifies that the aid uses the least costly resources possible in order to achieve the desired results. This generally requires comparing alternative approaches to achieving the same outputs, to see whether the most efficient process has been adopted.

- *Were the activities carried out by the WASH sector cost-efficient?*

NCA SS applied the strategy of using private companies for the construction of infrastructure such as boreholes equipped with hand pumps and school sanitation facilities. In some cases did the private companies carry out so called ‘soft components’ such as training of water committees in connection with the drilling of boreholes. The selection of private companies was based on a competitive bid process where companies were able to compete for getting the bid. Such a process assures that the planned infrastructure is carried out as cost efficient as possible. Selection criteria for the bid were cost, but also trust in the quality of work the bidding companies would deliver. For instance, in 2010 NCA SS needed a company for the construction of 5 school toilet blocks with 3 toilet cubicles each. A bidding process was carried out where five companies participated. The comparative bid analysis showed the following result:

Company Name	Bid offer
Jainde Construction Company	200,500 £SS
Nooagen Engineering Works	85,900 £SS
Rock Raen Investment	132,000 £SS
Bridge International Company	114,300 £SS
High Rock Investment Company Ltd	96,000 £SS

Table 4: Comparative bid process for the construction of 5 school toilet blocks with 3 toilet cubicles each in 2010.

High Rock Investment Company Ltd. gained the bid and was hired for the construction of the toilets.

This system of bidding for construction contracts is likely to produce the most cost-efficient construction of infrastructure the market in South Sudan has to offer.

- *Were the objectives achieved on time?*

Since 2010 NCA SS implemented three WASH projects in Warrap State and EES as mentioned above. The project with the longest time perspective, the NMFA funded project is due to end in December 2012. It is unclear if the objectives of this programme will be achieved depending on factors such as resources allocation in form of staff.

The UNICEF funded project has got a three-months extension and is due to end in September 2012. The achievement of the objective of this program will also depend on allocation of resources. The author is of the opinion that it is likely that parts of the objective will be achieved. The number of

expected beneficiaries is part of the objective. The author means that it will be a challenge to achieve the number of beneficiaries.

Third project was the ACT alliance funded emergency project in Warrap State with several activities in the WASH sector. This project was completed in March 2012. This project was out of the scope of this internal review.

- *Was the sectoral programme implemented in the most efficient way compared to alternatives?*

The review team was able to visit a small selection of project sites (see chapter on Methodology and Table of Activities in the annex). Most of the results seen seemed to be a good alternative except the construction of roof-top rainwater harvesting (RWH) such as in Mora Lopit, Lopa/Lafon county and at Alek South Primary School. The village Mora Lopit has 5 boreholes equipped with hand pumps and a seasonal river about 1km from the village. Four hand pumps are not working and water committees managing maintenance of the water point are not functional. Bishop Andrew Primary School is situated outside the village. In November 2010, a Japanese company has drilled a 70m deep borehole and equipped it with an India Marc II handpump. The borehole is about 50m behind the school. Seemingly the handpump fell into disrepair in 2011 when NCA assessed the needs of the area. Eventually, the handpump was not taken into account. In 2012, NCA constructed a RWH system with a 9m³ storage tank. The situation was described as when it had rained pupils collect water from the water collection point of the RWH system during the morning. In the afternoon, village population collect water from the RWH system until it eventually was emptied.

The water supply situation in Mora Lopit and the primary school before building the RWH system presented several alternatives to solve the problem of access to improved water for the school and the village:

- Repair of the school handpump.
- Repair of the school handpump and training of the Parents-Teacher-Association (PTA) for care taking of the handpump.
- Drilling of a new borehole equipped with a handpump for the primary school and training of the Parents-Teacher-Association (PTA).
- Construction of RWH system in the school and training of the Parents-Teacher-Association (PTA).
- Training of water committees, repair of all hand pumps and training of the Parents-Teacher-Association (PTA) which has the responsibility to manage or at least fund the repair of the school handpump.

The objective was to give access to improved water to the pupils in Bishop Andrew primary school. Access to improved water supply is measured in terms of as follows:

- water quality, the water must be safe for drinking, or water treatment must be part of the solution,
- water quantity, a school water supply should be designed at the basis of delivering 3lpcd each school day,
- distance between point-of-source to point-of-consumption,
- reliability of water source, the water supply system needs to supply water each day when there are classes,

- capital costs and costs for operation and maintenance of the water supply.

The different alternatives can then be assessed in relation of the criteria. It can be said that in general water from RWH has a low risk of contaminated drinking water when managed properly. Low risk means that the water is relatively good compared with other water sources but still has a risk of being contaminated and would need treatment in order to adhere to WHO guidelines for drinking water (WHO, 2012). The water quantity available depends on factors such as rainfall pattern, size of catchment area, material of catchment area, quality of system parts such as guttering, size of storage tank. In general the distance between RWH water access-point to point of use is relatively short for roof-top RWH systems. Reliability of water supply from RWH can be a major issue especially in areas with seasonal and rainfall pattern and low amount of rainfall. Reliability of water supply can be improved by an increase of water storage capacity. A major cost driver of the capital costs is the water storage tank. Size of water storage tank depends on water demand and supply which in their turn depend on several factors. The size of storage tank at this school was not designed on the basis of finding an optimal size by calculating supply and demand. The RWH system costs about 7000\$US. For the sake of comparison, a new borehole equipped with handpump would cost about 14,500\$US. In general, an advantage of RWH is low O&M costs and relatively uncomplicated maintenance of the system.

Considering the alternatives, the author is of the opinion that in this case it is likely that alternative 5 would be a good solution with long-term perspective. However, detailed calculation was not carried out.

NCA Warrap State was completing a RWH system at Alek South Primary School when visiting the school. The RWH consisted of part of the roof of one school building as catchment area, guttering, 5m³ storage tank with water tap. The RWH system had no “first flush” device to direct away the first water flush that normally contains dust and bird droppings, and it lacked a wash-out of the storage tank for cleaning the tank. About 150m behind the school, towards the market place was a functioning hand-pump. It was said that over-crowding of the handpump was periodically a problem for pupils. The budget for this system was 50,000SS£ equivalent to 16,000US\$ of which 20,000SS£ was for transport of material. A new borehole with handpump would cost 40,000SS£ equivalent to 13,500US\$. It was said that UNICEF decided about the tank size. The RWH system supplies water during the 5-months rainy season. The author is of the opinion that it is likely that the problem was not solved with the best solution.

NCA SS is planning the construction of RWH system in Abara Primary school in Magwi County in 2012. There it is a similar situation as in Mora Lopit. A functioning borehole and handpump belongs to the school but is used by the community. Maintenance of the handpump is not carried out properly. I would suggest applying a similar approach as outlined above. First of all the problem should be clearly described with apparent problem and its root causes before finding the best solution for improved water supply in the school and the community.

The questionnaire survey in **Abara village** gives an indication of some aspects of the water, sanitation and hygiene situation of their population. All of the surveyed population settled in this village during the last few years. The average family size is 7.4 with a range of 3 to 14 family members. Handpump(s) are central in supplying the population with water in the dry and rainy season. All people use water from hand pumps for all domestic tasks. About a third of surveyed population uses water from hand pump(s) also for watering animals and gardens. About 14% of surveyed population uses a stream during rainy season. Most surveyed people live relatively near hand pumps with needing between 10 and 20 minutes for round-trip for water collection. The average water consumption per person and day is about 16 litres. Most of the surveyed people are conscious that the community owns the water points and deemed the presence of a functioning handpump as significant. Most surveyed people appreciated the construction of the handpump(s) because they perceived the water supplied as safe leading to better health. The water pumps have a range of challenges: about two third of surveyed people complain about long queuing time, and about half perceived operation of handpump as hard. It seems that there is at least one handpump which produces coloured brown/reddish water. The water yield of all pumps diminishes during dry season. This might lead to even longer queuing time. About 60% of the surveyed people perceive the taste of the water as fresh whereas about 33% perceive it as salty.

All surveyed people contribute financially to maintenance and repair of the handpump in average about 2SS£. The villagers have decided about the members of the water committee which is managing to maintenance and repair of the handpump. The water committee seemingly does a good job because all surveyed people stated to know that the collected money was for maintenance and repair and there is transparency around handling of funds.

All surveyed people consider having a toilet as important. About three quarter of the surveyed population have a family toilet or access toilet from neighbours. Additionally, most people surveyed stated to wash their hands after having visited the toilet. About 47% and 40% of the surveyed population was exposed to either radio emission or public meeting respectively talking about 'good' hygiene behaviour. The surveyed people stated to have taken consequences out of these events talking about hygiene. A third stated to wash their hands after visiting the toilet, another third stated to have a better health and about a quarter of the surveyed population stated "to avoid jumps". Two third of the surveyed population stated to treat drinking water, 40% of them with chlorine and about 27% by boiling. The questionnaire survey was not carried out to be representative, but gives an indication.

3.4 Impact

Impact has been described as the changes the programme makes in human development and people's wellbeing (UNDP, 2009). Impact describes the positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, economic, environmental and other development indicators. The examination should be concerned with both intended and unintended results and must also include the positive and negative impact of external factors, such as changes in terms of trade and financial conditions. In line with this definition the author examined the changes that the results of the programme interventions has made to the lives of women and men related to the WASH programme.

- *What has happened as a result of the project?*

NCA's SS WASH programme consisted of different projects with different activities. The internal review was able to visit very few of the sites where the activities were carried out for a relatively short time. Impressions therefore are only "snapshots" and indicative.

NCA SS WASH program in EES had some focused activities of which facilitation and training water committees was one activity. NCA trained 8 committees in 2011 and 5 committees in 2012. The training of additional 7 committees is planned for 2012. For instance, the training of the committees

in Iboni resulted in that the community had an organ that took responsibility to manage the repair of the hand pumps. In the community live two handpump mechanics. They were willing to repair the hand pumps after the community had collected money and valuables such as grain to give them as incentive for doing so. Another example is a water committee close to Magwi town managing one handpump which supplies water to 3000 people. NCA SS trained this committee in 2011.

Another example is NCA's SS training of pump mechanics in EES and Warrap State (see box above). The interview with the pump mechanics of Alek town, Iboni village and Magwi town revealed the appreciation of the training which probably had contributed to increase the skills of the pump mechanics and hence the functioning of an operation and maintenance (O&M) system in these counties.

NCA SS trained hand pump mechanics (PM) such as Mr. Simon Peter in Magwi town. He has worked as pump mechanic the last 6 years, but was trained by GOSS/Catholic Relief Service/NCA in 2002, 2006 and August 2011. He is gaining his life as farmer and is part time 'volunteer' PM. 'Volunteer' PM means that the Water and Sanitation department of Magwi County requests him to repair HP, but the communities pay him for his services. He is serving 26 hand pumps (HP) in and around Magwi town. He is reaching the villages with a bicycle. Most of the HPs he repairs are India Marc II models and some India Marc III. In average he needs to repair each HP about three times per year. HPs are designed to serve 300 people. However, most of the HPs in Magwi are used by far at least 600 people or more such as the HP close to the organization Magwi Action for Self Reliance where about 3000 people are served with water. The over-use of HP, chemically aggressive groundwater and a general lack of preventive maintenance lead to regular break-down of HPs. Frequent repairs are worn out valves and seals, cracked pump cylinder, leaking raising main and disconnected pumping rods. The average downtime of HP is 1 to 2 weeks. The main challenge he faces is lack of spare parts.

He considers the last one-week PM training as useful because it keeps him up-dated and he does not forget. He would wish to have two refresher trainings per year and training should include introduction and use of 'fishing' tools for fishing parts out of the borehole.

In Magwi County live about 234,000 people. Most people collect water from one of the 390 hand pumps in the County. About 85% of the HPs are functioning. The HPs in disrepair are not-functioning due to lack of spare parts or dried up boreholes during the dry season. The operation and maintenance (O&M) system for the water sector consists of several levels. At the Payam level (sub-district) there are the so called 'volunteer' pump mechanics (PM) which seem to be the back-bone of the system. At County level there is a mobile PM team with 6 (in Magwi) and 11 (in West Gogrial) members. The mobility of these teams is restricted due to lack of transport and fuel. In Warrap State there is a third level of mobile PM team at state level with 6 members. NCA EES supports the mobile team in Magwi by transporting handpump materials to the Payams.

Access to spare parts is another essential part for the functioning of the O&M system. The HPs used in South Sudan are imported and all spare parts need to be imported from India. UNICEF supplied pumps and spare parts to the GOSS which distributes these parts to the states and those to the counties. The amount of spare parts supplied is insufficient because, many HPs needed to be replaced or rehabilitated. The gap of lack of spare parts was/is filled by NGOs like CRS, ACF and NCA. In Magwi County, CRS supplied only spare parts to HP which were rehabilitated by CRS. NCA had a more generous stance and has supplied spare parts for free as needed by the communities during the last years. For instance NCA EES has purchased spare parts for 35,000\$US in 2010 with funds from CHF. In this way, NCA has gained a significant role in supplementing the governmental system with spare parts. It seems that NCA's role in spare parts supply contributes significantly to

the functioning of the O&M system and consequently water supply to communities in Magwi, Lopa/Lafon and West Gogrial County.

- *What real difference have the activities carried out by the WASH sector made to the beneficiaries?*

The questionnaire survey showed that some of NCA's activities made a real difference in women's life. For instance, in the village Iboni, in Lopa/Lafon County nearly all respondents remembered when NCA rehabilitated the hand pumps. About 74% of the respondents stated that this event was very important for them and 20% state that it was important. About 94% of the respondents stated that they have got better health and 40% stated to save time when collecting water. Indeed, about 74% of the respondents stated to need less than 30 minutes for round-trip for water collection. Further, about 92% appreciated that the hand pumps produced safe water. The alternative water sources do probably not produce safe water, because they are surface water and particularly the rainwater filled pool in the mountain is at a 3-hours walk distance from the village.

Secondly, all respondents of the survey living in Jong resettlement area stated that the construction of the boreholes were very important for them. All stated that they have got better health and save time for water collection.

Primary beneficiaries of improvements in the access to water are women and girls who traditionally are responsible for collecting water. Time savings can be significantly compared with accessing alternative, traditional water sources.

Thirdly, NCA SS Warrap State constructed school sanitation facilities and introduced Hygiene Clubs. For instance NCA constructed two toilet blocks with 4 stances each and urinal in Koajok Primary Boy's School in 2011. There have been toilets built earlier, but the pit of four of them is full and therefore out of work and four toilets are used by teachers. The School has classes in grade 1 to 8 and at the moment 1098 pupils. Each grade has one toilet for use and the responsibility to clean it. This results in a ratio toilet stance to pupils of 1:138 pupils. This is very high compared with suggested ration of 1:60 for pupils of 5 to 12 years and 1:80 for pupils between 12-18 years. The ration assumes that urinals are provided in addition to the stances. Interviewed pupils told that it is acceptable for them to clean the toilets, but they wished to get gloves and mouth protection when cleaning. The toilets were clean when the author inspected it. This indicated that cleaning arrangement was working. It is supposed that the introduction of Hygiene Clubs in the school in parallel to the construction of sanitation facilities was conducive for cleaning and maintenance arrangements of the school toilets. The disadvantage of the UNICEF design of simple pit latrine is that it is very difficult to empty full pits and eventually the toilet becomes not functional. A double-vault latrine where the vault can be accessed from outside would not have this problem. The teachers told that pupils, especially of the lower grades learn to use a toilet and the need to wash hands after using the toilets. This is significant in the context where less than 10% of the population uses toilets. It will probably have long-term effects for the willingness of having and using toilets in the country.

NCA in EES also constructed school sanitation facilities such as those of Primary school Abara village. This school had three toilet blocks with four stances each and urinal. There was one block for girls with three stances and urinal which in this form were useless for girls. Two metal doors to two stances were broken. The boys had two blocks with two locked doors, one broken door and one which was not possible to open. The teachers disposed one toilet block. The primary school has 609 girls and 578 boys resulting in a ratio of stances to girls of 1:152 and stances to boys of 1:76 plus two urinals. It was mentioned that the community living around the school uses the toilets, damages the doors and lead to dirty toilets. The author heard similar complains in Alek South Primary School. In

contrast to NCA Warrap State, NCA EES did not use the opportunity of toilet construction to introduce Hygiene Club or Child Hygiene and Sanitation Transformation (CHAST) approach.

- *How many people have been affected?*

This internal review tried to estimate the number of people directly benefiting from different project activities (see tables above). The author is of the opinion that an estimate of people impacted by NCA's SS WASH programme is out of scope of this review due to time and resources limitations.

3.5 Sustainability

The focus of this area of evaluation was to determine the extent to which the benefits of the programme can continue after NCA phases out the programme. The key issues were: 1) to what extent are the benefits of the WASH activities likely to continue after donor funding ceased, and 2) what were the major factors which influenced the achievement or non-achievement of sustainability of the project?

The author would like to focus on NCA's activities related directly to water supply in communities such as rehabilitation of hand pumps and training of water committees and activities related to O&M system of hand pumps.

Firstly, for analysing sustainability of water supply in communities the author applied an analytical framework developed by Harvey & Reed (2004) with the following sustainability factors:

- Institutional arrangements
- Financing and cost recovery
- Community and social aspects
- Technology, supply chain and environment

A fundamental factor of sustainability of community management water supply is the existence of an institution such as a committee for managing O&M of the water point. NCA SS was working to facilitate and train water committees. The visited committees were composed of women and men. The committees in Jong and Magwi were conscious about roles and responsibilities of the different functions in the committee such as chairperson, treasurer and secretary. The committees in Iboni seemed to be a bit unsure about roles and responsibility of the different functions in the committee. The committee in Magwi seemed to fulfil their function satisfactorily. In general, water committees were not supported or followed up after being formed. Support and follow up is in many countries the duty of the government. International experience showed that most committees need some form of follow up for long-term functioning. In general preventive maintenance was not carried out which normally leads to more frequent repairs. It looked like as if committees were not familiar with the concept of preventive maintenance.

Finance and cost recovery are a central part of sustained use of water supply infrastructure. In general, communities contributed in form of labour and kind to capital costs. Contribution to capital costs is seen as an indicator for taking ownership of the infrastructure. The committees in Iboni raised funds when there was need to repair of the HP, the committees in a Koajok Block 19 and in Magwi collected funds on a monthly basis for being prepared to pay for needed repair. These two committees seemed to have a more advanced system of managing funds. The committee in Jong was not able to raise funds, due to the vulnerable situation of the community. Not all HHs collecting water from the HP were willing to contribute financially. For instance in Magwi about 150 of the 600

HH using the HP contributed regularly. In general, the raised funds cover only the work of the 'voluntary' pump mechanic who takes between 150 and 300£SS per repair. Spare parts are given for free either from GOSS or NCA. Many communities are probably not in the position or willing to finance more expensive repairs such as change of pump cylinders, raising mains or rods or replacement of a pumping set. The GOSS has not stipulated water tariffs and seems to rely on that spare parts are given for free also in future.

Sense of ownership is one aspect of community and social factors for sustainability. Most people stated that it is the community or the water committee who owns the handpump. There are very limited alternative water sources in all four villages where the author has met the committee. This means that communities are dependent on a functioning handpump. This situation is conducive for sustainability of the HP. It was stated that all individuals of the community have access to the HP and that there are no conflicts due to HPs. In general HP users were satisfied with the HP and the water it supplied. However, there were some challenges mentioned: the most frequently mentioned challenge was over-crowding and long queues when collecting water. This challenge is specially pressing during dry season and indicates too few HP for too many people. Some HP had the challenge that it was hard to pump and/or that water quality was unsatisfactorily when having yellowish or reddish colour. Complaints about water quality were more articulated for some HP during the dry season.

Sustainability factors relating to technology, supply chain and environment showed a mixed picture. In the areas visited groundwater quality seemed to be chemically aggressive leading to corrosion of submerged parts of the pump. The depth of aquifer was between 15 and 90m with seasonal variations. In general pumping effort increases with depth of boreholes. Seasonal variations of depth of groundwater level were pronounced in Magwi, Abara and Iboni, water yield from the boreholes reduced during dry season. The most commonly used HP model in South Sudan is India Marc II. The HP is designed to deliver water to 300 people. The normal situation in the counties visited is the use of the HP of between 600 and 3000 people. The lack of preventive maintenance contributed to frequent breakdown. The presence of skilled and trained pump mechanics had as consequence that downtime was in general relatively short. However, the lack of reliable spare parts supply chain is a major draw-back for sustainability.

We can summaries that if donor funding would cease soon, it is likely that water supply in communities would be under threat which means that sustainability is not in place. Main reasons for this are: lack of systematic follow up and support of water committees, lack of preventive maintenance, no full cost recovery for maintenance and repair, spare parts are given for free, lack of lead and guidance from the GOSS, and too few water points leading to too many users per water point and consequently rapid wear out of HP.

NCA's SS role in spare parts supply chain is important for O&M system for HP in Lopa/Lafon, Magwi and eventually West Gogrial. The author felt that NCA SS took a central role in spare parts supply chain which eventually was acceptable in times of emergency but is not acceptable in the development period that has started.

4. CONCLUSIONS AND RECOMMENDATIONS

In the following the author presents conclusions and recommends:

- The author concludes that NCA's SS WASH programme is highly relevant in the light of policies of GOSS and in the perspective of rights holders. The author is of the opinion that the objectives in the NMFA and UNICEF proposals are still valid today.
- The author observed a general lack of by-laws giving guidance how issues should be implemented. Additionally, some GOSS staff showed a low competency level. It is therefore recommended to continue to support and enable the GOSS to deliver social services. The support should particularly be through capacity building.
- The author is of the opinion that activities, outputs and indicators are consistent with the overall goal, the achievement of its objective and the intended impact. The quality of indicators could profit if they would include "how" criteria besides "what" criteria.
- It is likely that most of the expected results and hence specific objective of the UNICEF funded project will be achieved by the end of the extended implementation period at the end of September. The author has doubts about the achievement of the expected result of 10 ODF villages and the construction 1000 HH latrines by the end of September. The number of beneficiaries is part of the objective. For the author the number of 182,600 people with about 87,700 women seems not to be realistic when comparing it with approximate number of beneficiaries for each expected result.
- NCA SS received half of the amount proposed to NMFA, but did not as a consequence of this revise and document adjusted activities, expected results and objective, as far as the author is informed. As a result of this the number of expected results and objective are unlikely to be achieved with the funds available.
- The author had the impression that results reporting of NMFA project, UNICEF project and ACT alliance projects were not clearly enough separated from each other or marked in a way that it is clearly distinguishable. This bears the risk to report the same activities and results to several donor agencies. The author recommends a more structured reporting system that clearly distinguishes between activities and results of different projects.
- The achievement of results and objectives might be explained with having competent and dedicated personnel working in the WASH programme and generally in NCA SS. Additionally, NCA SS general capacity permitted the achievement of these results.
- Factors which have influenced the non-achievement of some expected results are the reduced implementation period of the NMFA funded project, the insufficient allocation of staffs for carrying out planned activities specifically of the NMFA funded project, the planned turn-over of key WASH personnel in July/August 2012, not adjusting activities, expected results and number of beneficiaries to the reduced amount of funds received from NMFA, the devaluation of the South Sudanese pound which allows NCA SS to carry out fewer infrastructures in 2012 with the planned budget from 2009 and lack of skills and unfavourable timing of implementation of HH

sanitation component using CATS method. The author recommends, if feasible to increase the number of staff in EES and Warrap State in order to accelerate implementation during the last months of the project period.

- The author concludes that NCA Warrap State sanitation components in schools were satisfactorily carried out with construction of sanitation facilities and introduction of Hygiene Clubs. Points of improvements are a systematic follow up of Hygiene Clubs. The school sanitation component of NCA EES could be improved by introducing Hygiene Clubs, WASH in School or CHAST method when constructing school toilets. In general for NCA SS school sanitation work it would be desirable a change of design of school toilets from simple or ventilated pit latrines to double pit or vault latrines. There are too many pupils per toilet stance this seems to be particularly for girls. This should be changed by construction of more toilet stance. It needs to be pointed out that the parents-teacher-association (PTA) of the school needs to be involved in these activities since they are the key for functioning and maintenance of school sanitation facilities.
- Promotion of HH sanitation using CATS method seems to have little effect. A way forward could be training of staff in CATS method, a more thorough preparation of promotion of HH sanitation, an intense and sustained mobilization of local community to create demand for sanitation.
- Hygiene promotion (HP) in NCA EES was not prioritized, but water committees were lectured about hygiene topics. HP in NCA Warrap State has carried out large campaigns using radio as communication channel and the Global Hand Washing Day.
- The sanitation and hygiene sub-sector is neglected compared with water supply. Traditionally, South Sudan has a very low coverage rate of household sanitation due to different reasons. Demand for sanitation facilities differ depending on local traditions and history of the people. The author recommends that NCA SS should focus on school sanitation and hygiene through the construction of school sanitation facilities in combination with introduction of Hygiene Clubs, CHAST or WASH in school method. Additionally, household (HH) sanitation can be promoted in the community surrounding the school. Promotion of HH sanitation would have as purpose to create demand for HH sanitation in order that householders construct their toilets. HH sanitation should prioritized be promoted in clustered villages and towns, urban and peri-urban areas. In rural areas and smaller villages hygiene promotion (HP) with focus on general improvement of hygiene behaviour (drinking water and food handling, sanitation, hand washing, etc.) should be at the centre. Methods of HP will depend on resources available. Mass communication using radio and public meetings is one option where the expectations of sustained hygiene behaviour change should be low. One can expect more sustained hygiene behaviour change when communicating to groups using for instance Community Health Club (CHC) or PHAST method. Sanitation and hygiene promotion should be implemented as “package” together with water supply.
- The selection of private companies was based on a competitive bid process where companies were able to compete for getting the bid. Such a process assures that the planned infrastructure is carried out as cost efficient as possible. It is recommended to continue with this system as far as possible. Communities should be expected to contribute to capital costs in form of labour,

material and eventually cash showing their demand. The bidding system for contracting private companies should be able to accommodate contributions from the communities.

- The two projects composing NCA's SS WASH programme are still ongoing. The NMFA funded project is due to end in December 2012 and the UNICEF funded project has got a three-months extension and is due to end in September 2012. It is unclear if all objectives of these programmes will be achieved which will depend on factors such as resources allocation in form of staff.

Most of the results the review team has seen seemed to be a good alternative solution. However, the construction of roof-top rainwater harvesting (RWH) such as in Mora Lopit, Lopa/Lafon County and the system in Alek South Primary School should have been planned comparing this solution with other possible solutions. The author recommends that water supply systems should be designed and compared with alternatives by using criteria such as water quality, water quantity, distance between point-of-source to point-of-consumption, reliability of water source, and capital costs and costs for operation and maintenance of the water supply.

- NCA SS WASH programme had a multitude of direct and indirect effects. The author likes to mention two effects which are training of hand-pump mechanics and NCA's role in spare parts supply chain. The training of hand-pump mechanics has contributed to improve the existing O&M system of hand pumps. NCA's role in spare parts supply chain had the effect that more hand pumps in NCA's target Counties were repaired and hence people had access to safe water. The author recommends continuing to train hand-pump mechanics in a systematic way. Further it is recommended to work on an exit strategy to lessen the reliance of GOSS on NCA's supply of spare parts.
- It was shown that NCA SS WASH programme led to real differences in people's and particularly women's life through giving access to improved water supply. It is recommended to continue to improve access to water for domestic and productive use. Rehabilitation of existing hand pumps and boreholes are one technical solution. The author argues for to approach the water sector with a broader perspective of water resources management where water supply for human, productive uses and environment are in a balance. In counties like Lopa/Lafon, West Gogrial and Twic counties people's livelihood is based on livestock and cropping. Hand pumps which were mainly designed to supply water for human consumption are de facto used for watering of cattle and gardens. It is therefore recommended that NCA SS plans infrastructure projects which increase availability of water. This can be construction of dams, sub-surface dams and Hafirs. A framework for this approach is described as multiple-use water services (MUS).
- Sustainability of NCA's activities with community based management of water supplied was examined. We can summaries that if donor funding would cease soon, it is likely that water supply in communities would be under threat which means that sustainability is not in place. Main reasons for this are: lack of systematic follow up and support of water committees, lack of preventive maintenance, no full cost recovery for maintenance and repair, spare parts are given for free, lack of lead and guidance from the GOSS, and too few water points leading to too many users per water point and consequently rapid wear out of HP. Additionally, NCA's SS role in

spare parts supply chain is important for O&M system. The author felt that this role was eventually acceptable in times of emergency but is not acceptable in the development period that has started. Therefore the author recommends working with an exit strategy for NCA's role in spare parts supply chain. Additionally, NCA SS should support the GOSS to follow up water committees. This can be done by capacity building of GOSS sector staff, and filling critical gaps where the GOSS is not yet able to deliver such as inventories, performance monitoring, etc. The filling of critical gaps should be timely limited.

5. ANNEXES

5.1 TABLE OF ACTIVITIES

Day/Date	Activity	Comments
Sunday 17.06.	15:00 Travel Oslo – Amsterdam – Nairobi -	
Monday 18.06.	<p>Arrival Juba 09:30;</p> <p>11:00 NCA office, Florence Tanstad (Head of Programmes) and Kenye Emmanuel (M&E officer) – Discussion of issues of TOR and practical issues;</p> <p>12:15 Dave Mcentee (Head of Operation) and Eliu Denis Okeny (Security Focal Point) – Security briefing;</p> <p>15:00 NCA office, Malidadi Langa Berlings (Programme Manager) SNV, Florence Tanstad (Head of Programmes) NCA – Introduction to WASH sector in South Sudan, Relation NCA/SNV;</p> <p>16:30 NCA office, Santina Sadia, (Gender advisor) NCA – Gender, WASH and Sudanese culture;</p>	
Tuesday 19.06.	<p>8:00 NCA Juba office;</p> <p>9:00 Travel Juba – Torit, arrival 12:30, stayed at Caritas Guest House;</p> <p>14:30 Mr. Opoka, Director Water and Sanitation Department, EES;</p> <p>16:30 Ms Winney Lindrio, Ms Esther Muyu Kasio, Mr James Ambrose Okeny, enumerators for questionnaire surveys, training;</p>	
Wednesday 20.06.	<p>8:00 NCA Torit office, training on questionnaire survey, modifications on questionnaires, printing;</p> <p>12 :00 Travel Torit – Lahotek, Lopa/Lafon County ;</p> <p>16:00 First part of questionnaire survey in Iboni village;</p> <p>16:00 Meeting with Mr. Alfons Sene Lesso, Deputy Director Lopa/Lafon county and Mr. Marcelo Achaka Emanuel, Commissioner Water and Sanitation, Lopa/Lafon county in Mehjec;</p>	
Thursday 21.06.	<p>7:00 Questionnaire survey Iboni village second part;</p> <p>8:00 Spot check hand-pump health post, Iboni village;</p> <p>9:00 Meeting with two water committees together, 8 women, 4 men ;</p> <p>11:00 Meeting with Dominic Ojede and Alfred Odura, village pump mechanics Iboni;</p> <p>13:00 Bishop Andrew Primary School, Mora Lopit village, meeting with teachers, visit of rain-water harvesting installations and school hand-pump;</p>	

	16:00 Travel Lahotek – Torit;	
Friday 22.06.	8:00 NCA office, checking questionnaires from Lopa/Lafon, printing new one; 10:00 Travel Torit – Magwi town; 12:15 Mr. Richard Okedje, Commissioner water and sanitation Magwi county; 14:15 Lunch 15:00 Questionnaire survey, first part, Abara village; 15:15 Water committee Magwi town (hand pump at Magwi Action for Self Reliance Association, 500m outside down-town) 18:00 Julius Lodu, NCA Torit WASH officer;	
Saturday 23.06.	9:00 Questionnaire survey, second part, Abara village; 9:00 Meeting with Mr. Simon Peter, village pump mechanic Magwi town and surroundings; 10:30 Travel Magwi town - Abara village 12:00 Mr. Alexander Otto, School Inspector, Abara Payam (sub-council) about school sanitation Abara primary school; 15:00 Travel Abara – Juba;	
Sunday 24.06.	Reporting and resting	
Monday 25.06.	7:45 travel Juba – Alik; 12:00 Briefing by Charles Onji, planning internal review in West Gogrial; training questionnaire survey and adaptation of questionnaire to situation in Warrap State;	
Tuesday 26.06.	9:00 Meeting with Commissioner Water and Sanitation West Gogrial; 14:30 Meeting with Mr. Kolmo Mowaken, Chair of Traders Union, Alik; 15:30 Visit of Alek South Primary School and discussion with Mr. Ringua, Head Master, NCA was completing a rain-water harvesting system;	
Wednesday 27.06.	7:45 Travel Alik to Jong, questionnaire survey, meeting with water committee, spot check handpumps and family latrine;	
Thursday 28.06.	8:00 Travel Alik – Koajok; 09:15 Meeting Mr. Benjamin Binda Wol, State Director, RRC-Commission; 10:00 Meeting Mr. Angi Lokol, Acting Director Water and Sanitation Department Warrap State;	

	<p>11:15 Meeting with Minister Physical Infrastructure, Warrap State;</p> <p>11:45 Koajok Primary Boy School , Mr. Margin Kwot, Mr. Santo Mabile, Administrator, Borneo Manuel, Head Teacher, NCA constructed two toilet blocks and introduced School Hygiene Club;</p> <p>14:15 Block 19, resettlement area, Koajok town, meeting with water committee of local handpump;</p>	
<p>Friday 29.06.</p>	<p>8:00 Staff meeting NCA compound, information about NCA's work with household sanitation, wrap up of visit;</p> <p>11:00 meeting with Pax Apwoya, NCA Programme Manager Alik;</p> <p>13:00 travel Alik – Rumbek – Juba;</p>	
<p>Saturday 30.06.</p>	<p>10:00 debrief with Florence Tandstad, NCA Programme manager;</p> <p>13:00 Travel Juba – Nairobi -</p>	
<p>Sunday 01.07.</p>	<p>Amsterdam – Oslo;</p> <p>Arrival at home 11:00</p>	

5.3 TERMS OF REFERENCE

Internal review of NCA South Sudan Three year WASH Programme

1. Introduction

1.1 Background

1.2 A brief description of the socio economic and humanitarian situation in the project areas

1.3 NCA in South Sudan

1.4 Formulation of the three year integrated proposal and subsequent amendments

In 2010 NCA received approval for funding for a three year programme from the Norwegian Ministry of Foreign Affairs which sought to support capacity building for governance and sustainable peace, gender justice and to contribute to securing sustainable access to basic social services and food security in Eastern Equatoria State. There was a particular focus on Magwi and Lafon Counties but some ongoing activities in Warrap and Bahr al Ghazal States were also included in order to secure a smooth phasing out period over the forthcoming two years.

An important overall objective for the programme was design a plan that took into account the overarching policies and frameworks of the Government of South Sudan (GOSS), the East Equatoria State Strategic Plan 2008-2010 as well as Lafon and Magwi County Strategic plans, the strategic plans of our main church partners and the emerging NCA Global Strategic Plan (GLS) for 2010-2015. The programme also took into consideration the 2010 UN Workplan for Sudan.

The initial application sought funding amounting to NOK40m per year, but only received half this amount. This meant reducing or putting on hold some of activities which had been initially planned, or seeking alternative funding sources. Some examples of such alternative funding include the UN-CHF which funded some WASH and Health activities in EES in 2010.

Initially the three year programme had a primary geographical focus on EES and NCA was planning a phased reduction in Warrap State. However this decision was rescinded in late 2010. The rationale for NCA to continue its presence and humanitarian work in Warrap State was based on the humanitarian and political situation that started to unfold during the period preceding the January 2011 referendum and at the time of the independence of South Sudan and was agreed with the back donor. This resulted in some planned activities in EES being de-prioritised and a renewed focus and alignment of activities in Warrap State corresponding to the humanitarian needs which have evolved there since the original 3 year programme was developed.

1.5 The NCA WASH Programme

The review will cover only the WASH component of the three year programme which has been funded by multiple donors. Other components of the programme will be reviewed separately.

Overall Goal

The people of Eastern Equatoria and Warrap States enjoy accountable governance, sustainable peace, gender justice and equitable access to basic social services, water and food security

Specific Objective

Improved access to water, sanitation and hygiene for poor and marginalized communities

NCA Global Selected Output Indicator:

Increased number of people who have gained access to at least basic water supply service level

Expected Results

By 2012 local communities, schools and health clinics have increased access to potable water and there is increased knowledge within the population of sanitation and hygiene as causal effects to water borne diseases.

Indicators:

- I. 45000 people have continued access to at least 15L of water per day and within 1km of their homes - 60 bore holes repaired/maintained.
- II. 60 hand pump technicians trained and 60 community water committees established
- III. 40 facilities (schools and clinics) have installed rooftop rainwater harvesting systems
- IV. 80 latrines stances built or rehabilitated in 40 schools and clinics
- V. 36000 people are reached by WASH hygiene promotion messages and awareness campaigns in cooperation with UN and other partners
- VI. County and state authorities are able to coordinate and guide activities in concurrence with National Water Policy and based on reliable baseline data.

2. Objectives and Scope of the review

2.1 The objectives of the review:

- To evaluate the performance of the NCA WASH sector in meeting the objectives and targets in the project logframe
- This review aims at providing NCA with a clear perspective on the lessons learned and the best practice recommendations for the design of future WASH interventions in South Sudan.
- To identify any additional capacity needs with regard to the implementation of effective responses
- To evaluate the connectivity between WASH activities and NCA's country and global strategies with a particular focus on recommendations regarding the development of linkages between thematic resources and tools within NCA and their application at field level
- To ensure the coherence of NCA's WASH programme with Government and cluster strategies

2.2 Scope of the review

The review will cover the period January 2010-December 2012 taking into account contextual developments since the signing of the CPA in January 2005 and in particular developments since the independence of South Sudan in July 2011.

Based on the consideration of the overall context, the reviewer should assess the relevance of existing programme goals, including whether these goals have been adjusted to changes in the context over time.

The review will focus on the following component of the NCA multi year programme:

NCA Thematic Priority Programme Area

THE RIGHT TO WATER AND HEALTH Water, Sanitation and Hygiene

The reviewer should also assess impact of the decision by NCA to re-direct the focus of many of its activities from Eastern Equatoria to Warrap and identify lessons learnt from this process where relevant.

The review will focus on the WASH sector activities described in the project document submitted to the Norwegian Foreign Ministry. Since the programme subsequently refocused away from Eastern Equatoria which had initially been the primary target area towards Warrap State as a response to the increasing need in the area, an important aspect of the review will be to assess the impact of this adjustment on programming strategies and outcomes and the current validity of the original assumptions made when the programme was developed. The review should also review the linkages and connectiveness between WASH sector activities, the overall goal of the three year programme and NCA's country and global strategies and national and UN HWP strategies.

The review should also review the utilisation of PME tools and development of indicators within the sector as well as thematic resources within NCA and reflect on NCA's recent commitment to HAP. The review should include a review of key donor strategies in South Sudan and their implications for NCA's future programming in the sector

The levels of analysis should be:

1. Organization level (NCA South Sudan and CSO partners, NCA Oslo)
2. Community (Direct beneficiaries of the services provided)
3. Government (Local, State and National)
4. UN WASH Cluster
5. Donors, (Norwegian MFA, other donors in South Sudan)
6. Others deemed relevant by the consultant

The review should take into account gender awareness and NCA's gender policy

2.3 The Context

The review should be seen within the following context

- The development of NCA's Global Strategy in 2010 and the development of thematic resources
- The development of NCA's 5 year Country Strategy in 2011
- Post secession political developments in Sudan and South Sudan

- The implications of the refocus of NCA away from EES towards Warrap
- Government strategies in South Sudan
- UN HWP strategies in South Sudan
- Donor Strategies in South Sudan
- NCA's history in South Sudan since the signing of the CPA
- The original project document and budget amendment

2.4 DAC Criteria

DAC criteria should be used for evaluating the WASH programme with particular reference to gender

Relevance

- To what extent have the activities carried out by the WASH sector suited the priorities and policies of the target group and NCA?
- To what extent are the objectives contained in the logframe still valid?
- Are the activities, outputs and indicators of the WASH programme consistent with the overall goal and the attainment of its objectives?
- Are the activities outputs and indicators of the programme consistent with the intended impacts and effects?

Effectiveness

- To what extent were the objectives in the logframe achieved / are likely to be achieved?
- What were the major factors influencing the achievement or non-achievement of the objectives?

Efficiency

- Were the activities carried out by the WASH sector cost-efficient?
- Were the objectives achieved on time?
- Was the sectoral programme implemented in the most efficient way compared to alternatives?

Impact

- What has happened as a result of the project?
- What real difference have the activities carried out by the WASH sector made to the beneficiaries?
- How many people have been affected?

Sustainability

- To what extent are the benefits of the WASH activities likely to continue after donor funding ceased?
- What were the major factors which influenced the achievement or non-achievement of sustainability of the project?

3. Analytical framework and methodology

3.1 Review design

An important task will be to develop a methodological approach which allows the reviewer to address the review topics in a thorough and comprehensive manner. The methodological approach must be presented in detail, including outcome indicators relevant for the review questions. Furthermore, the suggested approach must contain a description of how programme inputs, implementation, outputs and outcomes are to be assessed and related to each other.

3.2 Indicators

It will be important for the reviewer to use indicators for measuring the outcomes or effectiveness of the intervention. These may be quantitative or qualitative. To answer the review questions, both primary and secondary data is required. Additional data for measuring the impact of hygiene promotion activities on behavioural change will probably need to be gathered through KAP surveys as will health a morbidity data referring to waterborne diseases for measuring the impact of the programme on community health.

3.3 Programme theories

If relevant the review should also identify the programme theories regarding the interventions assessed. Underlying assumptions and what these are based on should be gathered and discussed in cooperation with staff. In the assessment of effectiveness, the role of programme theories and their assumptions in achieving or not the objectives should be discussed.

4. Data collection

Sufficient planning, time and resources must be invested in data collection for the review.

To answer the review questions, both primary and secondary data is required. Perspectives of the affected populations should be collected and KAP surveys carried out if relevant.

Based on data collected, the reviewer should develop an review framework, context analysis, mapping of interventions (inputs, activities outputs, target groups), and some selected programme theories to explore if relevant. Interviews with key informants, KAP surveys should be conducted and triangulation with other sources carried out where necessary.

5. Qualifications for the reviewer

- Experience and knowledge in carrying out similar reviews and/or research
- Knowledge of and experience with the application of review principles and standards in the context of international development
- Relevant academic backgrounds
- Thorough knowledge of Sudan and international development policies and processes.
- Good knowledge of the context in South Sudan, including familiarity with the socio-political context and the role of civil society in the country

- Experience of working in post conflict environments
- Experience of Evaluating WASH programmes
- Gender expertise (incl. UN Security Council resolution 1325 (2000) on Women, Peace and Security)
- Ability to work within set deadlines, and to write concise reports
- Languages: English

6. Ethics

The review process should show sensitivity and respect to gender, children, beliefs, manners, customs and security of all stakeholders. It should be undertaken with integrity and honesty and ensure inclusiveness of views. The rights, dignity and welfare of participants in the review should be protected. Anonymity and confidentiality of individual informants should be protected by all means and in line with OECD DAC guidelines.

7. Security

The reviewer should hold relevant insurance policies and keep it self informed on a daily basis of any escalation in the security situation in South Sudan. The reviewer should respect the UN security alert system (four levels) when conducting field trips. Delays in the review process due to the security situation shall be communicated to XXXXXXXXXXXX immediately.

8. Reporting

A draft report shall be presented to NCA no later than one week after the completion of the field visit. Following one weeks for comments by NCA, a final report shall be submitted no later than one week after receipt of those comments.

The report shall be based on the following structure:

- I. Executive summary
- II. Introduction and purpose of the review
- III. Review approach and methodology
- IV. Analysis and findings
- V. Conclusions and recommendations

The final report shall be written in English. It shall contain an executive summary including a list of recommendations. It shall be maximum 35 pages long, including the executive summary. Appendices may be added.

9. Time schedule

Activity	Date
Contract signed	Date
Inception report	ADD
Draft report	ADD

5.5 REFERENCES

Government of South Sudan (2009) Technical Guidelines for the Construction and Management of Borehole Hand pumps. A Manual for Field Staff and Practitioners, April 2009, Developed in partnership with UNICEF. Ministry of Irrigation and Water Resources – Government of National Unity, Juba, South Sudan.

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Peter Harvey and Bob Reed (2004) Rural Water Supply in Africa Building Blocks for Handpump Sustainability. WEDC, Loughborough University, UK.

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