

Evaluation of Water and Environmental, Sanitation Hygiene Project for Host Community and Refugees, White Nile State Sudan, 2015

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Abstract

Water and environmental sanitation hygiene emergency (WASH) project started in White Nile State, in early September 2014 funded by CAFOD and UNICEF implemented by SIDO and White Nile State authorities. This paper aimed to evaluate the performance of Water and Environmental, Sanitation Hygiene (WASH) project activities on host community (Gory) & refugees (Alagaya) Households, from September 2014 to February 2015. The sample size representing 10% of total HHs in Gory and Alagaya. The evaluation found that aimed at ensuring that 100% of the respondents benefiting from its WASH project activities in Alagaya. The project also achieved its target of constructing of 100% of the latrines according to Sphere indicator in Alagaya camp. The survey found that 100% of the Alagaya respondents had used the latrine constructed by the project and 56% of the Gory used their private latrine and all community engage on constructing a new latrine according to CLTS approaches supervised by SIDO. Most of respondents 98%, 96% from Gory & Alagaya respectively mentioned that they would wash their hands with soap after defecation and before eating, and evaluation found that 22.5% and 66.9% of children in Alagaya camp Gory respectively washing their hands after defecation and before eating respectively. There were decreased of diarrheal disease 11% in Alagaya and 27% in Gory village.

Keywords

Environmental, Hygiene, Sanitation, Community, Refugees, Evaluation, Health Promotion

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1. Introduction

Environmental sanitation has been defined by W H O as: “the control of those factors in man’s physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival” [1]. Sanitation refers to a process whereby people demand, effect, and sustain a hygienic and healthy environment for themselves by erecting barriers to prevent the transmission of disease agents [2].

The water supply and sanitation sector has long recognized the importance of investing more effectively to bring services

to poor people around the world [3].

A2003 WHO/SEARO meeting of health specialist gave safe excreta disposal especially by diseased people and children, and more water for personal hygiene, specially hand washing and protecting water quality in that order as the most influential factors on reducing morbidity and mortality of diarrheal disease.

In any country advocates for sanitation and hygiene promotion now need to find locally generated information’s to make the case for more and better investments. Often, there is need to show policy makers what sanitation and

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hygiene promotion really can achieve in many rural areas [4].

Water, sanitation and hygiene (WASH) are among the most basic human needs. WASH is essential to good health access to sanitation as one of the key social determinants of health. Improvements to WASH represent a good economic investment. Some countries lose as much as 7% of GDP because of inadequate sanitation. Improving WASH is a key way to reduce inequalities, data from the World Health Organization and UNICEF, among others, indicate that it is the poorest, the young and the elderly, excluded groups and women and girls who suffer most from poor WASH services. Better WASH means higher levels of school achievement and greater productivity. WASH is also closely linked with dignity, and in 2010 the UN General Assembly recognized WASH as a basic human right, a decision echoed by the Human Rights Council later that year. Worldwide, 2.5 billion people lack sanitation. Around 1 billion people practice open defecation, The World is far from achieving the MDG target – to halve by 2015, the proportion of people without access to basic sanitation [5].

In 2004, only 59% of the world population had access to any type of improved sanitation facility. In other words, 4 out of 10 people around the world have no access to improved sanitation.

In 2012, the World Health Organization (WHO) and Unicef reported that the MDG drinking water target was met in 2010, 783 million people globally remain without access to safe water and 2.5 billion lack access to safe sanitation. There are also huge disparities of access both within and between countries, with many countries in sub-Saharan Africa and Oceania off track for both water and sanitation targets.

The 2013 update report from the WHO/ UNICEF Joint Monitoring Program for Water Supply and Sanitation (JMP) highlights the continuing gaps in global coverage levels. A total of 768 million people still rely on unimproved water sources, 2.5 billion use unimproved sanitation facilities of which over a billion people are still practicing open defecation. However, significant progress has been made over the years. Since 1990 the number of improved sanitation users has increased by 1.9 billion and the number of improved water users by 2.1 billion, in both cases far surpassing. Population growth. In 1990 less than half of the world's population used improved sanitation (49 per cent), while in 2011 the proportion had risen to almost two-thirds (64 per cent) [2].

The SPHERE8 standards established for emergency and crisis situations estimate a basic survival water need of 7.5-15 liters water/person/day. This is calculated on the following assumption Survival needs: water intake (drinking and food) 2.5-3 liters per day, basic hygiene practices (hands and face

washing) 2-6 liters per day and Basic cooking needs 3-6 liters per day [6].

Refugees experiences a threefold challenge to their health and well-being; psychiatric disorders, infectious a parasitic diseases endemic in the countries of origin and chronic diseases endemic to host countries [7]. Health promotion activities for all refugees should address theoretical variable as well as the boarder determinants of refugees health. New refugees represent adverse group who often face multiple cultural, linguistic and systemic barriers to adopting and maintain healthy behavior [8]. Health promotion activities which involved a serious of steps designed to facilitate refugee's confidence, comprehension, and compliance with prevention efforts through refugee's participation, globally around 2.4% million deaths annually could be prevented if everyone practiced appropriate hygiene and had good reliable sanitation and drinking water [9].

2. Brief Overview of the Project

Since December 2013, more than 111,000 South Sudanese refugees fled northward into Sudan when the current crises began. This includes 71,111 refugees fleeing into White Nile state in desperation to escape the conflict, according to OCHA reports. After long negotiations with the host community, the Government of Sudan agreed to allocate one location for refugees under the condition that humanitarian support would be provided for both the refugees and host communities. The location, called Kilo 10 and located in Elsalam locality, is about 126 km from Kosti on the eastern side of the Sudanese borders and is characterized by limited basic infrastructure and restricted accessibility during the rainy seasons. Kilo 10 received an estimated 30,000 refugees until July 2014, but conditions are poor as the rainy season transforms the area to a swampland. Accordingly, Sudan's Ministry of Welfare and Social Security in April announced that all Kilo 10 refugees would be relocated to five alternative sites; Alagaya, Redes 1, Redes 2, Kashfa and Gory. This proposed project aims to address the urgent sanitation and hygiene needs of 9,200 people, including 1077 displaced persons South Sudanese people in Alagaya camp and approximately 4956, host community members in Gory village [10].

3. Objectives

3.1. General Objectives

To ensure that 9,200 South Sudanese refugees and host community members are provided with safe, adequate

sanitation and hygiene promotion services in Alagaya camp and Gory host community village.

3.2. Specific Objectives

1. To learn the extent to which the project objectives its goals - at all result levels particularly focusing on WASH hardware development, training in hygiene education, community participation and systems strengthening - were achieved;
2. Improved hygiene behaviors demonstrated by people in Alagaya camp and Gory village.
3. To improve access and use of sanitation services in the targeted communities
4. Increased community capacity to use and manage WASH services
5. To assess the sustainability of the project in terms of future replication implementation.

4. Evaluation Questions

The evaluation attempted to answer the key questions described below:

1. Did the program have a positive impact on the diarrheal diseases morbidity in the target population? (Which health providers serve the population? What were the morbidity rates for reported diarrheal diseases in the target areas in the last 5 months? Is there any indication that people's reporting behavior changed in this period?)
2. Do people use a sufficient quantity of safe water? (How much safe water is distributed per person? *How much is collected per person (KAP)? What is the spillage estimate? Is the water chlorinated? Is any household treatment taking place?)
3. Do the current defecation practices present a significant risk for fecal-oral disease transmission? (Is open defecation still taking place on a significant scale? Are latrines available to all? Are the latrines hygienic? *Are people washing their hands afterwards? What are the latrine maintenance and cleaning arrangements? Is the latrine technology appropriate?)
4. Are the hygiene promotion activities appropriate and efficient? (What methods are used? What are the different target groups? How frequently do activities take place for each target group? What kind of coverage is achieved? What are the messages? Are the messages relevant? *How have water supply, excreta disposal, solid waste disposal and hygiene knowledge, attitudes and behavior changed in the period since the last baseline (KAPs).

5. Materials and Methods

5.1. Location

Gory village is located in Elsalam Locality and Alagaya refugees camp stated in Eljablain Locality, as waiting point for South Sudan refugees as result of the armed conflicts in their country, lies in White Nile State which situated in the central Sudan, between 12-13o 40- N latitude and 31-39 o 32-49- E longitude. It is bordered by Khartoum State in the north, North Kordofan State in the west, South Kordofan State and the South Sudan country in the southeastern and Gezira & Sinnar States in the east. The State has an area of about 39 701 square kilometers. Throughout the area a hot climate was prevailed with exceptional three (January, February and March) warm months and the rainy season occurs between June and October [11, 12].

5.2. Evaluation Populations

The target populations of this study were Gory and Alagaya households the total numbers of them were by estimation 7000 persons and Alagaya 9945 persons able to increased according to South Sudan country situations.

5.3. Assessment Design

Across sectional descriptive assessment.

5.4. The Evaluation Period

The evaluation period was a whole duration of 5 moths started from 14 September 2014 to 14 February 2015 converged all WASH activities.

5.5. Methods of Data Collection

The households were interviewed, using interview questionnaires to collect information about respondents' attitudes, and practices of (WASH) project facilities, and direct observations from the field, in addition to FDG for community leaders, WASH sectors, and camps administrators and data from clinics reports.

5.6. Samples Size

The sample size of this survey was 10% of households in Gory village about 100 households and Alagaya refugee's camps 200 households.

5.7. Samples Technique

The assessment used simple stratified random technique for selection of targets, divided the Gory village and Alagaya camp to four sections according to the directions (North, South, West and East) 25 households from each direction, Northern, Southern, West and East then numbered the houses for each strata and randomly chose the appropriate numbers of Gory HH,

thus the same technique used for Alagaya respondents 50 households for each directions, each questionnaire have a unique numbers in addition to the name of household.

5.8. Data Analysis

Data was analyzed by Statistical Package for Social Sciences (SPSS) version 16 and the results presented in form of tables and figures.

5.9. Evaluation Activities

A key input which was evaluated will include:

1. Construction of 310 latrines in accordance to SPHERE standards in Alagaya camp
2. Provision of hygiene promotion activities in Alagaya camp and Gory host community village to meet critical sanitation and hygiene gaps, the completion of vector control campaigns in Gory village and Alagaya camp.
3. Beneficiaries will also be trained on the management and maintenance of latrines (30 people in each location, including Gory where the focus will be on maintaining the existing latrines and encouraging the community to undertake more),
4. The target communities in Alagaya camp and Gory host community village will be trained on hygiene promotion and environmental awareness 90 women and men (30 in Alagaya and 60 in Gory)
5. Conduct a public health campaign in Gory host community village, including hand washing promotion 5. Establishment of a WASH committee to help facilitate the mobilization of communities and the smooth management and community ownership of latrines.
6. Provision of hygiene promotion materials and self-cleaning tools (Ibriks) in Alagaya camp and Gory host community village.
7. Undertake 12 vector control campaigns
8. 30 people in Alagaya camp and Gory host community village will be trained on the prevention of acute watery diarrhea, in order to raise awareness on this issue as a part of community hygiene capacity building.
9. 30 people in Alagaya camp and 30 people in Gory host community village will be trained in management of latrines.
10. Support the construction of a drainage system through the provision of drainage construction tools in Alagaya camp.

This intervention has been designed to meet the needs of the population following data collected through a joint, coordinated analysis of needs and gaps. The analysis

involved agencies undertaking response work in White Nile State, including UNHCR, UNICEF, Sudan Red Crescent, Plan Sudan, MOH, HAC and other stakeholders and was completed on 13th August 2014. Together, it is proposed that CAFOD and UNICEF will jointly contribute towards sanitation and hygiene promotion activities in Alagaya camp and Gory host community village in the targeted locations.

5.9.1. Review of Documents

The following documents were used to gain an understanding of the type of WASH

1. Program that SIDO has been implementing.
2. Project Document by SIDO for “Humanitarian Water, Sanitation and Hygiene response Alagaya refugees and Gory host community.
3. Pre and post KAPs survey report for Alagaya refugees and Gory host community.
4. Documents presented by MOH emergency and organizations directorate.
5. Documents from web sites.

5.9.2. Observation of Interventions

Observation of the WASH interventions is particularly valuable, as this method introduces relatively little bias. The consultant visited a representative portion of the water supplies and latrines, camp surroundings, and attended a hygiene promotion group session. The observations aimed at identifying the appropriateness of the interventions (water protection, queues at distribution points, spillage observed, latrine state, presence of feces in the surroundings, hygiene promotion techniques, visual aids.

5.9.3. Meetings with Community Representatives

Partially structured meetings were held with community leaders at all visited camps and village to provide some information and to introduce the, explain the purpose and agree on the evaluation activities that would take place. The key information to be obtained was related to the current ‘sustainability’ of the services (where relevant) and the responsibility the community could take on in the future.

5.9.4. Discussions with Water Point Caretakers

The goal was to assess the ownership arrangement and the responsibilities for operation, maintenance and repair and to assess whether this arrangement works.

5.9.5. Discussions with SIDO Staff and Community Volunteers

Briefings were held by SIDO and CAFOD in Kosti, to

provide the background on the WASH program. In addition continuous ad-hoc discussions were held with SIDO and CAFOD staff and community volunteers to provide details on the program activities

6. Evaluation Findings/Results and Discussions

6.1. Socio Economic Characteristics of the Respondents

Table 1. Distribution of Host community (Gory) and Refugee (Alagaya) according to their gender - White Nile State 2015.

Gender	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
Male	83	83	62	31
Female	17	17	138	69
Total	100	100	200	100

As indicated in above table 83% of Gory households (host community) were male while the males households in Alagaya were 31%, the decreased of male households in Alagaya refugees camp because the majority of males participates in the conflicts.

Table 2. Distribution of Host community (Gory) and Refugee (Alagaya) according to their family size -,White Nile State 2015.

Family size	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
< 6 persons	39	39	20	10
6 persons	33	33	78	39
>6 persons	38	38	102	51
Total	100	100	200	100

The above table indicated that 38% of Gory targets and 51% of Alagaya have family size exceed from the medium 6 persons, This may be due to early marriage among the girls in the area, and the high female's fertility, the result shows that the refugees needed more quantity of water for domestic use and other human basic needs in basic education and primary health care and nutrition.

6.2. Water Services

Table 3. Distribution of targets according to their quantity of collection water.

Enough Water	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
Yes	82	82	162	81
No	18	18	38	19
Total	100	100	200	100

As showed in table above table the majority of respondents collect enough water but its vary according to its sources and treatment, all of Alagaya respondents drink clean and treated water which provided by WES project and monitoring by

MOH and red crescent. But Gory community consumed row water directly from irrigation channels without any treatment process, this situation may put them under the risk of outbreak of diarrheal disease, and other water related diseases.

6.3. Environmental Sanitation

Table 4. Distribution of respondents according to their methods of defecation.

Latrine	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
Yes	56	56	200	100
No	44	44	0	0
Total	100	100	200	100

As showed in above table the project achieved its goal in constructing 100% of Alagaya latrine according to sphere indicator (latrine for 20 persons), but in Gory village the project monitor the community latrine and encouraging the community to engage on their own construction of latrine according to CLTS approach. In KAPSs survey it found that 32.9% of Gory respondents do not used latrines, decreased to 14.3% in post survey, versus 36% not used latrine in Alagaya decreased to 0%.

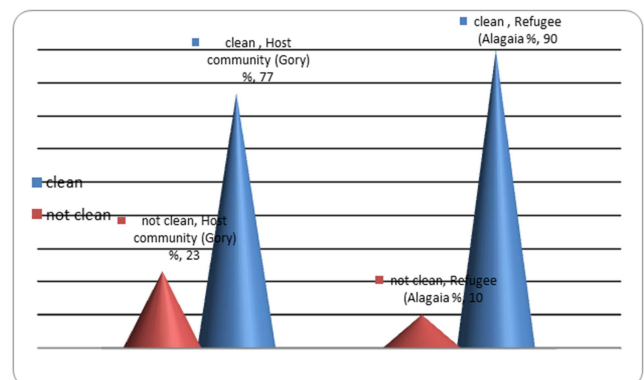


Figure 1. Distribution of respondents according to their believed toward latrine clean, Gory and Alagaya camp.

In the above figure 23% of Gory households and 10% of Alagaya said that the latrine were not clean, and by observation there were miss- used of latrine, some people defecate around the latrine which keep the latrine not clean, hence to insure the positive and good practice of refugees.

Table 5 Distribution of targets according to their children methods of defecation (used latrine) –White Nile State 2015.

Children used Latrine	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
Yes	0	0	46	23
No	100	100	154	77
Total	100	100	200	100

6.4. Cleaning Campaigns

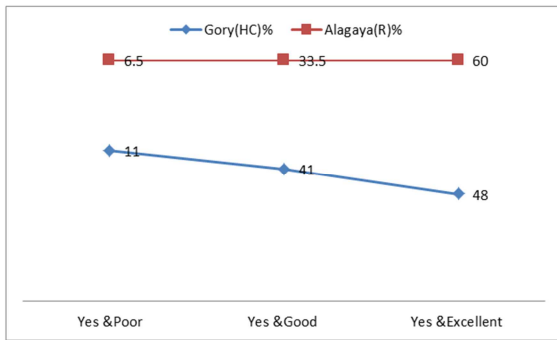


Figure 2. Distribution of respondents according to self-evaluation of cleaning campaigns, Gory host community village and Alagaya- White Nile State 2015.

As presented in above figure the project achieved its targets of cleaning with 100%, as appear clearly in above figure that 100 % of targets in Alagaya and Gory said there were cleaning campaigns but its vary according to their perspective 48%, 41% and 11% of Gory respondents and 60%, 33.5% and 6.5% of Alagaya refugees respectively said the campaigns were excellent, good and poor respectively.

Table 6. Distribution of respondents according to methods of waste management used in their location(Alagaya and Gory) in last two months, White Nile State 2015.

Methods	Host community (Gory)		Refugee (Alagaya)	
	count	%	count	%
Burning in side	25	25	0	0
Sepulture in side	24	24	0	0
Collected and disposed away	51	51	200	100
Total	100	100	200	100

The above table showed that the project pursued a healthy methods of waste disposal in Alagaya 100% of refugees said the waste Collected and disposed away versus 51% of Gory respondents the respondents do not aware of the methods of waste management but by observation it burn near the camps and the village then the smoke and the bad odor contaminated the areas which represent health problems for the venerable persons (children with asthma, and older peoples).

6.5. Vector Control Campaign

Table 7. Distribution of respondents according to presence of vector control campaigns- Alagaya and Gory -White Nile State 2015.

Vector campaigns	Host community (Gory)		Refugee (Alagaya)	
	Count	%	count	%
Yes	34	34	200	100
No	66	66	0	0
Total	100	100	200	100

In the above table 100% of Alagaya respondents said yes there were vector control campaign VS 34% of Gory targets, by observation there were spread of house fly in the camp and village as indicated in below figure that 51% of Gory respondents and 42% of Alagaya refugees said there were spread of house fly and mosquito, this opinion was assured by clinics report about malaria and diarrheal incidence. with my experiences house fly spread in summer season annually which need careful control campaign may be daily exactly on the waste disposal areas, and latrines must cleaning daily and eliminate ODF – these founding reflects the present situation, but according to the two KAPs surveys there was active and effective control campaign during the program period, and there were decreased in diarrheal and malaria incidences in the previous periods according to clinician reports and MOH documentation.

6.6. Hands Wash

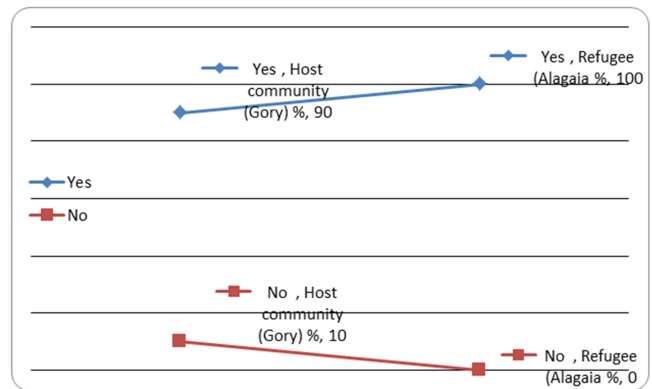


Figure 3. Distribution of respondents according to presence of hand wash equipment, White Nile State 2015.

According to pre and post KAPs survey conducted in Gory and Alagaya in pre survey 98.6% and 96%of Gory and Alagaya respondents respectively explained that they wash their hands but vary according to the settings, versus 100% of respondents in post survey washing their hands 98%, 96%, 92%, 98%, 91% and 72%, 88% and 88% of Gory and Alagaya wishing their hands after defecation, before eating, after eating and after house cleaning respectively. As indicated on above figure the project achieved its objective towards supplied 100% of Alagaya and 90% of Gory respondents with Ebreeks, according to FGD with female the presence of Ibriks not enough to wash hands on a variety setting exactly after defecation because according to their traditions and norms women do not carrying Ebreek, this believe must be change by health education, FGD and persuasion to insure life style hand wash practices.

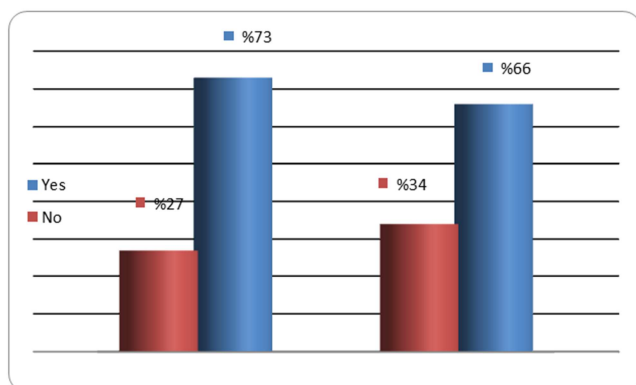


Figure 4. Distribution of respondents according to presence of soap and it used for hands, White Nile State 2015.

As seen in above figure 66 % and 73% of Alagaya and Gory respondents respectively said there was enough soap provided with that, but according to SIDO project they provide any family four soaps per months, but the refugees used these soap for other purposes accordingly they see its no sufficient, this situation must be considered in the future project to provide them 8 soaps per month.in KAPs survey 97% and 96% of Gory and Alagaya targets respectively washing their hands with soap. Although the project did not include soap distribution this is WES and UNICEF role in The WN state but SIDO distributed the soap for WES in cooperation.

6.7. Health Promotion and Health Education

Table 8. Distribution of targets according to their receiving of home visit from SIDO volunteer Gory and Alagaya –White Nile State 2015.

Home visit	Host community (Gory)		Refugee (Alagaya)	
	Count	%	Count	%
Yes	62	62	200	100
No	38	38	0	0
Total	100	100	200	100

The above table showed that 100% of Alagaya refugees and 62% of Gory host community received health education messages in during home visit,in below figure that 60% and 59.5% of Gory and Alagaya respondents respectively said that heath education messages they received were clear and consciousness, this founding indicated that as showed on(figure 1) the majority of Alagaya refugees were illiterate,thus it's difficult to them to understand complicated health messages.hence the project must train acceptable volunteers from the community to facilitate further contacts with SIDO and their communities to maximize the benefits of health education efforts conducted by SIDO.

6.8. The Evaluation Outcomes

The evaluation was required to answer three questions. The

findings are summarized below in response to the questions:

Evaluation Question 1: To what extent were the project's targets achieved and why?

Condition of Project Activities and Facilities:

Provision of WASH Facilities: The survey found the project targeted providing water and sanitation facilities to respondents but on the field the water services provided by other partners (WES) project. It was therefore SIDO able to achieve its target on sanitation and hygiene services.

The project aimed at ensuring that 100% of the respondents benefiting from its WASH project this target has been achieved, with (100%) in Alagaya. The project also had a target of constructing of 100% of the latrines according to Sphere indicator in Alagaya camp these targets achieved with 100%. The survey found that 100% of the Alagaya respondents had used the latrine constructed by the project and 56% of the Gory used their private latrine and all community engage on constructing a new latrine according to CLTS approaches supervised by SIDO, however the latrine have several design limitations including the location is too far for children in addition to that it's not suit children and disable people, and the absence of the vent pipes and latrine hole cover, some of these latrine constructed with local materials (wood and haseer). The target that latrine remaining clean; however this target was achieved, with 77.5% of Alagaya camp and 22% in Gory village.

Knowledge of Hygiene: According to post KAPs survey most respondents 98% and 96%. From Gory & Alagaya stated that they would wash their hands with soap after defecation and before eating respectively. Among children according to FGD with children the evaluation found that 22.5% and 66.9% of them in Alagaya camp would also wash their hands after defecation and before eating respectively. In the terms of hand wash equipment the project achieved its objective with 100% in Alagaya camp and 0% in Gory village, on the other hand the project supply with sufficient soap to respondents achieved with 66% in Alagaya and 27% in Gory.

In side of cleaning campaigns the evaluation found that the project achieved its targets with 100% in Alagaya and Gory.

The knowledge of presence of vector control campaigns (mosquito\house fly) respondents (camp\village) the study achieved its objective with 100% in Alagaya camp and only 34% in Gory village.

Furthermore the project achieved its targets of home visit health education methods with 100% in Alagaya and 62% in Gory. The evaluation found that the project achieved its target towards vector control (mosquito and house fly with 100% in Alagaya and Gory village.

Evaluation major question 3 of WASH project activities, did the program have a positive impact on the diarrheal diseases morbidity in the target population, for these question there were decreased of diarrheal disease 11% in Alagaya and 27% in Gory village. Knowledge of IEC Materials: Both respondents are widely aware of IEC materials provided by the WASH Project to their camp & village. However, about 60% of Gory respondents and 59.5% of Alagaya respondents said its clear and consciousness, and they have excellent understanding of these materials.

Evaluation Question 3: What was the level of functionality of the innovative WASH technologies and approaches and responsiveness of the beneficiaries to them in the project?

Handing Washing with Ibriks: The evaluation found that 100% of Alagaya respondent's beneficiary from these equipment's and 100% of them were functioning well;

The evaluation finding divided into four sections; section one Objectives of the survey, section two methodology, section three results and discussions and section four findings and recommendations.

As indicated in above figure that 60% Gory households said that health education messages provided by SIDO was clear, versus 59.5% of Alagaya refugees, these finding indicated that 40% of respondents do not comprehend health education messages that may reflected on respondents behavior towards all WASH project activities.

7. Conclusion

Based on the findings enumerated above, the evaluation draws the following conclusions:

Extent of Achievement of Project's Targets:

1. The evaluation found that the SIDO WASH project conducted with high focus in Alagaya camp and with hygiene promotion activities in Gory (host community) village in the project which applying CLTS approach to encourage host community to lead their sanitation activities including constructing of latrines.
2. In term of latrine construction the project achieved its targets with 100% constructed 310 latrine from 310 latrines planned accordance to SPHERE standards in Alagaya camps, the project achieved its objective with 77.5% to keep the latrine clean in Alagaya camp.
3. 100% of Alagaya refugees used latrine, versus 56% of Gory respondents. In terms of provision of hygiene promotion activities in Alagaya camp and Gory host community village to meet critical sanitation and hygiene gaps, The completion of vector control campaigns in Gory village and Alagaya camp the project achieved its

targets with 100% in Alagaya and Gory village conducted 12 vector control campaigns in Alagaya and Gory host community village.

4. The project achieved its objectives with 100% of trained beneficiaries on the management and maintenance of latrines (30 people in each location, including Gory and encouraging the community to undertake role).
5. The target communities in Alagaya camp and Gory host community village was trained on hygiene promotion and environmental awareness 90 women and men (30 in Alagaya and 60 in Gory) the project achieved this targets with 100%.
6. Conduct a public health campaign in Gory host community village, including hand washing promotion. Establishment of a WASH committee to help facilitate the mobilization of communities and the smooth management and community ownership of latrines, this objective achieved with 100% the community engaged on constructing of their own latrine.
7. Provision of hygiene promotion materials and self-cleaning tools (Ibriks) in Alagaya camp and Gory host community village, this objective achieved with 100% in Alagaya, and the project failed to achieved it in Gory village.
8. 30 people in Alagaya camp and Gory host community village will be trained on the prevention of acute watery diarrhea, in order to raise awareness on this issue as a part of community hygiene capacity building this objective achieved with 100%.
9. 30 people in Alagaya camp and 30 people in Gory host community village will be trained in management of latrines this objective achieved with 100%.
10. Support the construction of a drainage system through the provision of drainage construction tools in Alagaya camp, these targets achieved with 100% in Alagaya.
11. The evaluation found that the project achieved its objectives of conducting of two KAPs survey pre and post with 100%.

Recommendations

The evaluation makes the following three main recommendations based on the findings and conclusions:

1. It is recommended the project to build hand washing tanks with garden taps with soap, near the latrine to insure that any one used latrine easily clean his\her hands.
2. The latrine must be maintained, and the project must

replacement latrines constructed with local materials to a new designed, and latrine construction must consist ventilation tube.

3. The project must construct special latrine suit disable, older and special cases people.
4. The evaluation recommended the project to distribute equipment and tools for children defecation to help mothers to dispose children feces on latrines.
5. Adopt 'covering latrine holes' as a key hygiene promotion message in subsequent projects.
6. To effectively control mosquito's and house flies the evaluation recommended to conduct campaign every six days to break their breeding cycle.
7. The project must build incinerators to healthy dispose medical waste,
8. The state authority must have legislation to punishment people who practice open defecation exactly on camps.
9. The evaluation recommended the project to find other partners to build water distribution net in Gory village.
10. Adopt 'hand washing' as they key hygiene promotion message in Alagaya camps and Gory village in subsequent projects. This message lends itself particularly well to using a powerful promotion method using demonstration of disease transmission via unwashed hands.
11. The project to increase its WASH activities in Gory village.

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