Endline Survey and Evaluation of LWF-ECHO Project in Adjumani, Rwamwanja, and Palorinya Refugee Settlements

"Enhanced resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members"

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TABLE OF CONTENTS

LIST OF TABLES AND CHARTS

TABLES

CHARTS

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ACRONYMS AND ABBREVIATIONS

AHA	African Humanitarian Action
ECHO	European Commission's Humanitarian Aid and Civil Protection department
EU	European Union
FGD	Focus Group Discussion
IGA	Income Generating Activity
KAP	Knowledge Attitudes and Practices
KIIs	Key Informants Interviews
LWF	Lutheran World Federation
NFIs	Non-Food Items
NGO	Non-Governmental Organization
ODK	Open Data Kit
OPM	Office of Prime Minister
PSN	People with Special Need
UGX	Uganda Shillings
UNHCR	United Nations High Commissioner for Refugees
VHT	Village Health Team
VSLA	Village Savings and Loans Association
WASH	Water, Sanitation and Hygiene
WFP	World Food Program

EXECUTIVE SUMMARY

Background and Objective

LWF-Uganda implemented a 15-months project funded by the European Civil Protection and Humanitarian Aid Operations (ECHO) called, "Enhanced resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members" from 1st April 2016 to 30th June 2017. The project's initial aim was to improve the resilience and self-reliance of Congolese refugees in Rwamwanja through shelter and livelihoods interventions to PSNs and other most vulnerable groups such as women and youth. Upon extensive needs and response analysis, the action was later extended to Palorinya and Adjumani with the aim of increasing access to shelter among PSNs, increasing access to water, hygiene and sanitation services, and empowering the beneficiaries in operation and maintenance of the WASH facilities.

The methodological approach for the evaluation included a mix of quantitative and qualitative techniques. A total of 107 youth, men and women in groups were interviewed individually, while another 52 were interviewed in their groups. The WASH KAP survey covered 802 households in the three settlements of Adjumani, Palorinya and Rwamwanja. Fourteen (14) focus group discussions were conducted with a total of 150 respondents while 17 in-depth interviews were also administered with selected key informants that included; community leaders, health specialists, incentive workers, community development officers, refugee welfare council leaders, project staff, and officials from OPM.

Summary of Findings

The evaluation found that the LWF ECHO project has produced very positive results, and has achieved its objectives and overall goal to enhance resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members. Analysis of project documents, interviews with key project staff and partners, and data from the endline survey all confirm this finding and enable to make a positive assessment of the project in terms of its impacts. There are however several significant elements which could be improved in order to increase relevance, effectiveness, efficiency, impact and sustainability.

Relevance

The study found the project interventions relevant with respect to a prior interagency needs assessment that recommended to scale-up and put in place more initiatives with view of environmental restoration alongside promotion of sustainable natural resource utilization in the settlement and host community. In addition, different studies and assessments conducted before the project had shown that refugees in Rwamwanja relied on food aid by WFP, had limited job opportunities, and had few income-generating activities, while livelihood interventions reached less than 10% of the population. In Adjumani settlement, new arrivals were the most vulnerable population groups with a high number of refugee women (55%) and children (68%). People with Special Needs (PSNs) also constituted 11% of the population. This level of vulnerability increased pressure on meeting the basic needs including WASH facilities, shelter and other basic needs. The study further established that Adjumani's cholera outbreak at the end of August 2016 highlighted the urgent need for comprehensive WASH interventions to contain and prevent the spread of cholera and other diarrhoeal diseases.

Beneficiaries could also attest that a good number of youth in Rwamwanja had acquired skills in latrine and shelter construction that would enable them to earn a living. Overall results show that

use of latrine has gone up from 67% before the project to 94% after the project (62% to 91% in Rwamwanja, 79% to 98% in Adjumani and 66% to 94% in Palorinya). Use of soap during hand washing increased from 34% to 73%, while use of hand washing station or tippy tap also increased from 9% to 27%.

Effectiveness

The analyses of effectiveness were particularly difficult because some indicators were measured at baseline and had targets while other indicators did not have baseline values. Endline results show that 92% (11 out of 12) of the project indicators were achieved with 67% of the indicators exceeding the set targets (table 1). The indicator for which the project did not meet the set target is '*Percentage of target population with adequate WASH services and hygiene practices*' with a set target of 70%. The indicator was above target in Adjumani at 73%, below target in Palorinya at 66% due to the low latrine coverage that was 59% at endline, and below target in Rwamwanja as well at 57% because no WASH interventions were carried out in the settlement apart from construction of latrines.

Overall results show that 96% of the respondents reported an evolution in income patterns and household assets which is above the set target of 70% and above the baseline value of 0%. All group members (100%) were found to be earning income from the established businesses; 85% of them indicated generating income from businesses of their choice while the remaining 15% preferred to do retail selling, tailoring, or arts & crafts. The percentage of target population living in safe and dignified shelters in secure settlements was 24% (against set target of 15%), while the percentage of target group members engaged in trade of goods or services was 97% (against set target of 70%), and the percentage of respondents with sufficient water for all household needs was 79% versus a target of 34%.

Table 1: Endline Status of key project indicators

Area	Intervention logic	Objectively verifiable indicators of achievements	Baseline	Evaluation	Target	Achievement
Principle Goal	Enhance resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members					
Specific objective	Vulnerable men, women and youth in Rwamwanja Refugee Settlement and host communities have improved resilience and self-reliance	70% of targeted population reporting an evolution in income patterns and/or household assets	0%	96%	70%	137%
Expected results		80% of targeted groups members generating income from small businesses of their choice	0%	85%	80%	106%
	1. Men, women and youth groups are supported to start small businesses	1 call for business proposals developed and launched	-	1	1	100%
		20 of cash grants awarded to 20 groups (15-25 members each) with winning business proposals	-	20	20	100%
	2. Men, women and youth secure sustainable livelihoods through environmentally friendly industries	26 of targeted groups (of at least 50% women) generating income from the sale of environmentally-friendly products	-	27	26	104%
		42 of targeted group members (of at least 50% women) generating	18	36	42	86%

Area	Intervention logic	Objectively verifiable indicators of achievements	Baseline	Evaluation	Target	Achievement
		income from at least one of the 3Rs following the training.				
	3. Men, women and youth secure income through construction of latrines and shelters	Percentage of target population living in safe and dignified shelters in secure settlements	--	24%	15%	160%
		26 groups (25 members each with at least 10% women) generating income from the sale of bricks, slabs and construction of shelters latrines	5	32	26	123%
	4. The amount of exchange of goods and services is increased	70% of members of targeted men, women and youth groups are engaged in trade of goods or services	0%	97%	70%	139%
	5. Vulnerable new refugee arrivals have safe and dignified access to appropriate shelter, water, sanitation and hygiene practices	#of newly arrived PSNs having access to basic, safe and dignified shelters solutions[1]	50	187	140	134%
		Percentage of respondents with sufficient water for all household needs	--	79%	34%	232%
		Percentage of target population with adequate WASH services and hygiene practices	--	65%	70%	93%
		Distance between furthest targeted beneficiary household and nearest toilet/latrine[2]	--	89% (<50m)	50% (<50m)	178%
		# of persons able to mention main contamination reservoirs, routes and vectors in faecal-oral transmission[3]	--	58%	70%	--

The endline WASH KAP survey results also confirmed that the activities of the project were effective due to improved access to water, sanitation and hygiene practices as highlighted below:

- Seventy-nine (79%) of the respondents indicated that they have sufficient water to cover for all their household needs (80% in Adjumani, 88% in Palorinya and 56% in Rwamwanja).
- The most used water source in the settlements is the hand pump borehole by 53% of the respondents in Adjumani, 62% of the respondents in Rwamwanja and 57% in Palorinya. 8% of the beneficiaries were still using unprotected water sources in Rwamwanja that expose them to risks of waterborne diseases.
- Latrine coverage was less than 40% in Pagirinya and less than 5% in Agojo based on a KAP survey conducted in October 2016. At the endline survey, 58% of the beneficiaries have latrines complete with slab, wall, roof and door (75% in Adjumani, 59% in Palorinya and 41% in Rwamwanja). The main reasons given for not constructing latrines include; shortage of skills, lack of tools for pit digging, and lack of super structure materials.

[1] A total of 142 and 45 PSNs benefited from the LWF ECHO project in Rwamwanja and Adjumani respectively.
[2] Overall, 89% of the target population (98% in Adjumani, 93% in Palorinya and 88% in Rwamwanja) cover 50m or less to access their water source. Access to water interventions were conducted in Rwamwanja.
[3] Overall, 58% of the target population (57% in Adjumani, 56% in Palorinya and 64% in Rwamwanja) is aware of the poor environmental management practices that can cause disease or illness

- Before the start of the project, use of latrine was reported by 77.3% and 7% of refugees in Adjumani and Palorinya respectively. After project implementation, use of latrines has increased to 98% and 94% in Adjumani and Palorinya respectively due to massive sensitisations conducted across the project areas in Adjumani and Palorinya. At endline, Use of own latrines was reported by 65%, 58% and 49% of the respondents in Adjumani, Palorinya and Rwamwanja respectively.
- Overall, 65% of the beneficiaries have adequate WASH services and hygiene practices (73% in Adjumani, 66% in Palorinya and 57% in Rwamwanja), that is, have latrines and confirmed to wash their hands with soap.
- A small percentage of respondents (19% in Adjumani, 14% in Palorinya and 18% in Rwamwanja) confirmed boiling drinking water, thus a need to increase sensitisation about boiling of water for drinking.
- Hand wash practices also improved as evidenced with 72% of the respondents from Adjumani, 73% in Palorinya and 74% in Rwamwanja who confirmed to wash their hands compared to 52.2% and 46% in Adjumani and Palorinya in October 2016 KAP survey.
- Use of soap during hand washing increased from 36% to 72% in Adjumani and 35% to 73% in Palorinya after the project implementation leaving one quarter of the target population exposed to the risk of disease spread thus a need for continued sensitisation and provision of soap.
- Bathing daily was confirmed by 99% of the respondents in Adjumani, 94% in Palorinya and 83% in Rwamwanja, thanks to the sensitisation of communities, increased availability of water, and bath shelters provided in Adjumani and Palorinya.
- Disposal of solid waste in the garbage pits was confirmed by 59% of the respondents from Adjumani, 54% in Palorinya and only 20% in Rwamwanja. The low level of proper waste disposal in Rwamwanja was attributed to the limited number of garbage pits, lack of community sensitisation about waste management, and the lack of a ready market for plastics that has discouraged the waste management committees from actively embarking on sorting of waste.

Efficiency

Endline results illustrate a very positive evolution of the situation before and after the project implementation in terms of income generation, engagement in IGAs, shelter conditions, access to water, and sanitation and hygiene practices.

The project contributed to security, safety, health and well-being of target beneficiaries using available resources in the most economical manner. The shelters and latrines constructed were in line with SPHERE and UNHCR minimum standards, measured at least 6m2, and were constructed by youth men and women from the affected population, giving them an opportunity to earn income and improve their livelihoods. Each shelter and latrine was constructed at a reasonable labour cost of Ugx 500,000 (approx. $145) and Ugx 80,000 (approx. $25) respectively, while the shelter and latrine construction groups earned Ugx 120,333,700 (approx. $34,381, per capita income of $152.1) and Ugx 24,310,000 (approx. $6,946, per capita income of $53.4) during the period January 2017 to June 2017.

The project contributed to target populations having safe and equitable access to sufficient quality water for drinking, cooking and personal and domestic hygiene as evidenced by 79% of the respondents who confirmed having sufficient water to cover for all their household needs. The project also provided jerry cans and buckets to ensure that the people have adequate facilities

to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene. This resulted in an increase in adoption of sanitary facilities by percentage points when compared to the situation before the project. Access to water also improved in the project areas as 49% of the respondents in Adjumani, 33% in Palorinya and 33% in Rwamwanja cover 100m or less to access their water source which translates into amount of time saved, reduced burden of women in collecting water as well as increased time for economic use at a household level.

Impact

The project was implemented over a short period of time (15 months) and the impact from some of the interventions may not have been realised in the short term. However, the project has made a positive impact through improving both the health status and standards of living of both refugees and host communities and will realise continued benefits in future.

The project changed living conditions of youth, men and women in Rwamwanja, evidenced by 97% of the target group members who are engaged in trade of goods and services, while 85% are now generating income from small businesses of their choice. 36 out of 42 of targeted group members (of at least 50% women) are generating income from at least one of the 3 Rs, 26 groups (25 members each with at least 10% women) are generating income from the sale of bricks, slabs and construction of latrines and shelters. Review of project documents showed that all youth, men and women in groups (100%) are earning income from the businesses they established under the project and some have used their income to diversify their businesses to other activities like poultry, retail and catering businesses.
Qualitative results from the endline survey indicate that the living conditions of the target population improved as a result of the LWF-ECHO project interventions. The improvements cited include; respondents were living in shelters with roofs made of iron sheets as opposed to the old shelters with worn-out tarpaulins that had started to leak, the current shelters have enabled them to store their crops after harvest; at least two youth individuals in groups have opened up retail shops selling female and male clothes, while others now participate in sale of goods and services, transport and boda boda riding; recipients of solar panels revealed that they are now able to work at night due to presence of light around their business premises; and 4 out of 20 idea winning groups, dealing in fish farming and produce selling, demonstrated capacity and provided goods in market fairs organised for PSN households.

As regards satisfaction with shelter and latrine construction, most of the PSN households visited during the endline survey were contented with the shelters and latrines that were constructed for them. Qualitative results further indicate that; the construction of PSN shelters and latrines which improved their living conditions, awareness creation on sanitation and personal hygiene, the safe water chains which improved the health status of refugees, and the construction of bore holes in different locations of the settlement which secured refugees with safe and clean water for drinking, cooking and washing are key areas of impact by the LWF-ECHO project.

Project interventions have resulted into availability of safe water for drinking, cooking and personal hygiene, evidenced by none of the target beneficiaries in Adjumani and Palorinya (only 8% of the target beneficiaries in Rwamwanja) using unprotected water sources. Correspondingly, 53% of the respondents in Adjumani, 57% in Palorinya, and 62% in Rwamwanja reported to be collecting/fetching water from hand pump boreholes, while others were either using motorised boreholes, shallow wells or rain water tanks. Overall, 79% of households confirmed that they are able to get safe water for all their household needs.

The project has also increased the target population's knowledge in sanitation and hygiene, evidenced by a decrease in open defecation and ownership of latrines. Before the project implementation, 21% of the households in Adjumani, 34% in Palorinya and 28% in Rwamwanja were defecating in the bush; but after the project, defecation in the bush has reduced to 2%, 5%, and 6% respectively. Following the project interventions, ownership and use of own latrines was reported by 65%, 58% and 49% of the respondents in Adjumani, Palorinya and Rwamwanja (prior to project implements 9%,11%, and 9% respectively used own latrines). The use of own latrines has a strong impact on sanitation and hygiene due to ease of maintenance of household latrines and improved protection and privacy of women and girls. However, the practice of open defecation is still present in the project areas thus the need to continue intervening to promote improved sanitation.

The project's contribution towards environmental conservation has been mainly through the training of 7 waste management committees (of 6 members each) on the 3Rs approach. The groups have been able to collect, recycle and reuse waste to make compost and earning a consolidated income of Ugx. 1,727,000 (approx. Ugx 250,000 or $70 per group) over the period January to June 2017, thus an impact on their livelihoods and the environment. Qualitative results indicated a number of areas that show the impact of the WASH component of the project such as; improved personal and communal hygiene and sanitation through construction of latrines, improved waste disposal through construction of rubbish points, reduced incidence of cutting trees for erecting shelters since all materials were provided by the LWF, improved livelihood support in terms of provision of sanitary facilities like hand washing facilities, soap and buckets; and improved health status since most of the refugees were sensitized about proper sanitation and hygiene. However, some FGD respondents noted that the living condition of the people in other parts of the settlements not reached by the project have worsened due to; insufficient supply of water, delay in food supply, lack of firewood and poor medical services.

Sustainability

LWF has a strong focus on the sustainability aspect of its interventions and makes a lot of efforts to ensure financial, technical and institutional sustainability. Overall, mechanisms to ensure sustainability are in place and functioning, and all partners and stakeholders interviewed esteem that LWF interventions will be sustainable in the long run.

Out of the youth and women groups that the survey team visited, there is a saving system whereby every member of the group saves a portion of what they earn. This symbolizes financial sustainability in the long run for every project beneficiary most especially those engaged in IGAs who have been able to diversify their businesses. As regards shelter and latrine construction, the project provided free construction tools and expensive materials to some beneficiary households, and the households' contribution was to find the local materials, dig the pits and mould the bricks. Replication of latrines by non-project beneficiaries of the same quality and standard is therefore highly unlikely. Moreover, 28%, 28% and 25% of the respondents who did not have latrines from Rwamwanja, Adjumani and Palorinya respectively indicated that their latrines were still not complete and this could be as a result of lack of materials or lack of financial capacity.

The market for stoves is subsidised by the project, it's highly unlikely that the stove makers shall continue to make the stoves or will the households be able to purchase the stoves once the project withdraws support to the stove making groups. The consolidated income earnings by the groups for the 6 months' period January to June 2017 shows that the business idea competition, solar panel beneficiaries, latrine and shelter construction groups exhibit greater potential for sustainability

due to an existing market for their goods and services within the settlement. This is evidenced by the higher income per capita of at least $15 for the six months' period, with the slab and shelter construction groups having income per capita of $122.8 and $152.1 for the six months respectively. However, the energy saving stoves and waste management committees did not show great potential for sustainability due to a low income per capita of $6.9 and $11.8 for the six months. This was mainly attributed to the fact that the waste management committees rely on incomes from plastics whose market is not readily available as the buyers are far away from the camps and the plastics have to be transported to them, while the stoves market potential has been questioned by the study, thus the need to continue supporting these two group categories.

The WASH component shows great scope and potential for sustainability due to the good functioning status of the boreholes and water chains based on the field observations made. However, the evaluation team did not find any mechanisms that allow for continued operation and maintenance of the water sites without the project support since related costs are not covered by water users. At the community level, water user committees, hygiene promoters, incentive workers under WASH, and community health clubs were setup to support in sensitization and awareness activities as well as monitoring of the WASH facilities. At district level, district water officers that work together with VHTs in sensitizations, sub-county health inspectors and health assistants that train the refugees on how to handle water safely and to keep it clean are some of the existing structures to support the community in relation to access to safe water, sanitation and hygiene services, and community services. However, there was not strong evidence to show that water facility maintenance tasks are shared among water committees at the community level and the district local government structures.

Gender equality and inclusiveness

The project adopted a gender and age-sensitive approach in addressing the needs of targeted groups and individuals. Women represented more than 40% of the beneficiaries receiving livelihood support in most of the cases and where they were fewer, sensitization was conducted to encourage their involvement. The action also considered age in beneficiary selection - prioritizing the elderly among the PSNs, and youth for the business competition.

Humanitarian coordination

The LWF-ECHO project coordinated with other non-governmental organizations, United Nations structures, and local and national leadership. Dialogues and meetings were held with district officials and other stakeholder to share ideas. Interviews with project staff also indicated that LWF coordinates with other NGOs to ensure complementarity and avoid duplication of efforts.

Safety and Security

Review of project reports indicate that in February and March 2017, there were reports of tensions arising from host communities' resentment towards hosting refugees in Moyo. The LWF-ECHO project was not affected by these tensions, primarily due to the practice of close coordination and involvement of local community and due to LWF's efforts to recruit staff locally wherever possible. However, the high prevalence of incomplete latrine construction raises a huge safety concern as some key informants and focus group discussion participants highlighted that a number of pits have been dug across the project area but owners delay to cover them which exposes children to risks of falling into the 4-metre deep open pits.

Conclusions and Recommendations

The goal of the project was to enhance resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members. The project has adequately changed lives and improved the well being of many refugees in Rwamwanja who are now able to engage in income generating activities and earn income for their livelihoods. In Adjumani, Palorinya, water supply, WASH facilities as well as sanitation and hygiene sensitization were really needed and has transformed the settlements and host communities' sanitation and living conditions. The support provided to PSNs and non-PSN households was also very impactful as their living conditions and sanitation practices were transformed compared to the situation before the project.

The water and sanitation component produced very positive results in the three refugee settlements and its overall goal of improving safe and dignified access to appropriate shelter, water, sanitation and hygiene practices. Analysis of project documents, interviews with key project staff and partners and data from the field survey enabled the evaluation team to make a positive assessment of the project in terms of its impacts. There are however several significant elements which could be improved in order to increase relevance, effectiveness, efficiency, impact and sustainability. These mainly concern the need to: pursue efforts to facilitate water communities especially concerning pump maintenance and repairs, increase sanitation and hygiene promotion and awareness, engage in stronger partnerships with other sector stakeholders, especially local government structures.

Recommendations for youth/women groups livelihoods component: -

1. Continuous support to the youth and women groups formed through providing market linkages and also providing raw materials for them will also improve more on their welfare.
2. Diversify livelihoods interventions to cater for youth interests in the labour market, such as retail business, tailoring, arts and crafts, etc.
3. Establish a monitoring committee responsible for construction of shelters and latrines; this will monitor adherence to standards as well as safety and security issues or concerns in the community.
4. Continue efforts to support other PSNs that were not reached by the project with latrines and shelters, especially in Mahega, Rwamwanja.
5. Sensitize the community on proper waste disposal in order to re-enforce the work of the waste management committees.
6. Continue efforts of linking waste management committee members to buyers of plastics so as to improve their motivation to do their work.
7. Continue supporting groups making energy saving stoves in order to boost their incomes.

Recommendations for the water and sanitation component: -

1. Expanding the water and sanitation project component by moving on to adjacent zones which did not benefit from the project to reduce the pressure on constructed water points and sustain the lifespan of already existing boreholes.
2. Continuing to promote improved hygienic practices within communities by constructing more communal latrines at market places would improve further the sanitation around them.
3. Consider engaging all relevant local government structures in project implementation to avoid losing some of the lasting benefits that could have been enjoyed had it been that all relevant bodies were fully involved and engaged.
4. Keep up efforts to sensitize communities on oral-faecal transmission and hygiene best practices, particularly concerning diarrheal diseases.
5. Embark on efforts to sensitize communities on the need to contribute financially for water facilities operations, maintenance and repairs.

6. Explore efforts to support all households (including non-PSN households) to construct latrines to reduce pressure on communal or neighbours' latrines.
7. Continue efforts to bring water points closer to the beneficiaries, especially in Rwamwanja and Palorinya where 59% and 41% of the respondents respectively cover distances in excess of 200m to reach their nearest water source point.
8. Keep up efforts to sensitize communities on making water safe for drinking, especially boiling of water that was only reported by less than 20% across all settlements.

Lessons Learned

The major lessons learned in the LWF implemented LWF-ECHO project are:

1. Concrete slabs were very heavy and could not be easily moved from the manufacturing sites to the targeted households, they would also make the pit latrines collapse. These were replaced by more expensive plastic slabs.
2. Machines for brick making required a lot of energy yet few bricks could be made. The youth resulted to use of hand moulds that expedited the process.
3. Linking of waste committee members to buyers of plastics and waste materials did not guarantee a ready market for the materials as transportation is required to the buyers. Efforts are also required to reduce cheating on weighing scales.

1. INTRODUCTION

1.1 Background Context

In Rwamwanja, most refugees are dependent on international aid because they were forced to leave behind all means of livelihoods. An external needs assessment conducted in Adjumani and Rwamwanja in January 2017 found 84% of refugees relied on food aid by WFP as a major source of food. The food ration, however, was halved in late 2016, leading to increased food insecurity. In Rwamwanja, 29% of adults and 25% of children under five eat only one meal per day. To purchase food, refugees often borrow money, which threatens their wellbeing in the short run: 31% in Rwamwanja borrowed money in the past 12 months to meet basic food needs. The needs and market assessment found that employment of one or more family members strongly correlated with households' food security. However, the assessment also reports limited job opportunities: only 35% in Rwamwanja are involved in regular income-generating activities. Current livelihood interventions reach less than 10% of the population in Rwamwanja.

By October 2016, only 8.2% of refugees in Palorinya and an average of 51.2% in Adjumani (Pagirinya, Agojo) had access to safe and clean sanitation facilities. Most new arrivals lack knowledge of latrines, as they come from rural locations where open defecation is common. Open defection poses protection risks to females such as sexual violence and harassment. Guidance on latrine construction and location is vital to avoid contaminating drinking water or latrine collapse.

Prior to implementation of the LWF-ECHO project, a needs assessment conducted in Adjumani and Palorinya showed that hand-washing station coverage was very low, at 1.4% in Palorinya and an average of 27.4% in Adjumani (Pagirinya, Agojo), increasing risks of disease transmission. As regards hygiene need, 52.2% and 46% of beneficiaries reported washing their hands after using toilets and before food preparation. Moreover, although in Adjumani 77.3% of refugees reported having and using a pit latrine, in Palorinya only 7% reported having and using a latrine. As regards water supply, water coverage in Palorinya was 16 l/p/d. However, 60% of the water was being provided through water trucking, which is economically and operationally unsustainable. To phase out water trucking, there was still a need to drill and motorize high yielding boreholes.

It is against this background that LWF-Uganda implemented a 15-months project funded by the European Civil Protection and Humanitarian Aid Operations (ECHO) called, "Enhanced resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members" from 1st April 2016 to 30th June 2017. The project aimed to improve the resilience and self-reliance of Congolese refugees, South Sudanese refugees and host community members through support of WASH, shelter, and livelihoods interventions. The project was implemented in Rwamwanja, Adjumani, and Palorinya Refugee Settlements in Uganda.

1.2 Project Objective and Purpose of the Endline Survey

The specific objective of the ECHO project was to improve the quality of life and reduce the vulnerability of refugees and host communities in and around Rwamwanja, Adjumani and Palorinya Refugee Settlements.

1.3 Purpose of the Endline Survey

The overall aim of the end line was to assess the impact and effectiveness of project implementation against the baseline, project outcomes and related indicators.

2. METHODOLOGY

2.1 Approach to the Endline Survey

The methodological approach for the evaluation included a mix of quantitative and qualitative techniques. Quantitative methods focused more on assessing achievement of the project's intended outcomes and impact as well as significant changes attributable to the project. Qualitative methods focused more on identifying success stories, and perception of the direct beneficiaries and key stakeholders of the project.

The quantitative survey partially adopted the questionnaire tools which were used for the projects baseline survey in order to gauge how perceptions and attitudes have changed since the start of the project. The qualitative evaluation was conducted using tools such as key informant interviews, focus group discussions and review of documents. Both key informant interviews and focus group discussions were conducted using open-ended questions. Some direct beneficiaries were interviewed as key informants which permitted them to reflect on what changes have taken place in their own lives as a result of the project. The phase evaluation began with a meeting that brought together the Bronkar team, project staff and enumerators to discuss the evaluation objectives, field work plan and evaluation tools. A pre-test of the household questionnaire was conducted thereafter to enable fine tuning of the survey tools ahead of the actual field data collection.

2.2 Survey Procedures

The study adopted cluster sampling and simple random sampling of beneficiary refugee households that were identified with the help of project staff and incentive workers. The respondent households were identified using a sampling frame of refugee households and care was taken to ensure that the sample is evenly spread across the entire population. The survey assessed a representative sample of the refugee population in each settlement, enabling generalization of findings at settlement level with a confidence level of 95% and a 0.035 margin of error.

In Rwamwanja refugee settlement, three refugee zones were sampled (Mahega, Mahani and Kyempango) out of the five zones (Mahega, Mahani, Kyempango, Kikura, Kaihora), and one host community (Nkoma) out of the two (Buisi and Nkoma). Both settlements of Agojo and Pagirinya in Adjumani settlement, and the three zones (Zone I, II & III) of Palorinya settlement in Moyo were sampled.

Twenty-one (21) enumerators conducted quantitative data collection; administered the household survey questionnaire in the targeted areas (7 in Rwamwanja, 6 in Adjumani, and 8 in Palorinya). The Enumerators were recruited based on fluency of local language spoken in the respective districts and at least had a post – secondary school qualification (e.g. certificate or diploma holders and above). Strong screening questions were used during the process of recruiting data collectors to ensure that the desired quality of data collection is met. In some instances, the enumerators were supported by incentive workers who acted as translators during the face-to-face interviews and focus group discussions. The enumerators were given training on the methods of data collection. They were introduced to the household questionnaires so that they fully familiarize with the questions and get acquainted with new words to minimize threats to reliability of data.

2.3 Survey Instruments

2.3.1 Key Informant Interviews

Key informant interviews were conducted using a key informant interview guide. The key informants list included; Community leaders, health specialists, incentive workers, community development officers, refugee welfare council leaders, LWF sub program Manager (s), and officials from OPM.

2.3.2 Focus group discussion

Focus Group Discussions (FGDs) were conducted per target group in order to supplement on the findings from the surveys. FGDs were conducted separately for members in a specific group project, women, men and youth in the 3 different groups making a total of 150 respondents for the study. The FGDs were comprised of 8 to 12 members participating in each. Two different FGD guides were used during the survey where one was targeting the WASH beneficiaries and the other was targeting the youth or women who were engaged in; shelter and latrine construction, environmentally friendly industries, waste management, and IGAs.

The outcome of the FGD helped to understand different perspectives, attitudes, pressing challenges of the communities, water and sanitation situations and to establish complementary views that substantiate the information about the project, extent of participation and roles played by men and women.

2.3.3 Photography and observation

The consulting team conducted field observations throughout the data collection process, to further enable verification as well as to provide qualitative illustration of the quantitative information collected. Still photographs were taken to capture shelter conditions, adequate WASH services and hygiene practices.

2.3.4 Electronic Data collection and Analysis

Electronic data collection using the **Open Data Kit (ODK)** and android-based tablets was employed to ensure easy and fast data collection given the numerous questionnaires that were administered during the assessments. Collected data was sent wirelessly to a secure server at the end of each day of data collection and reviewed so as to ensure timely correction of anomalies before the next day's data is collected and timely data analysis following completion of fieldwork. The consulting team reviewed the data captured on a daily basis and investigated anomalies prior to the following morning's de-brief of research assistants (enumerators). We used Atlas.ti7 for coding and analysis of qualitative data which made the process of qualitative data analysis more effective and faster.

2.4 Sample Selection and Allocation

Based on the target population of direct beneficiaries in the host communities in Rwamwanja, Adjumani, and Palorinya Refugee Settlements where LWF-Uganda is operational and where the project has been implemented; a sample size of 778 target respondents had been determined as sufficient to assess the end line survey status of the project indicators with 95% level of confidence and 0.035 margin of error. However, 802 WASH beneficiaries were interviewed (103% coverage). The formula: $n=\frac{z^2p(1-p)N}{z^2P(1-P)+N(e)^2}$ was used to calculate the sample size.

The sample was distributed in the refugee settlement areas taking into account the proportions to the population. Therefore, proportionate stratification was applied so that the sample size of each area/stratum is proportionate to the beneficiary household population of the refugee settlement as follows; Rwamwanja (187), Adjumani (178), Parolinya (437).

Purposive sampling was applied to other beneficiary groups of; IGAs, environmentally friendly industries, latrine and shelter construction, market access, and PSNs. The sample size in each category was divided into groups of 7 to 10 beneficiaries who participated in face to face interviews and/or focus group discussions. At total of 159 youth and women were interviewed in Rwamwanja where most IGAs interventions were implemented, with 52 respondents participating in focus group discussions while another 108 beneficiaries were interviewed face-to-face.

2.5 Structured Observation

Data on the project's environmental impact was collected using an observation checklist. The consultants visited sampled water facilities to observe the standing water and the community initiated conservation activities, hygiene and sanitation around the water facilities.

2.6 Selection and Training of Enumerators

The training of data collectors consisted of instructions regarding interviewing techniques and field procedures. This was followed by a detailed review of the questions in the questionnaires, tests, mock interviews and role plays between participants in the training. In addition to the data collection tools, a field pretest was conducted. The pre-test enabled the evaluation team to test the length of the questionnaire(s), logical sequence, whether the questions are offensive, whether they are understandable, the relevance and ease of translation into local languages. The findings from the pre-test were then incorporated into the final questionnaire(s) that were administered.

2.7 Data Collection

A detailed field data collection plan was developed and given to all field staff with a comprehensive set of instructions intended to guide all staff before and during the survey. Based on the overall number of project beneficiaries that were interviewed (802 WASH beneficiaries, 159 beneficiaries of IGAs) and the recruited number of data collectors (17), an average completion rated of 11 questionnaires per day was executed.

2.8 Study Limitations

The following were the limitations encountered during the end line study;

Camp Permit Issues in Rwamwanja: Data collection in Rwamwanja was halted due to lack of camp permits for some of the data collectors, which greatly delayed the field data collection. This was a lesson learnt to always ensure that camp entry permits are arranged for in advance before start of any field data collection activities.

Recall Bias: In capturing the sales, income and expenditures, respondents found it hard to quantify and recall how much they had incurred as expenses or income earned. It was also noted in accessing the situation in the refugee camps before and after the project intervention, respondents found it hard to measure reliably any increase or decrease in the incomes earned or incurred. As regards WASH practices, due to absence of baseline data for the WASH intervention, respondents were asked to remember the situation before the ECHO project, which exposed the respondents to a risk of recall bias.

3. KEY PROJECT ACHIEVEMENTS

The project's initial purpose was to meet livelihood needs of youth and women in Rwamwanja through livelihoods interventions such as; business ideas competition where 20 winning groups were support to establish businesses of their choice, construction of latrines and shelters, production and sale of bricks and latrine slabs, production and sale of energy efficient stoves, disposal and sale of waste (environmentally friendly industries), exchange of goods and services, and enhancing existing businesses' income through the provision of solar panels. This would be achieved through training and capacity building, advertising renewable energy products, sensitizing communities about environmentally friendly practices, market fairs, and constructing shelters and latrines for PSNs. Upon extensive needs and response analysis, the action was later extended to Palorinya and Adjumani (Pagirinya and Agojo settlements) with the aim of increasing access to shelter among PSNs, increasing access to water, hygiene and sanitation services, and empowering the beneficiaries in operation and maintenance of the WASH facilities.

In collaboration with the district and refugee leadership, the project developed a call for business proposals where 20 groups (of 15-30 members each) won the business idea competition, were trained in enterprise specific skills, and supported with start-up capital. A training in Uganda's business legal framework and two market fairs were also conducted to engage targeted groups in trade and increase sales. The action also supported 28 groups (15-30 members each) to secure sustainable livelihoods through environmentally friendly industries. Of these, 7 groups (15 to 30 members each) were trained to make energy saving stoves, 7 groups (6 members each) who formed the Waste Management Committees were trained on the 3 R approach and supported with waste collection points and a composting plant each, and 14 groups (6-30 members each) received solar panels to boost, enhance or diversify their businesses. The Waste Management Committees and groups making energy efficient stoves were supported to advertise renewable energy products and sensitize communities to environmentally friendly practices.

The action trained 23 refugee groups (321 members; 243 M, 78 F) in making slabs and bricks and constructing latrines and shelters, contributing to improved sanitation and dignified living conditions for 142 PSNs in Rwamwanja. In Adjumani (Agojo settlement), 45 PSN households benefited from both latrine and shelter construction, while 145 households; 352 beneficiaries (2.4 members per PSN household) benefited from latrine construction were given materials for latrine construction. In Pagirinya massive sensitization was carried out in the whole camp and latrines with hand-washing facilities were constructed in market places. In Moyo, the project improved sanitation for 36,750 people through the construction of 50 public latrine stances (10 latrines of 5 stances each) and 1,420 communal latrine stances (710 latrines of 2 stances and hand-washing facilities each). The action supported 123 PSNs with shelters, latrines and hygiene kits and 875 non-PSN households with treated poles, slabs, tippy taps and hygiene kits. The project also drilled 34, rehabilitated 20 and motorized 3 boreholes (making a total of 57 boreholes) in order to ensure access to 16 l/p/d of safe water to 56,750 people in Moyo. Twenty-four (24) hygiene promoters (11 female, 13 male) supported by district staff supported promotion of good hygiene practices.

4. RESPONDENT INFORMATION

4.1 WASH Endline KAP Survey Demographics

In the WASH endline KAP survey, a total of 802 beneficiaries were interviewed across the three settlements (187 in Rwamwanja, 178 in Adjumani and 437 in Palorinya, table 1). As regards gender distribution of the respondents, the survey witnessed a higher number of female respondents, 70% female overall (58% female vs. 42% male in Rwamwanja, 80% female vs. 20% male in Adjumani, 72% female vs. 28% male in Palorinya). This was mainly due to the higher percentage of female headed households, 61% overall (44% in Rwamwanja, 75% in Adjumani, and 62% in Palorinya). The respondents had very low levels of education with 79% overall reporting not to have attained post-primary education (88% in Rwamwanja, 78% in Adjumani and 76% in Palorinya).

Table 2: WASH Endline KAP Survey Demographics

DEMOGRAPHIC INFORMATION	RWAMWANJA	ADJUMANI	PALORINYA	OVERALL
Number of Respondents	187	178	437	802
Male	42%	20%	28%	30%
Female	58%	80%	72%	70%
Average age of respondent	42.2	39.1	38.2	39.3
Age in complete years				
Below17 years	0%	4%	8%	5%
18-30 years	28%	31%	31%	30%
30 and above	72%	64%	61%	64%
Household size	4.5	5.3	4.7	4.8
Type of Household				
Female headed	44%	75%	62%	61%
Male Headed	56%	25%	35%	38%
Child headed	0%	0%	3%	2%
Marital Status				
Married	59%	56%	62%	60%
Single (bachelor/spinster)	3%	10%	14%	10%
Separated	16%	5%	6%	8%
Widowed	22%	29%	16%	20%
Divorced	1%	1%	2%	1%
Education Level				
Never been to school	65%	25%	32%	38%
Primary education	23%	53%	44%	41%
Secondary Education	11%	18%	20%	17%
Certificate	0%	3%	2%	2%
Diploma	1%	1%	3%	2%
Degree	1%	1%	0%	0%
Religion				
Christian	74%	84%	87%	84%
Pentecostal	19%	15%	11%	13%
Muslim	3%	1%	2%	2%
No religious affiliation	4%	0%	0%	1%
Traditional/African	0%	0%	0%	0%

4.2 Youth & Women Groups Demographics

An endline survey of youth in groups was conducted in order to facilitate comparison of end of project results with the baseline findings for key project indicators that were measured at the beginning of the project. A total of 107 respondents were interviewed and these included 27% of youth engaged in environmentally friendly industries, waste management committee members (36%), youth engaged in making of bricks, slabs, latrines and shelter construction (8%), youth engaged in trade of goods and services (9%), and youth supported to start small businesses (19%). Out of the 107 respondents interviewed in Rwamwanja, 44% were males while 56% were females, 37% were 30 years or below (youth) and 63% were above 30 years of age. As regards education attainment, 32% had never been to school while 39% had only attended or completed primary school making a combined percentage of 71% of the respondents without post-primary education. 78% of the respondents were refugees with 28% coming from the host community. A very small number of youth (10 individuals) were also interviewed in Adjumani among the few that supported construction of latrines and shelters for 45 PSN households.

Table 3: Youth & women groups demographics

DEMOGRAPHIC INFORMATION	RWAMWANJA[4]		ADJUMANI
	Baseline	Endline	Endline
# of Respondents	275	107	10
Male	49%	44%	90%
Female	51%	56%	10%
Average age of respondent	--	34.8	24.8
Age in complete years			
Below17 years	4%	-	-
18-30 years	7%	37%	90%
30 and above	90%	63%	10%
Education Level			
Never been to school	36%	32%	-
Primary education	55%	39%	30%
Secondary Education	7%	22%	60%
Certificate	1%	1%	-
Diploma	1%	4%	10%
Degree	-	2%	-
Type of Residence			
Refugee	70%	78%	100%
Host Community	30%	22%	0%
Beneficiary Category			
Environmentally friendly industries	71%	27%	-
Waste management committee	6%	36%	-
Brick, slabs, latrines and Shelter Construction	23%	8%	100%
Youth Trading Goods in Market Fairs	-	9%	-
Youth supported to start small businesses	-	19%	-

[4] Baseline survey was only conducted in Rwamwanja, where the project started before being rolled out to Adjumani and Moyo (Palorinya) refugee settlements. No youth/ women groups were supported in Moyo (Palorinya) refugee settlement.

5. EVALUATION FINDINGS

7.1 Relevance

This section concerns the extent to which the LWF-ECHO project's activities were suited to the priorities of the target groups in the three refugee settlements. Information provided here was gathered through review of project records as well as interviews with project staff, key sector stakeholders and beneficiaries. Overall, the endline survey and evaluation found the LWF-ECHO project interventions in Rwamwanja, Adjumani and Palorinya very relevant.

7.1.1 The need for livelihoods interventions in Rwamwanja

An interagency needs assessment conducted in Rwamwanja before the start of the LWF-ECHO project revealed that no livelihood support had been provided to the new arrivals following the influx of Congolese refugees into Uganda in 2015 and 2016, fleeing violence, rape and killings in North Kivu. The report therefore urged partners to scale-up and put in place more initiatives with view of environmental restoration alongside promotion of sustainable natural resource utilization in the settlement and host community. Due to the increasing refugee numbers, there was more pressure on the environment as refugees looked for firewood for cooking and additional materials for shelter construction. Livelihoods support from other NGOs was reaching a small percentage of the total population, therefore, it was essential for LWF to scale-up livelihood activities so as to complement the food security interventions and reduce dependency.

Livelihoods interventions that were designed by LWF therefore aimed at; promoting self-reliance, improving skills of youth, women and men to sustainably improve food security, even after repatriation, promoting environmental conservation (reducing firewood consumption), protection of PSNs - especially new arrivals through provision of shelters and latrines, cash for work to the youth for shelter construction, unconditional cash grants for PSNs to access essential food and NFIs in the market, and support to start-up IGAs that would enable youth to start-up businesses of their choice and be able to trade in goods and services.

7.1.2 Needs assessment and choice of the beneficiaries

Review of existing reports and project documents showed that in January 2017, 84% of the refugees in Adjumani and Rwamwanja relied on food aid by WFP as a major source of food. A needs and market assessment conducted in Rwamwanja reported limited job opportunities, as only 35% of the refugees were involved in regular income-generating activities, while livelihood interventions reached less than 10% of the population. Before the project, reports showed that in Adjumani settlement areas with LWF presence, new arrivals were the most vulnerable population groups with a high number of refugee women (55%) and children (68%). People with Special Needs (PSNs) also constituted 11% of the population, including 2,471 PSN new arrivals settled in Pagirinya and Agojo. This level of vulnerability increased pressure on meeting the basic needs including WASH facilities, shelter and other basic needs. Correspondingly, according to a PSN verification exercise conducted in Rwamwanja in November 2014[5], there were 1,353 PSNs unable to construct their own shelter and latrine.

The 7th July 2016 conflict in South Sudan's capital Juba led to a rise in the influx rate. To accommodate arrivals, new areas were opened in Adjumani refugee settlement. Pagirinya was

[5] This was the last PSN verification exercise conducted by UNHCR and partners including LWF in Rwamwanja.

opened in June 2016 and reached its maximum capacity of in August 2016. Agojo, received over 3,000 in October 2016. UNHCR designated LWF to be the lead implementing agency in Pagirinya and Agojo settlement areas, in Adjumani, in the sectors protection, WASH, livelihoods/ environment and community services – including NFI/Shelter. Given the extent of the crisis and the limited space in Adjumani refugee settlements, UNHCR, OPM and partners also opened new Refugee Settlements in the North of Uganda, such as Palorinya in Moyo District, in December 2017, where LWF operates as well.

The study established that Adjumani's cholera outbreak at the end of August 2016 highlighted the urgent need for comprehensive WASH interventions, and while water provision met Sphere standards in Pagirinya, improved sanitation and hygiene services were crucial to contain and prevent the spread of cholera and other diarrhoeal diseases. In the October 2016 LWF WASH Survey, household latrine coverage was less than 40% in Pagirinya and less than 5% in Agojo. Agojo settlement was in a water-stressed area and supply of water to its population was a huge challenge, with only 3 of 10 drilled boreholes yielding water. Palorinya, which had low levels of household/PSN latrines and hand-washing facilities, refugees relied mainly on communal facilities which were lacking as they stood at 1:28 and 1:55 in Zones I and II respectively. The public market places in each of Pagirinya, Agojo and Palorinya did not have communal latrines or handwashing facilities, and there were no funds to support this. Almost all of Pagirinya, Agojo and Palorinya's PSNs required latrines, thus the need to compliment the provision of communal, household and PSN latrines with communal handwashing stations and household tippy-taps.

The October 2016 WASH survey also revealed that 8.2% of refugees in Palorinya and an average of 51.2% in Adjumani (Pagirinya, Agojo) had access to safe and clean sanitation facilities. Most new arrivals lack knowledge of latrines, as they come from rural locations where open defecation is common. Therefore, guidance on latrine construction and location was vital to avoid contaminating drinking water or latrine collapse. Hand-washing station coverage was very low, at 1.4% in Palorinya and an average of 27.4% in Adjumani (Pagirinya, Agojo), increasing risks of disease transmission. In Adjumani and Palorinya respectively, 52.2% and 46% of beneficiaries reported washing their hands after using toilets and before food preparation. Moreover, although 77.3% of refugees in Adjumani reported having and using a pit latrine, in Palorinya it remained low at 7%. In Palorinya, water coverage was 16 l/p/d but 60% of the water was being provided through water trucking, which was economically and operationally unsustainable. To phase out water trucking, there was still a need to drill and motorize high yielding boreholes.

7.1.3 Consistency of project's objectives with beneficiaries' needs and expectations

Key informants and focus group discussion participants concurred that the LWF ECHO project interventions greatly benefitted the refugee and host communities. Many focus group discussion participants appreciated: the shelters and latrines that were constructed for PSNs households; water storage and sanitation facilities that were provided such as, jerry cans, buckets, rubbish pits, and tippy taps; as well as sensitizations on sanitation and personal hygiene, and communal latrines constructed in market places. Beneficiaries could also attest that a good number of youth had acquired skills in latrine and shelter construction that would enable them to earn a living, while the market solid waste management committees that looked at waste management and handling had supported improvement of general sanitation in the community.

Most key informants indicated that the project tackled the real or actual problems that were faced in the settlements because: people needed the sensitizations on hygiene and sanitation in order to reduce the rate at which diseases were being spread, while provision of latrines, shelter and hygiene facilities and provision of safe water chain improved the standards of living of people in the settlements. However, a few of the FGD participants felt that the project didn't tackle all the problems faced in the settlements because it didn't consider all PSNs and other most vulnerable groups such as women and youth.

7.1.4 Evidence for need of water and sanitation project

Table 3 below clearly articulates the situation before and after implementation of the LWF ECHO WASH component in Rwamwanja, Adjumani and Palorinya as regards; use of sanitation facilities, defecation places, use of latrine, anal cleansing, bathing and hand washing practices; based on quantitative endline survey results. Overall results show that use of latrine has gone up from 67% before the project to 94% after the project (62% to 91% in Rwamwanja, 79% to 98% in Adjumani and 66% to 94% in Palorinya). Use of soap during hand washing increased from 34% to 73%, while use of hand washing station or tippy tap also increased from 9% to 27%.

Table 4: Status of WASH indicators before and after the ECHO project

Indicators:	RWAMWANJA		ADJUMANI		PALORINYA		OVERALL	
	Before	After	Before	After	Before	After	Before	After
What sanitation facilities do you have in your home?								
Drying racks	14%	20%	63%	87%	56%	72%	48%	63%
Bathing shelters	17%	25%	49%	86%	65%	89%	50%	73%
Refuse pits	18%	24%	37%	67%	26%	47%	27%	46%
Tippy taps	26%	30%	13%	51%	4%	57%	11%	50%
Where do you defecate?								
The bush	28%	6%	21%	2%	34%	6%	31%	5%
Neighbor's latrine	45%	18%	18%	12%	21%	17%	26%	16%
Communal latrine near house	8%	24%	52%	21%	34%	19%	31%	20%
Own latrine	9%	49%	9%	65%	11%	58%	10%	58%
Uncovered pit hole	10%	3%	--	--	--	--	2%	1%
Use of pit latrine	62%	91%	79%	98%	66%	94%	67%	94%
What do you use for anal cleansing?								
Piece of cloth	1%	2%	1%	--	2%	4%	1%	3%
Hands	--	1%	--	--	9%	3%	5%	2%
Leaves	69%	46%	74%	48%	68%	52%	70%	50%
Soil	--	1%	0%	1%	8%	1%	5%	1%
Toilet paper	2%	5%	3%	9%	3%	9%	3%	8%
Other paper	13%	24%	67%	91%	50%	66%	45%	62%
Latrine walls	1%	1%	1%	1%	--	--	--	--
Water	25%	45%	6%	10%	7%	7%	11%	17%

Indicators:	RWAMWANJA		ADJUMANI		PALORINYA		OVERALL	
	Before	After	Before	After	Before	After	Before	After
What do you use for hand washing?								
Hand washing station/tippy tap	1%	5%	25%	44%	6%	30%	9%	27%
Soap	32%	74%	36%	72%	35%	73%	34%	73%
Plain water	75%	78%	66%	78%	82%	71%	77%	74%
Ash	9%	9%	30%	44%	40%	39%	30%	33%
Sand	--	--	1%	1%	5%	7%	3%	4%
Where do you bathe from?								
In the bathroom shelter	12%	21%	43%	93%	43%	90%	36%	74%
Inside the house	44%	56%	0%	1%	1%	--	11%	13%
I bathe from outside at night	49%	27%	35%	30%	30%	2%	35%	14%
In the latrine	3%	24%	1%	2%	--	1%	1%	6%
Near the latrine besides the household	2%	4%	5%	1%	--	--	2%	1%
Share with the neighbor	--	--	8%	6%	13%	9%	9%	6%
From the garden at night	2%	2%	--	1%	8%	1%	5%	1%
In the Bush	2%	1%	15%	1%	9%	--	8%	--
Communal/Public bathroom Shelter	--	--	12%	--	5%	--	5%	--

7.2 Effectiveness

This section presents the status of achievement of the project's objectives and major factors influencing the achievement or non-achievement of the objectives. The analyses of effectiveness were particularly difficult because some indicators were measured at baseline and had targets while other indicators did not have baseline values.

7.2.1 Progress against result indicators

Table 4 below reflects that 24% of the target population is living in safe and dignified shelters in secure settlements compared to the set target of 15%. The percentage of targeted population reporting an evolution in income patterns and/or household assets increased from 0% at baseline to reach 96% way above the set target of 70%. The percentage of targeted groups members generating income from small businesses of their choice also increased from 0% at baseline to reach 85% at endline above the set target of 80%, while the percentage of target group members engaged in trade of goods or services was 97% compared to a set target of 70%, and the percentage of target population with adequate WASH services and hygiene practices was found to be 65% compared to the set target of 70%. Noteworthy is the fact that 100% of group members (including the 20 business idea competition group members) are earning income from the established businesses but 85% of them confirmed to be engaged in businesses of their choice while the remaining 15% preferred to do retail selling, tailoring, or arts & crafts (figure 7).

Table 5: Key project indicators

Key Project Indicators:	RWAMWANJA		ADJUMANI	PALORINYA	OVERALL		
	Baseline	Endline	Endline	Endline	Baseline	Endline	Target
Key Project Indicators:							
Percentage of target population living in safe and dignified shelters in secure settlements	--	27%	51%	12%	--	24%	15%
Number of targeted groups (of at least 50% women) generating income from the sale of environmentally-friendly products[6]	-	32	--	--	-	32	26
Percentage of targeted population reporting an evolution in income patterns and/or household assets	0%	96%	--	--	0%	96%	70%
Percentage of targeted groups members generating income from small businesses of their choice	0%	85%	--	--	0%	85%	80%
Percentage of members of targeted men, women and youth groups engaged in trade of goods or services	7%	97%	--	--	7%	97%	70%
Percentage of respondents with sufficient water for all household needs	--	56%	80%	88%	--	79%	34%
Percentage of target population with adequate WASH services and hygiene practices	--	57%	73%	66%	--	65%	70%

[6] At endline, the project had 7 groups engaged in making of energy saving stoves, 7 waste management committees (4 under ECHO, 3 under PRM), and -18 existing businesses provided with solar panels to enhanced their income

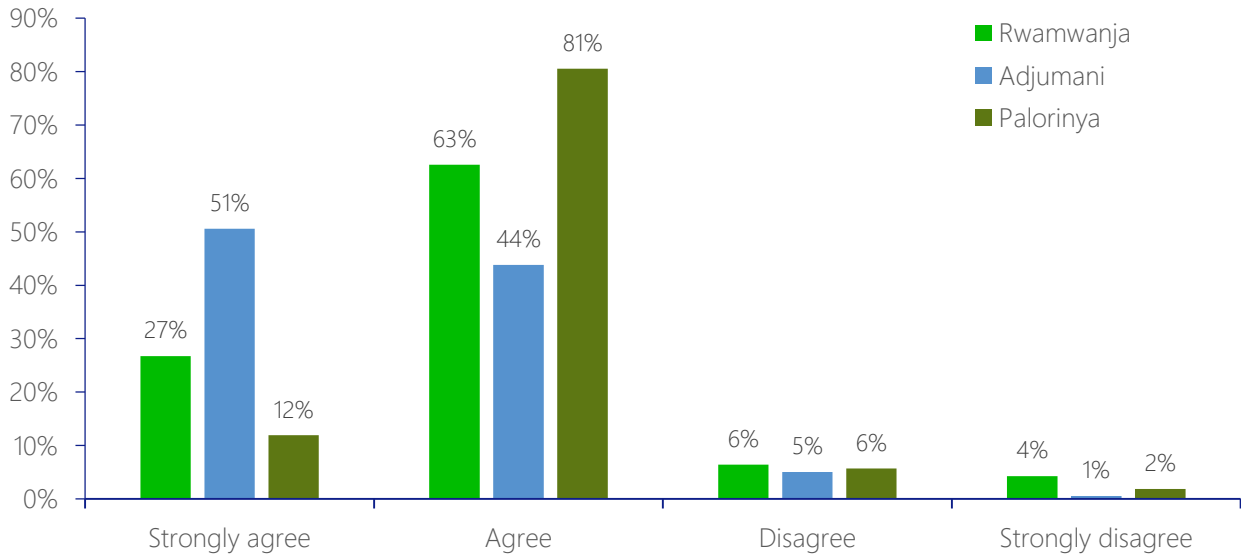
Qualitative results from the endline survey also confirmed that the activities of the project were effective due to the improved hygiene and sanitation, and safe water chains in the communities. However, there are some gaps that need to be looked at critically for example, there is no committee to monitor construction of shelters and latrines and as a result shelter construction is not well coordinated in some places. Such a committee would be responsible for monitoring adherence to set standards, monitoring the environment to ensure that risks arising from the project activities are mitigated such as open pits that stay long without being covered and delays in delivery of materials for construction of shelters and latrines.

7.2.2 Shelter, Environment and Livelihoods

Indicator No. 1: Percentage of target population living in safe and dignified shelters in secure settlements.

All endline survey respondents were asked to confirm whether they agree to the statement "Your settlement is safe and secure", 24% of the respondents strongly agreed that their settlement is safe and secure as represented in figure 1 below (27 % in Rwamwanja, 51% in Adjumani and only 12% in Palorinya. With the exception of Palorinya, all other settlements scored above the set project target of 15%. According to qualitative responses from the endline survey, the project interventions that have contributed to have the settlements safe and secure include; sensitization about the rules and regulations of Ugandan government, improvement of the safety and security by bringing peace and understanding among the members, and sensitizations by LWF frequently on peace and security.

Figure 1: Percentage of respondents who agree/disagree with the following statement: "Your settlement is safe and secure"

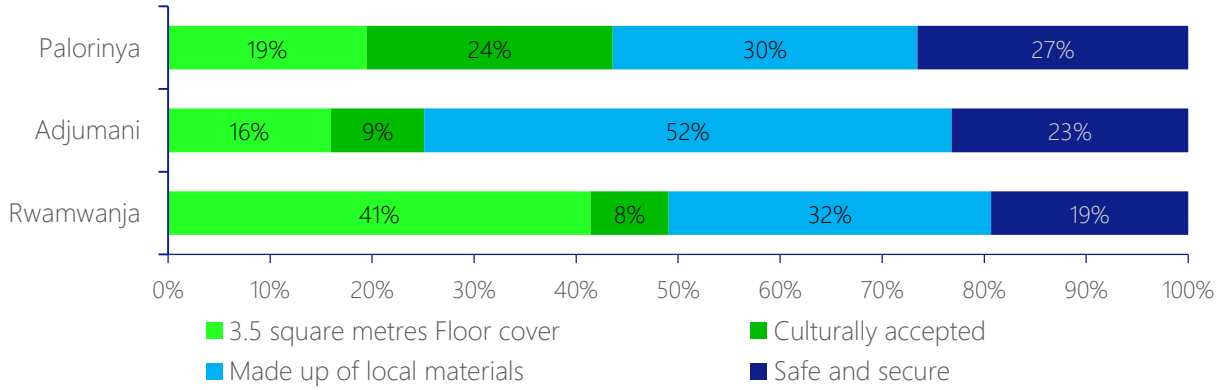


In-depth interviews with key informants revealed that the shelters for the beneficiaries were not dignified before the program interventions as they were covered with worn-out tarpaulins that had started leaking. After the intervention of the program, the shelters constructed for PSNs are very dignified and their neighbours learnt and adopted. However, a big number of the PSNs households were not supported and still have the need for improved shelters, while a few others indicated that the iron sheets used for roofing the PSN shelters are too bright for the elderly eyesight.

Majority of the FGD participants revealed that the settlement they are living in is safe and secure due to free movement, having good latrines and houses and having access to nearby safe water points which has reduced on the long distances usually covered when looking for water sources. In addition to that, the community members have also been sensitized by the police and camp leaders under the LWF project about security and safety measures to keep the settlement safe and secure for its residents.

Results in figure 2 below show that across the three settlements, there are respondents who are staying in shelters that are; at least 3.5 square metres of floor cover, culturally accepted, made up of local materials, and found to be save and secured. According to FGD participants, the shelters they're living in meet the standard requirement because the constructed latrines and shelters can't be shaken by the wind as compared to the ones they had before.

Figure 2: Percentage of respondents with shelters meeting the requirements



Indicator No. 2: Targeted groups (of at least 50% women) generating income from the sale of environmentally-friendly products

Review of project documents and reports indicates that the project targeted 26 groups corresponding to 7 groups that were to be trained in construction of energy saving stoves, 15 groups were to receive solar panels and 4 groups would form waste management committees. At the end of the project, 7 groups (of 15 to 30 members each) were trained to make energy saving stoves, 7 groups (of 6 members each) formed the Waste Management Committees and were trained on the 3 R approach, and 14 groups (of 6-30 members each) received solar panels to enhance or diversify their businesses. For a sample of 107 individual youth in groups interviewed, 24% (26 out of 107) who were engaged in environmentally friendly industries reported an average total income of Ugx 1,570,385, average total expenditure of Ugx 149,278 and average total profit of Ugx 152,942 in the month prior to the survey, while 16% (17 out of 107) who were supported to start small businesses reported an average total income of Ugx 460,500, average total expenditure of Ugx 315,000 and average total profit of Ugx 93,889, table 5.

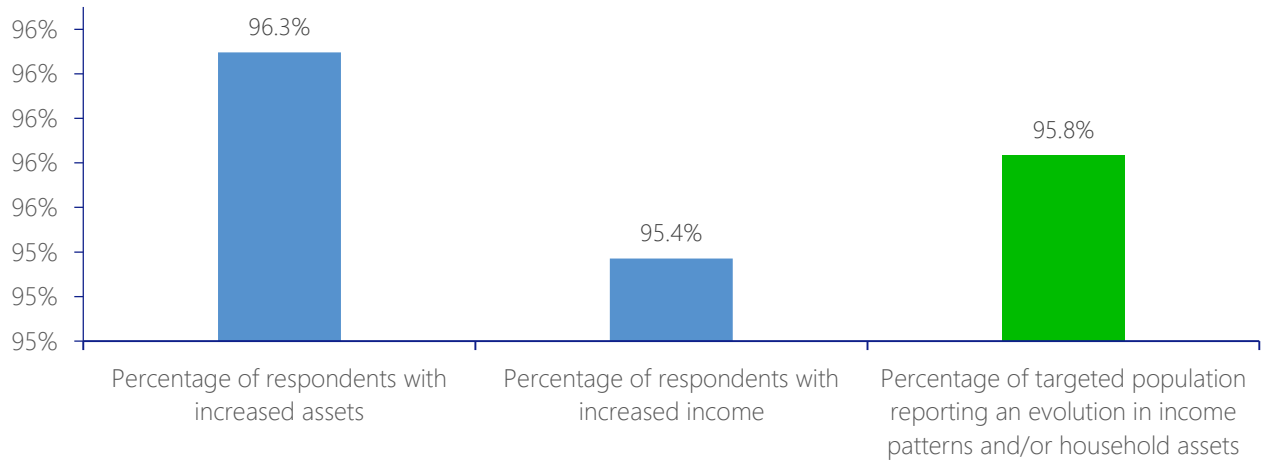
Table 6: Respondent % and average total income, expenditure and profit in the previous month

ECHO Project Group	(n, %)	Average Income	Average Expenditure	Average Profit
Environmentally friendly industries	(26,24%)	1,570,385	149,278	152,942
Waste management committee	(35,33%)	248,886	119,444	52,861
Brick, slabs, latrines and shelter construction	(8,7%)	765,714	432,500	237,500
Youth trading goods in market fairs	(8,7%)	932,500	181,111	45,222
Youth supported to start small businesses	(17,16%)	460,500	315,000	93,889

Indicator No. 3: Percentage of targeted population reporting an evolution in income patterns and/or household assets

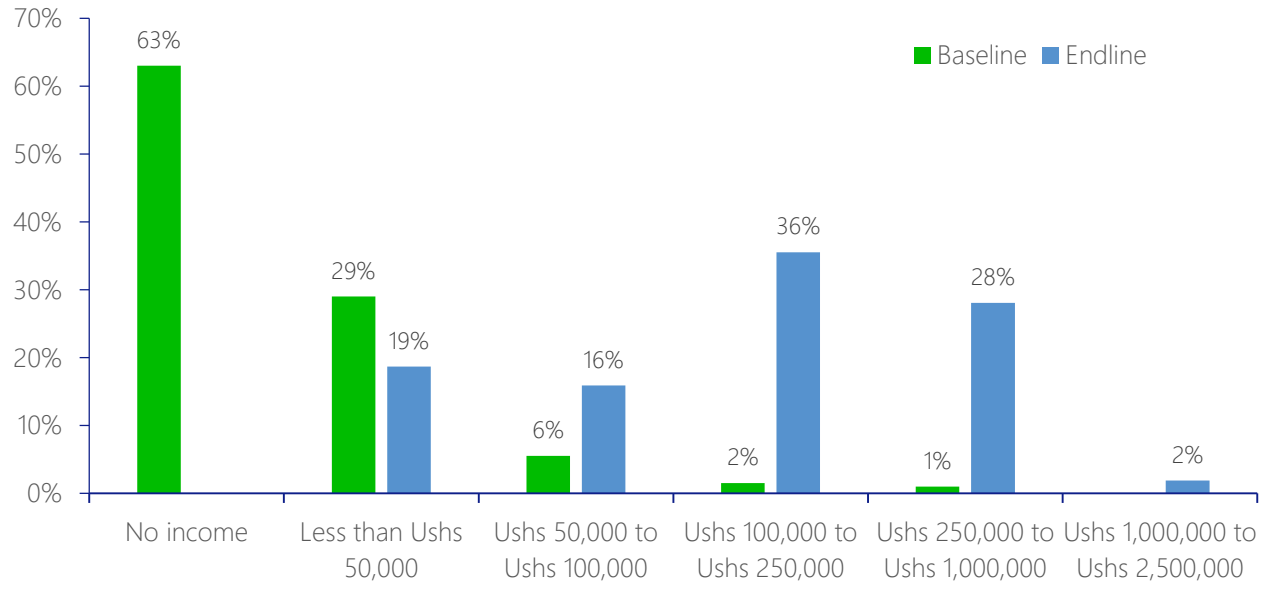
The study established that 96.3% of the respondents in Rwamwanja had increased productive assets such as; livestock, bicycles, motorcycles, land, telephones, etc. compared to the baseline situation (figure 3, figure 5), while 95.4% had increased income compared to the baseline situation (figure 3, figure 4). Therefore, the combined percentage of the target population reporting an evolution in income patterns and/or household assets was determined as 95.8% (the aggregate percentage of those with increased assets (96.3%) and those reporting increased income (95.4%)), thanks to the LWF ECHO project interventions that created income generation opportunities for the youth and women in groups and also boosted their existing small businesses.

Figure 3: Percentage of respondents reporting an increase in income and household assets



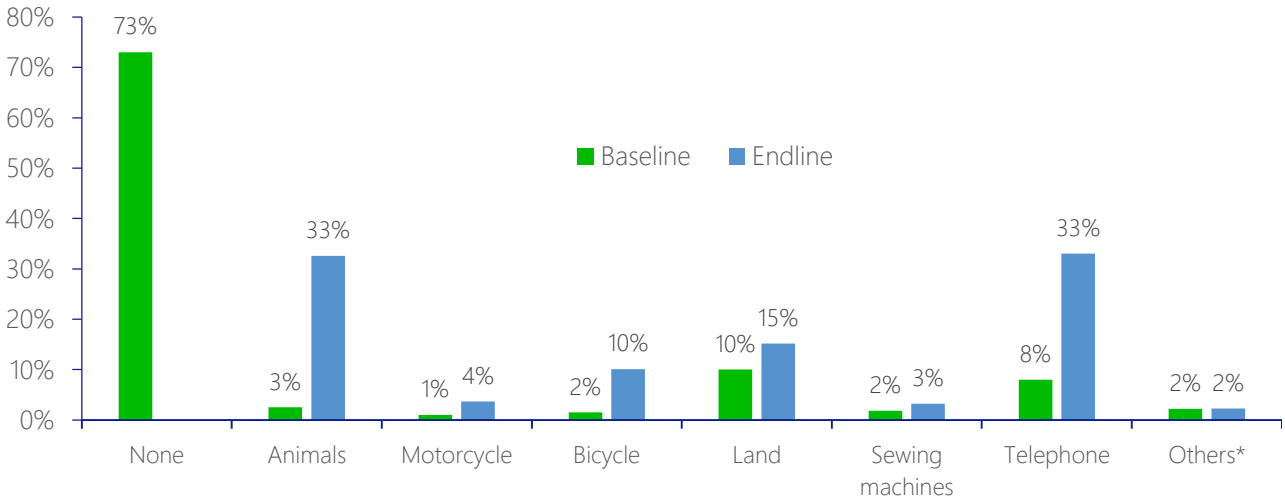
In the baseline survey, 63% of the target beneficiaries reported no income earned, 29% reported to earn on average less than Ugx 50,000 every month and only 1% reported to earn on average Ugx 250,000 and above, figure 4. In the endline survey, none of the target beneficiaries interviewed was earning no income in a normal month, only 19% of the respondents reported earning less than Ugx 50,000 while 30% of the target beneficiaries reported earning on average above Ugx 250,000 every month.

Figure 4: Average total income from businesses every month



As regards possession of productive assets, results in figure 5 below show that in the baseline survey, 73% of the target beneficiaries did not have any productive assets, only 3% had livestock, 2% had bicycles and 8% had phones. The situation has now changed based on the endline survey results which show that now all target beneficiaries have at least one productive asset with 33% reporting to have livestock,10% reporting to have bicycles and 33% confirming to have phones.

Figure 5: Productive assets possessed



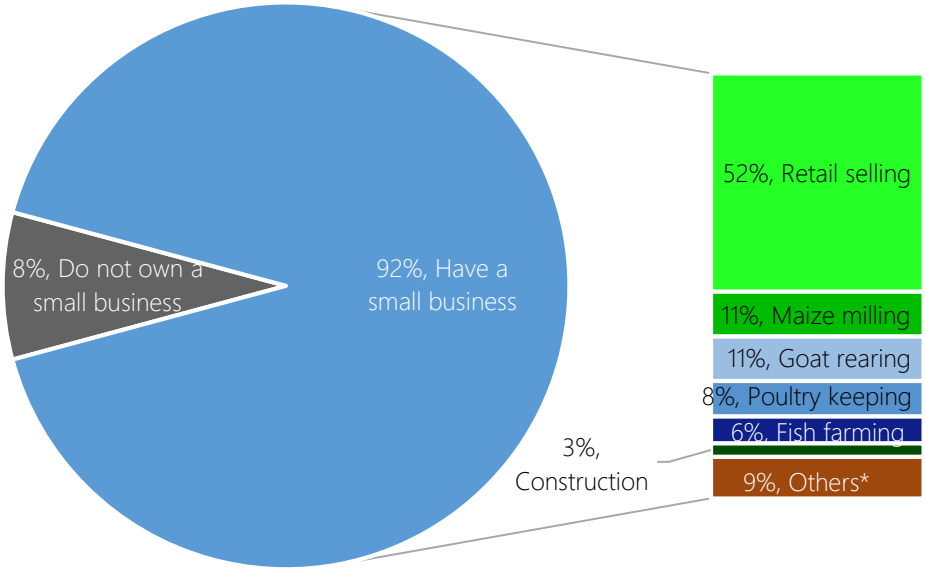
Others include; Salon Machines, Solar Panels, Bakery, Milling machine and Shops

Indicator No. 4: Percentage of targeted groups members generating income from small businesses of their choice

In order to establish the percentage of target group members generating income from small businesses of their choice; the percentage of target group members (selected from the winners of the business idea competition and other livelihoods interventions) who have a small business was determined. The respondents were further asked to confirm whether these were the businesses of their choice. Thereafter, out of 92% of the respondents who confirmed owning a small business, a smaller percentage of 85% who reported that this was the business of their choice was taken as the endline value of this indicator, figure 6 and figure 7. It's worth noting that results from review of project reports indicated that members from all groups (including the business idea competition group members) are earning income from the businesses they established.

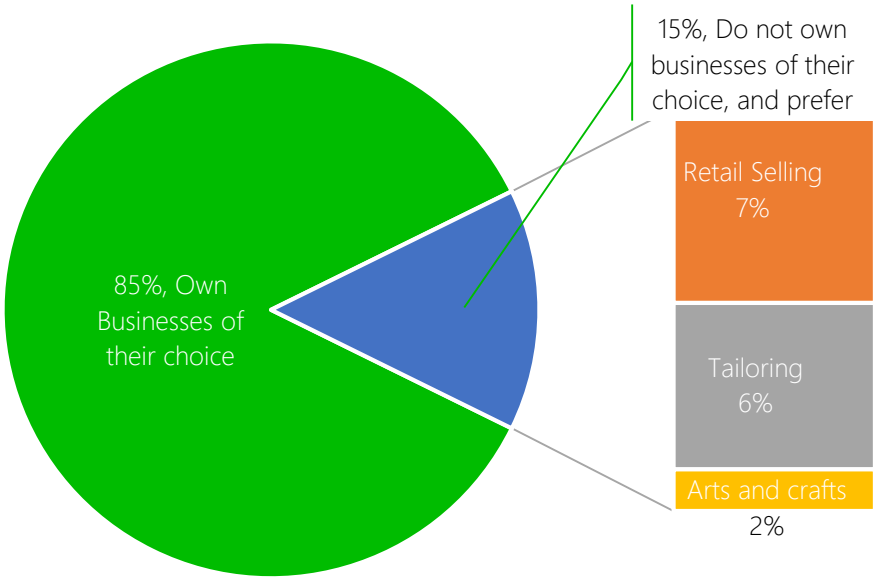
Results in figure 6 show that out of the respondents with a small business, 52% were dealing in retail selling, 11% in maize milling, goat rearing (11%), poultry keeping (8%), fish farming (6%), while 9% were engaged in bakery, diary farming, tailoring, bricks and slabs making, and cosmetology.

Figure 6: Percentage of targeted group members owning small businesses



Others; Bakery, dairy farming, tailoring, bricks and slab making and cosmetology

Figure 7: Percentage of respondents with businesses of their own choice



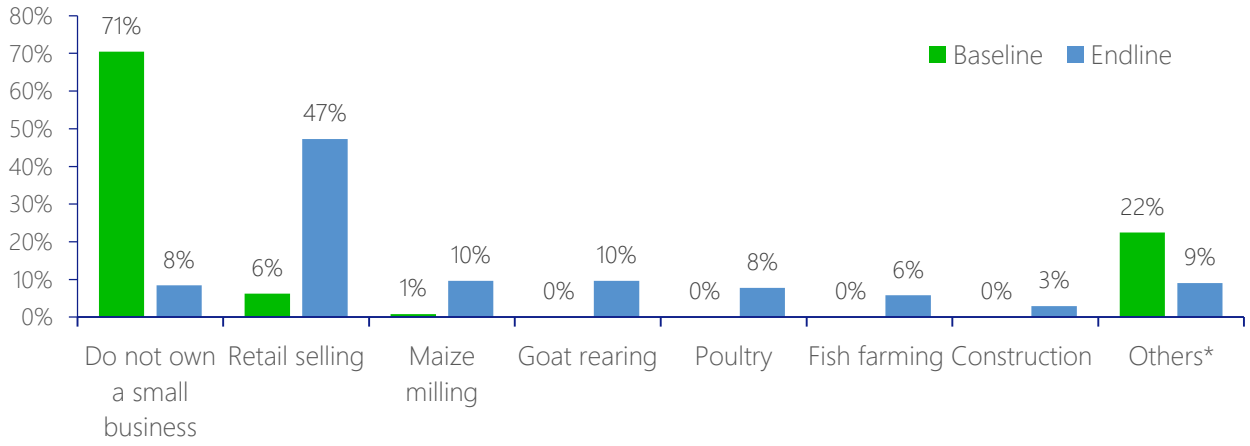
Out of 15% of the target respondents who reported not to be doing businesses of their choice, 7% wished to be engaged in retail selling, 6% in tailoring and 2% in arts and crafts, figure 7. It is therefore recommended that future projects should diversify interventions to cater for such youth interests in the labour market.

Indicator No. 5: Percentage of members of targeted men, women and youth groups engaged in trade of goods or services

To assess this indicator, the study established the percentage of targeted groups members who were earning income and those that engaged the market fairs. Review of project reports and interviews with key informants indicated that out of the 75 groups targeted under the livelihoods component, 73 were (97%) earning income by the end of the action period, indicating their successful engagement in trading their chosen good and services. The study further established that 21 out of the total 75 targeted groups (28%) participated in the fairs to engage in trade. The low level of participation was attributed to; the high level of competition as a result of adoption of LWF procurement policy, and some groups lacked commodities or services that were required by the beneficiary PSN households. In addition to the endline assessment above, the study also established the following: In the baseline survey, only 7% of the target beneficiaries were engaged in trade of goods or services. These included retail selling (6%) and maize milling (1%) while 93% were not engaged in trade of goods and services (71% did not own a small business, while 22% were engaged in petty trade where they were not earning any income). In the endline survey (using data from a sample of 107 target beneficiaries interviewed face-to-face), the percentage of target beneficiaries that do not own a small business reduced to 8% while those engaged in retail selling increased to 47%. Other target beneficiaries were engaged in maize milling (10%), poultry (8%), fish farming (6%) and construction of latrines and shelters (3%).

In-depth interviews with key informants and review of project reports revealed that in addition to the capacity building and support provided to target beneficiaries to establish IGAs, the project also organised two market fairs in Rwamwanja to promote group members' engagement in trade of goods and services. Target beneficiaries engaged in IGAs and the 142 PSNs supported with latrine and shelter construction benefited from the market fairs whereby the PSNs were given unconditional grants to purchase items of their choice while IGAs beneficiaries were given a chance to sell their items to the PSNs, non-PSNs and people from the host community. Four out of the 12 vendors that participated in the market fairs were selected among the 20-business idea winning groups as these possessed the stocks of items required in the markets; these included food commodities, fish, energy saving stoves and apiary products. With this background and information, it is justifiable to attribute the increase in the number of target beneficiaries engaged in trade of goods and services to the LWF ECHO project interventions.

Figure 8: Percentage of target beneficiaries engaged in trade of goods and services



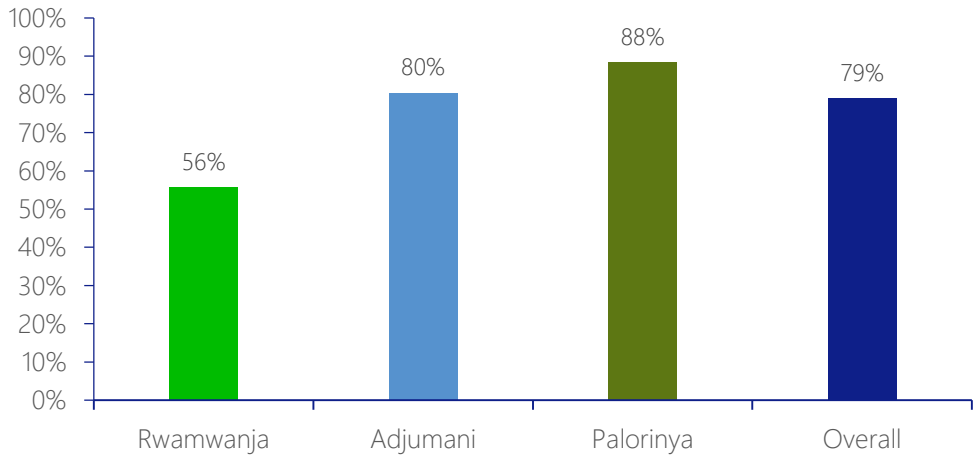
*Others include; Food vending and marketing (8.7%), farming (4.1%), bar and restaurant (2.2%), tailoring (1.8%), boda boda (1.1%), teaching/ charcoal vending, bakery, butchery (0.7%) others (1.5%)

5.2.3 WASH Services and Hygiene Practices

Indicator No. 6: Number of persons provided with sufficient and safe water for drinking, cooking and personal hygiene use

Respondents were asked to confirm whether they have sufficient water to cover for all their household needs that include drinking, cooking and personal hygiene; across the project locations, 79% of the respondents indicated that they have sufficient water to cover for all their household needs. On a settlement basis, 56% of the respondents in Rwamwanja, 80% in Adjumani and 88% in Palorinya indicated that they have sufficient water to cover for all their household needs (figure 9). The project target was to have 34% (27,167 out of 80,974) of the target beneficiaries provided with sufficient and safe water for drinking, cooking and personal hygiene use. Based on the results below, it can be concluded that the project was able to achieve and/or exceed the set targets. In addition, all PSN target households interviewed[7] during the endline WASH KAP survey could attest that they were in position to get sufficient and safe water for drinking, cooking and personal hygiene in the past 6 MONTHS due to boreholes and water trucking done by the LWF ECHO project. Although the ECHO project provided water trucking in a few areas, the aim is to do away with water trucking by funding the construction of more sustainable solutions such as the construction/rehabilitation and motorisation of boreholes.

Figure 9: Percentage of respondents with sufficient water for all household needs

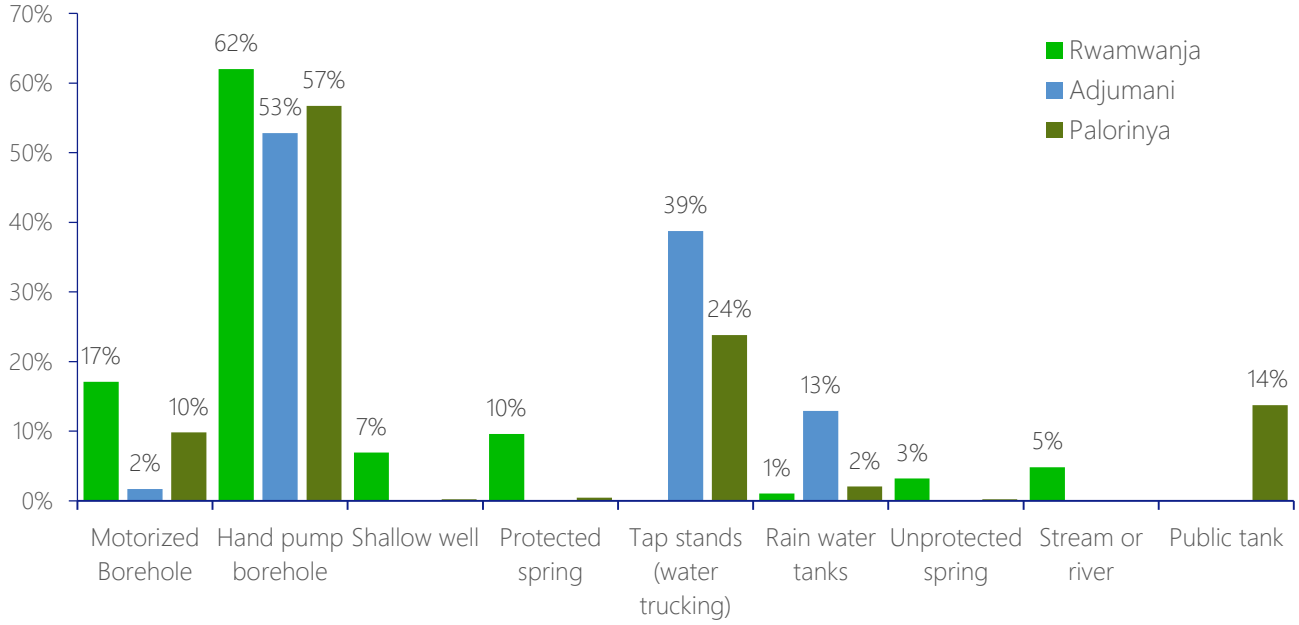


[7] In addition to the 802 respondents to the WASH KAP survey, a sample of 16 PSN households were interviewed from their respective households to obtain their views concerning shelter, latrines and WASH interventions.

Water Sources

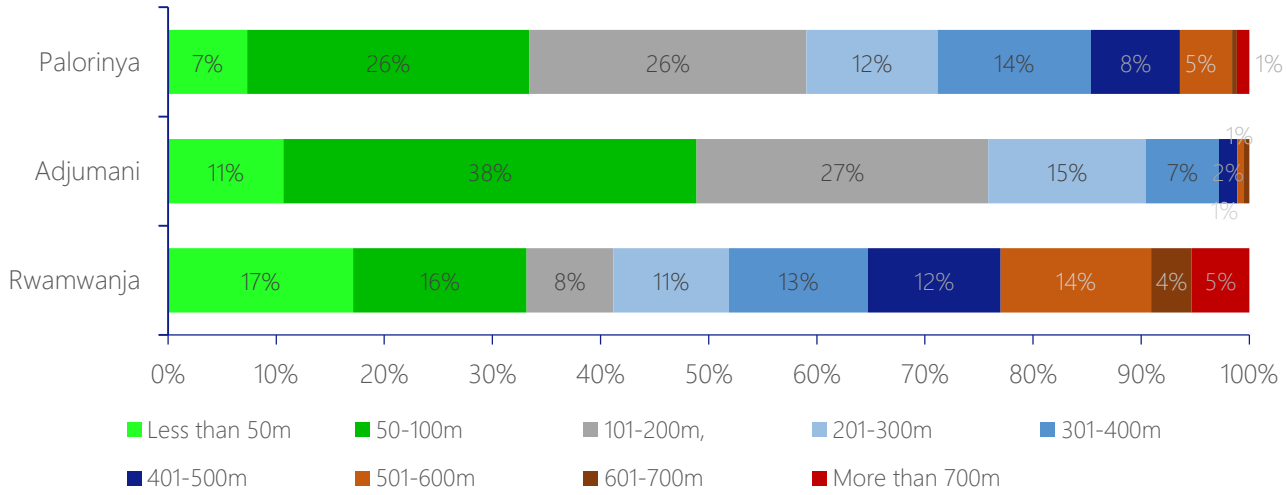
The study established that the most used water source in the settlements is the hand pump borehole by 62% of the respondents in Rwamwanja, 53% in Adjumani and 57% in Palorinya (figure 10). Tap stands and the motorized boreholes are also used by a smaller percentage of respondents, that is 39% and 24% use tap stands, and 17%, 2%, and 10% use motorised boreholes in Rwamwanja, Adjumani and Palorinya. However, there're still target respondents using unprotected water sources in Rwamwanja that expose them to risks of waterborne diseases. It should be noted that the project only constructed latrines for PSNs in Rwamwanja to improve sanitation and did not do any other WASH interventions to improve access to safe water.

Figure 10: Sources of collecting/fetching water for household use



Results in figure 11 below indicate that across all settlements, less than half of the target beneficiaries cover 100m or less to access their water source, that is 33% in Palorinya, 49% in Adjumani and 33% in Rwamwanja. Results further indicate that 59% of the respondents in Rwamwanja cover distances in excess of 200m followed by Palorinya which reported 41% and Adjumani with only 24%. This could be partly responsible for the low percentage of beneficiaries that could confirm having access to sufficient water for their household needs in Rwamwanja (56%, figure 9 above). It can therefore be recommended that future projects should prioritise beneficiaries especially in Rwamwanja by bringing water closer to them.

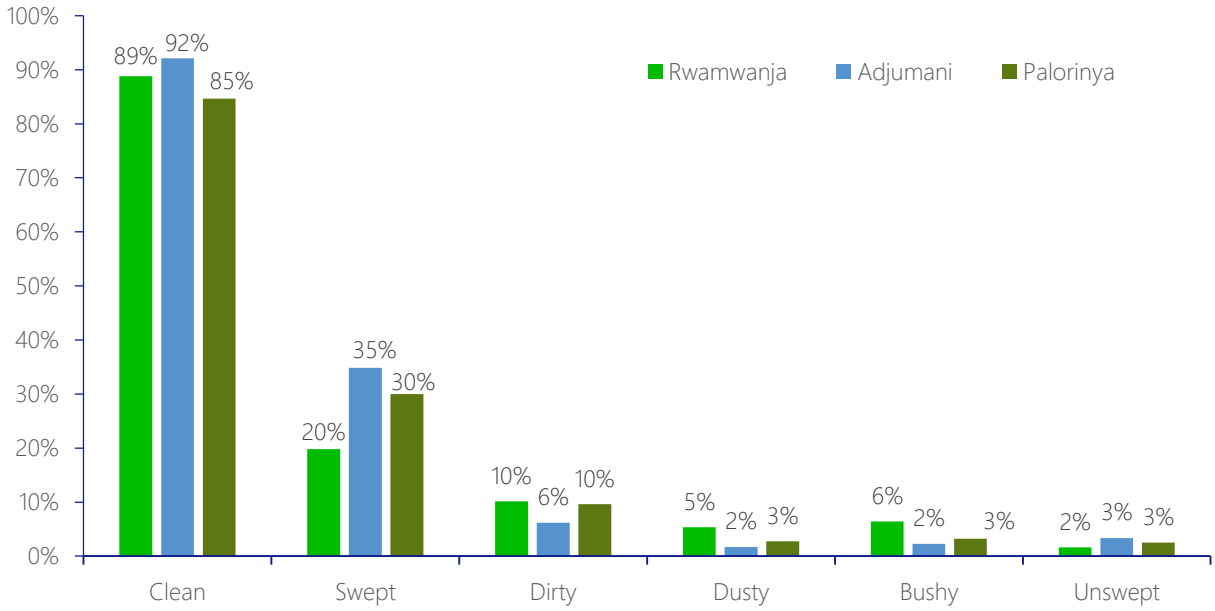
Figure 11: Distance from the water source to household



Observation of water collection sites

Observation of the water collection sites was conducted in order to determine whether there is a practice of cleaning the water collection sites. Results showed that most of the water collection sites and their surrounding areas were found clean and swept, as evidenced in 89%, 92% and 85% of the households surveyed in Rwamwanja, Adjumani and Palorinya with clean sites respectively. Correspondingly, 20%, 35% and 30% of the households in Rwamwanja, Adjumani and Palorinya had water collection sites that were swept. However, small cases of dirty, dusty, bushy, and un swept water collection sites were also observed in the settlements (figure 12). The general cleanliness of the sites was attributed to the massive sanitation and hygiene sensitisation provided by the project in the project areas, especially in Adjumani (Pagirinya settlement).

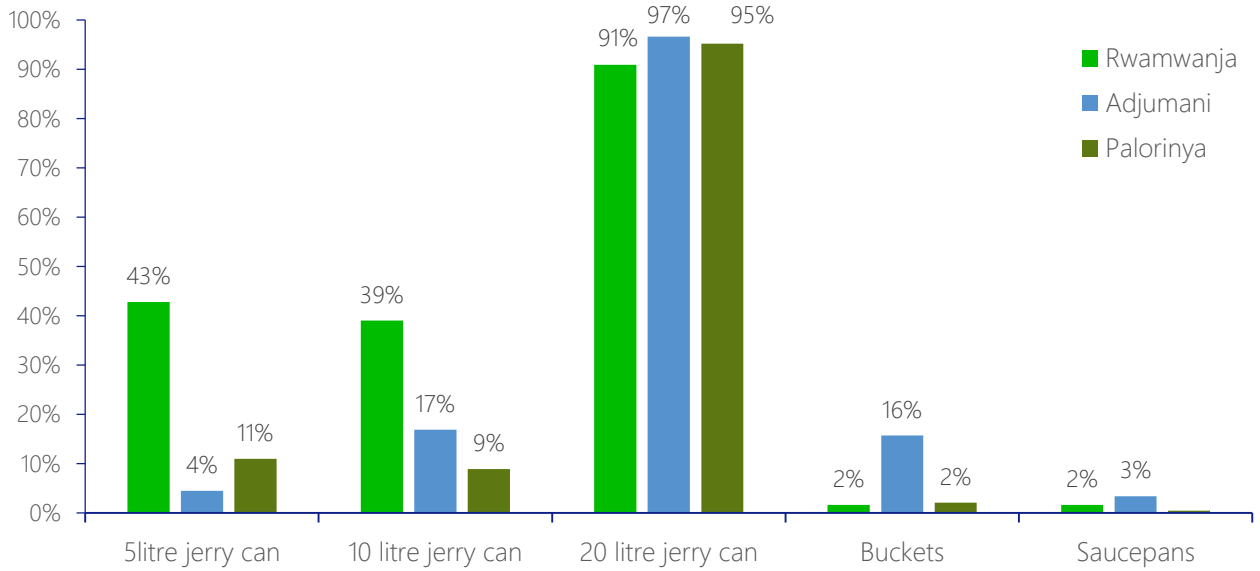
Figure 12: General cleanliness of drinking water containers and its surrounding area



Water Collection and Storage Facilities

Availability of water collection facilities was found to be high among the beneficiaries, thanks to the LWF ECHO project that provided jerry cans and buckets for fetching and storing water in Palorinya and Adjumani. 91% of the beneficiaries in Rwamwanja, 97% in Adjumani and 95% in Palorinya were found with 20 litre jerry cans that they use for water collection (figure 13).

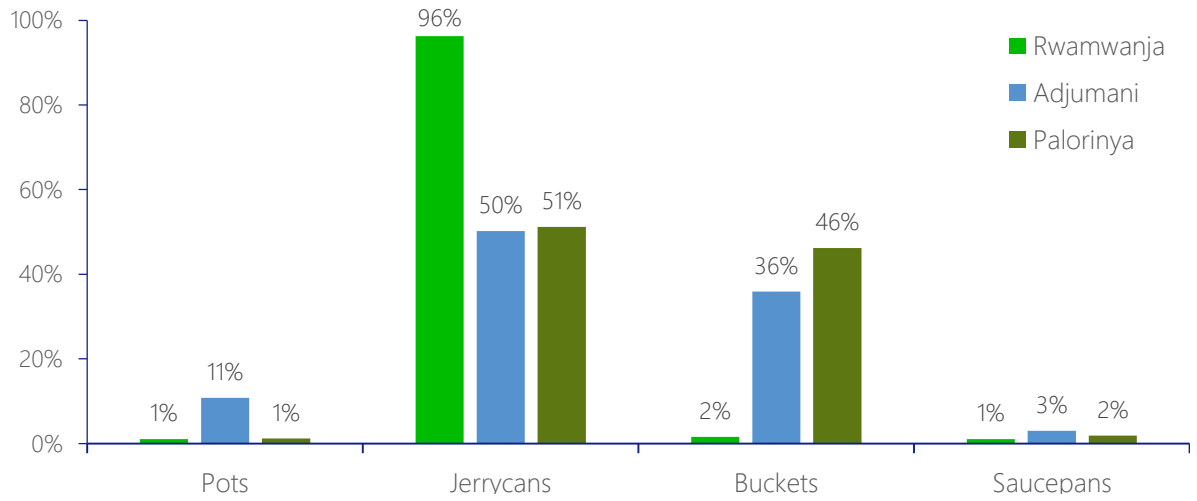
Figure 13: Containers used for water collection in households



Responses from FGD participants revealed that the buckets and jerry cans for fetching and storing of water have enabled them to access safe water for drinking, cooking and personal hygiene.

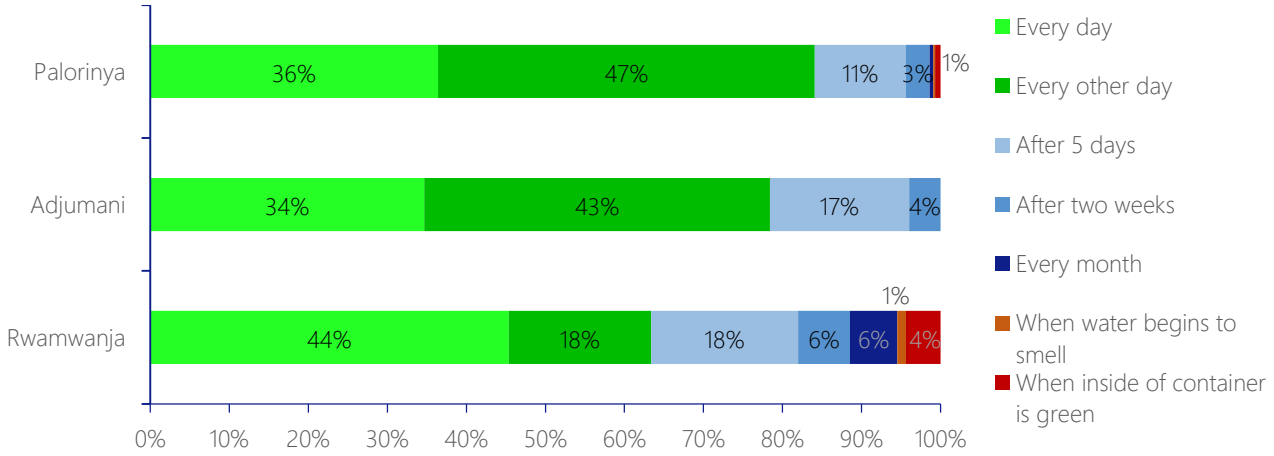
Drinking water storage in the beneficiary households was also found to be high as evidenced by the number of respondents that possessed either a jerry can, a bucket or pot for water storage. Aggregate percentage on possession of drinking water storage (pots, jerry cans and buckets) were 99% in Rwamwanja, 97% in Adjumani and 98% in Palorinya (figure 14).

Figure 14: Drinking water storage in the house



According to the end line WASH KAP survey, majority of target respondents in the three settlements wash their water storage containers regularly with 83% in Palorinya confirming to be washing their water storage facilities every other day (at least once every 5 days), 77% in Adjumani and 62% in Rwamwanja (figure 15). This was attributed to the sensitisation campaigns conducted in target locations, especially Palorinya and Adjumani where massive sensitisation was conducted in all the project sites.

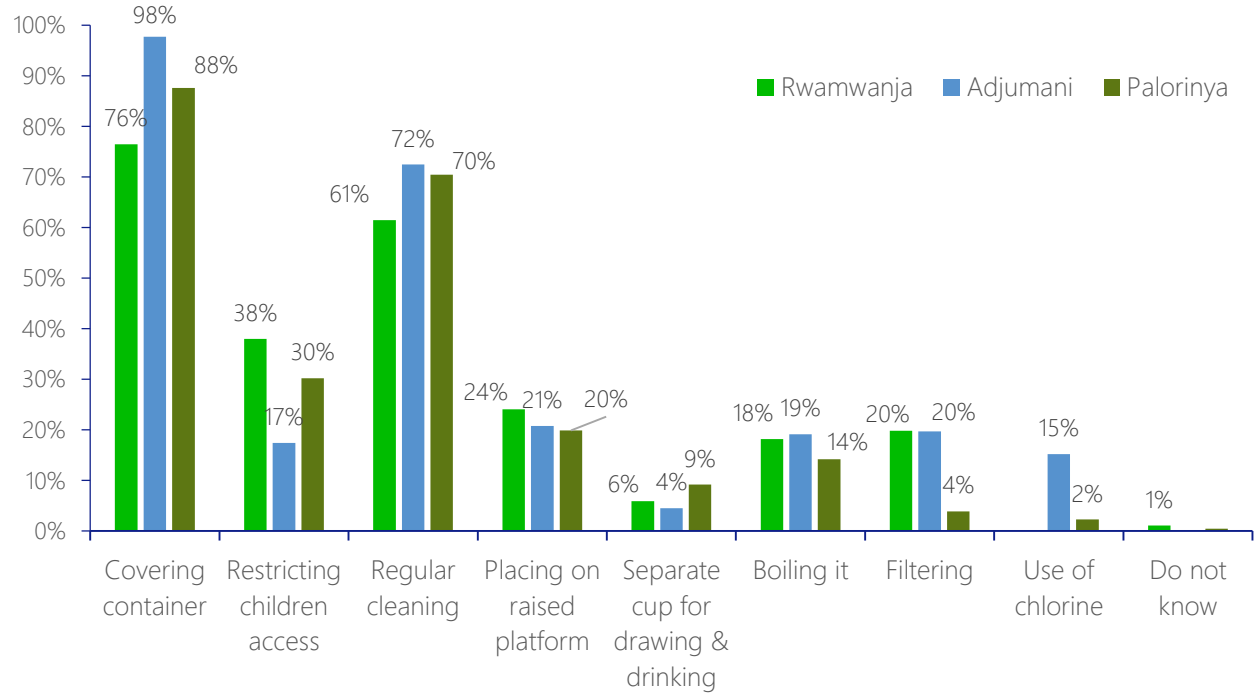
Figure 15: Frequency of washing drinking water storage containers



As regards practices to ensure that drinking water remains safe, majority of the beneficiaries mentioned that they cover the drinking water storage containers (76% in Rwamwanja, 98% in Adjumani and 88% in Palorinya) while a big percentage indicated that they regularly clean their water storage containers (61% in Rwamwanja, 72% in Adjumani and 70% in Palorinya (figure 16). This is as well attributable to the sensitisation campaigns conducted by the LWF ECHO project in Palorinya and Adjumani. It is noteworthy that a small percentage of respondents (18% in

Rwamwanja, 19% in Adjumani and 14% in Palorinya) reported boiling water as a practice they use to make water safe before drinking, which implies that future projects have to increase sensitisation about boiling of water and also support PSN households in obtaining the required energy sources such as firewood or charcoal for boiling water for drinking.

Figure 16: What is done to ensure that the water in the containers in the house remain safe

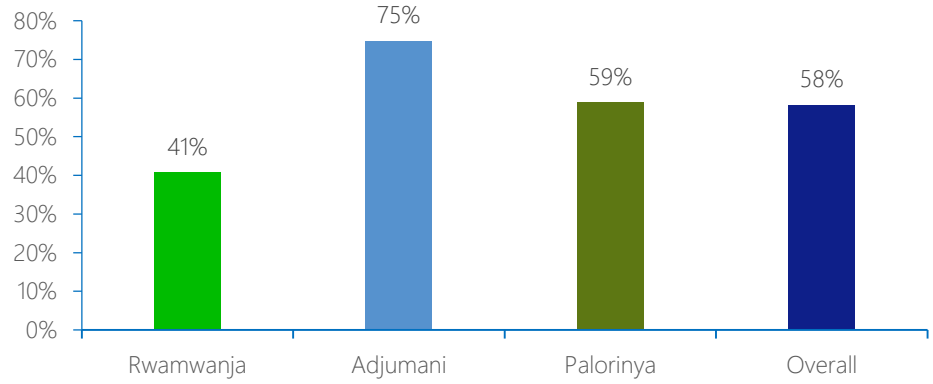


5.2.4 Sanitation Facilities

Availability of Latrine

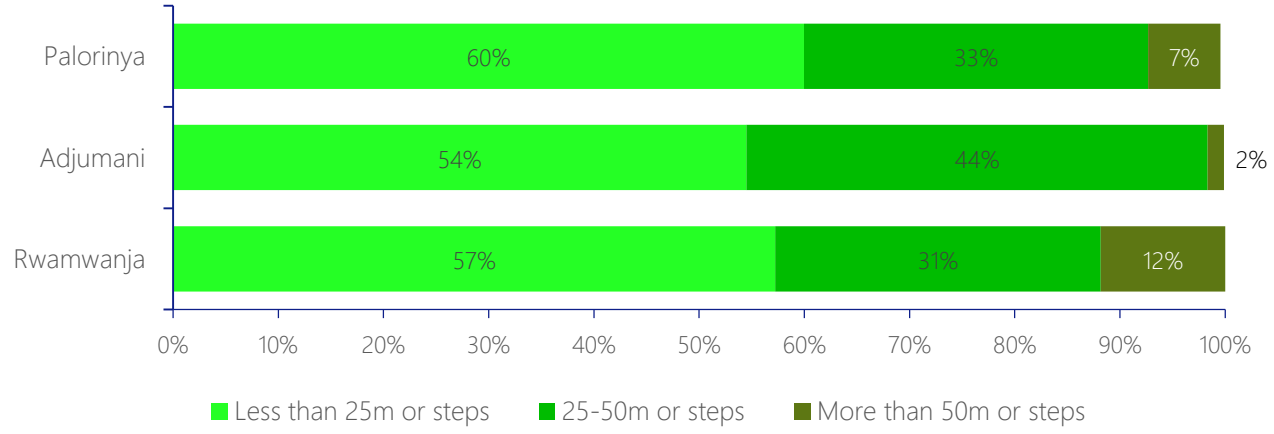
Results of the LWF WASH survey conducted in October 2016 revealed that latrine coverage is less than 40% in Pagirinya and less than 5% in Agojo. Data from the end line survey conducted in August 2017 shows that 75% of the beneficiaries from Adjumani (Pagirinya and Agojo), 41% from Rwamwanja and 59% from Palorinya have latrines complete with slab, wall, roof and door, giving an overall percentage of 58% latrine coverage for all project areas (figure 17). The endline WASH KAP survey further revealed that 68% of beneficiaries in Pagirinya and 79% in Agojo have latrines complete with slab, wall, roof and door. The higher latrine coverage in Agojo compared to Pagirinya could be attributed to latrine construction activities conducted in Agojo where latrines were constructed for 45 PSN households and 145 non-PSN households received materials for latrine construction, as opposed to Pagirinya where only massive sensitisation about WASH practices was conducted. In view of the results of the October 2016 WASH survey, only 8.2% of refugees in Palorinya and an average of 51.2% in Adjumani (Pagirinya, Agojo) had access to safe and clean sanitation facilities. It is therefore justifiable, to attribute the increase in latrine coverage to the LWF ECHO project activities in Adjumani (Pagirinya, Agojo) and Palorinya.

Figure 17: Percentage of household with a latrine complete with slab, walls, roof and door



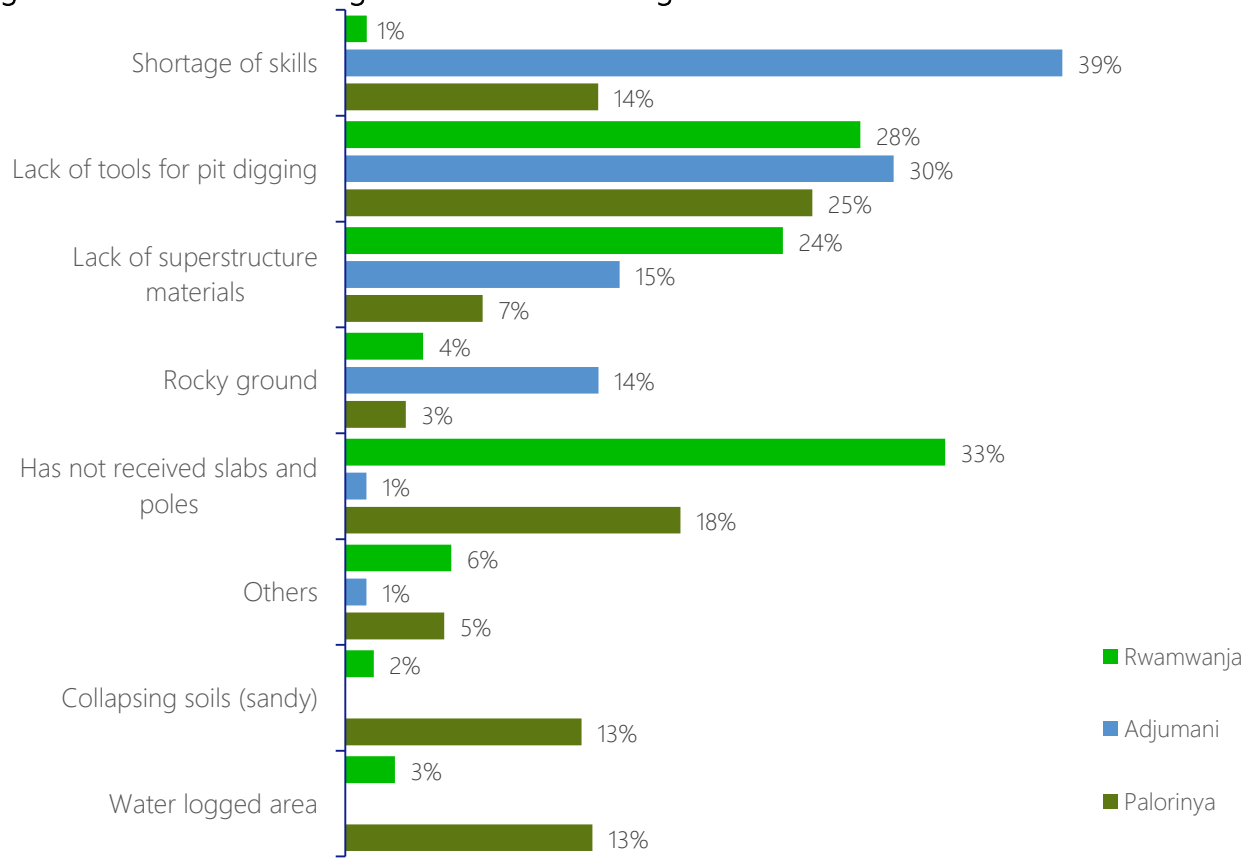
Majority of the beneficiaries cover a distance of less than 25m or steps to reach the latrines. This is demonstrated by 60%, 54%, and 57% of the beneficiaries from Palorinya, Adjumani and Rwamwanja respectively (figure 18). Furthermore, 33%, 44% and 31% cover a reasonable distance of 25-50m or steps to latrines. However, a few respondents; 7%, 2%, and 12% from Palorinya, Adjumani and Rwamwanja respectively reported to cover more than 50m or steps to their nearest latrine. This is an indication that they are either using communal or neighbours' latrines and thus need support to have latrines closer to their houses which will result in improved sanitation and hygiene, this is true for mainly Rwamwanja that reported a higher percentage.

Figure 18: Distance to the nearest latrine from homes



Across the respondents who did not have a latrine (balance of 59% in Rwamwanja, 25% in Adjumani, 41% in Palorinya, figure 17 above), the endline WASH KAP survey established that the main reasons for not constructing a latrine include; shortage of skills, lack of tools for pit digging, lack of super structure materials, etc. as shown in figure 19 below. Shortage of skills was reported by only 1% of the respondents in Rwamwanja, 39% in Adjumani and 14% in Palorinya, while lack of tools for pit digging was reported by 28% of the respondents in Rwamwanja, 30% in Adjumani and 25% in Palorinya. The small number of respondents reporting shortage of skills in Rwamwanja is attributable to the training of 321 members (from 23 groups) in making of slabs, bricks, latrine and shelter construction who could have passed on the knowledge to others and/or the community is aware of the presence of skills among them. This implies that future projects need to impart knowledge and skills on making of slabs, bricks, latrine and shelter construction in places like Pagirinya and Palorinya and provide tools for pit digging in order to further contribute to improved sanitation and hygiene in the project target areas.

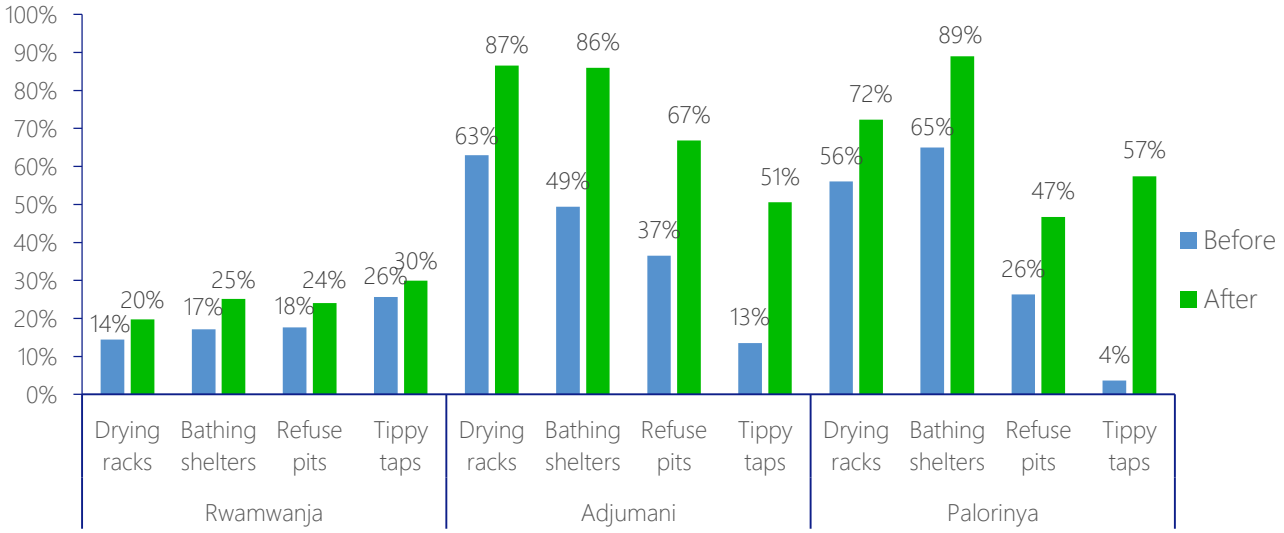
Figure 19: Reasons or challenges for NOT constructing a latrine



Others include; Beliefs/cultural/taboo, taboo to defecate in the latrine, latrine smell, loss of fetus into latrine, operation and maintenance, problem of termites, and concerns about what to do when latrine is full

Results show that the percentage of households having sanitary facilities such as; bathing shelters, refuse pits, and tippy taps increased following the implementation of LWF ECHO project interventions (Figure 20). This was mainly true in Adjumani and Palorinya where on average, more than 20% of the households adopted each of the mentioned sanitation facilities. It should be noted that hygiene sensitisation, latrine construction and water supply interventions were only don in Palorinya and Adjumani, thus the low adoption in Rwamwanja.

Figure 20: Percentage of households having sanitation facilities before and after LWF ECHO project

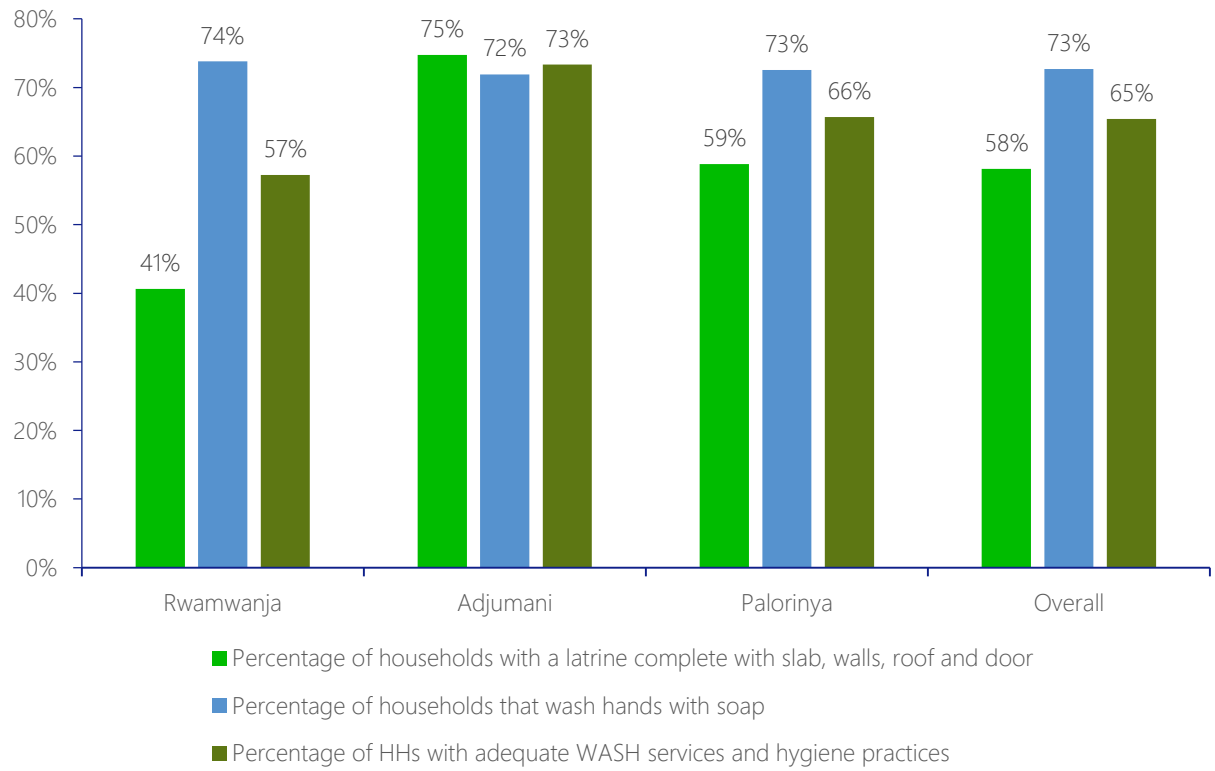


5.2.5 Hygiene and Environment Practices

Indicator No. 7: Percentage of target population with adequate WASH services and hygiene practices

In order to measure the percentage of beneficiaries with adequate WASH services and hygiene practices, the study adopted a composite indicator to measure the percentage of beneficiaries that wash their hands with soap (with appropriate hand washing behaviour) and the percentage of beneficiaries that have a latrine complete with slab, walls, roof and door. The resulting value was recorded as the endline value for this indicator. Results in figure 21 below therefore indicate that overall, 65% of the beneficiaries have adequate WASH services and hygiene practices (57% in Rwamwanja, 73% in Adjumani and 66% in Palorinya). This was derived as follows; for 57% of the beneficiaries in Rwamwanja, 41% were respondents with latrines while 74% were respondents who confirmed to wash their hands with soap. The corresponding results for the remaining settlements were; 73% for Adjumani (75% with latrine, 72% wash hands), and 66% for Palorinya (59% with latrine, 73% wash hands).

Figure 21: Percentage of households with adequate WASH services and hygiene practices

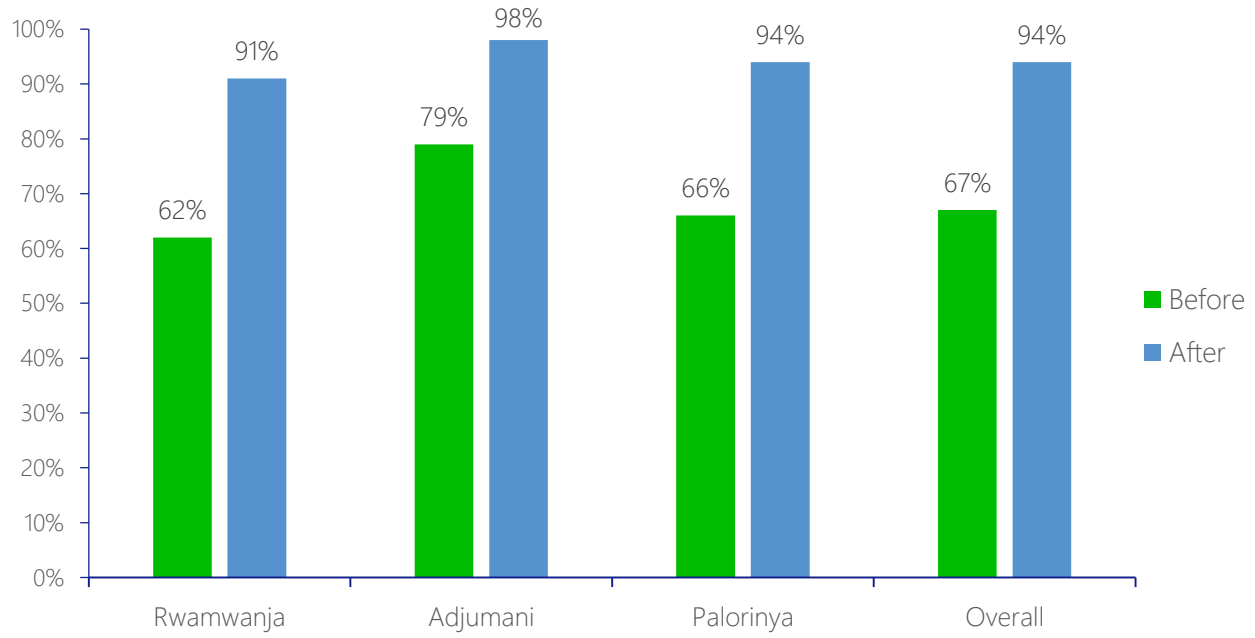


Qualitative results from the study indicated that the target population in Adjumani and Palorinya received hygiene and sanitation messages on how to regularly sweep the compound, keep utensils and jerry cans clean, having rubbish pits, covering the prepared food, avoiding eating cold food, wash clothes regularly, washing hands after and before eating food and after visiting the latrine which changed their level of hygiene in the settlement. The most adopted hygiene practices include; drinking boiled water, sweeping the compound, proper rubbish and waste disposal, and cleaning the compound, utensils, latrine, bathroom and shelters.

Use of Latrines

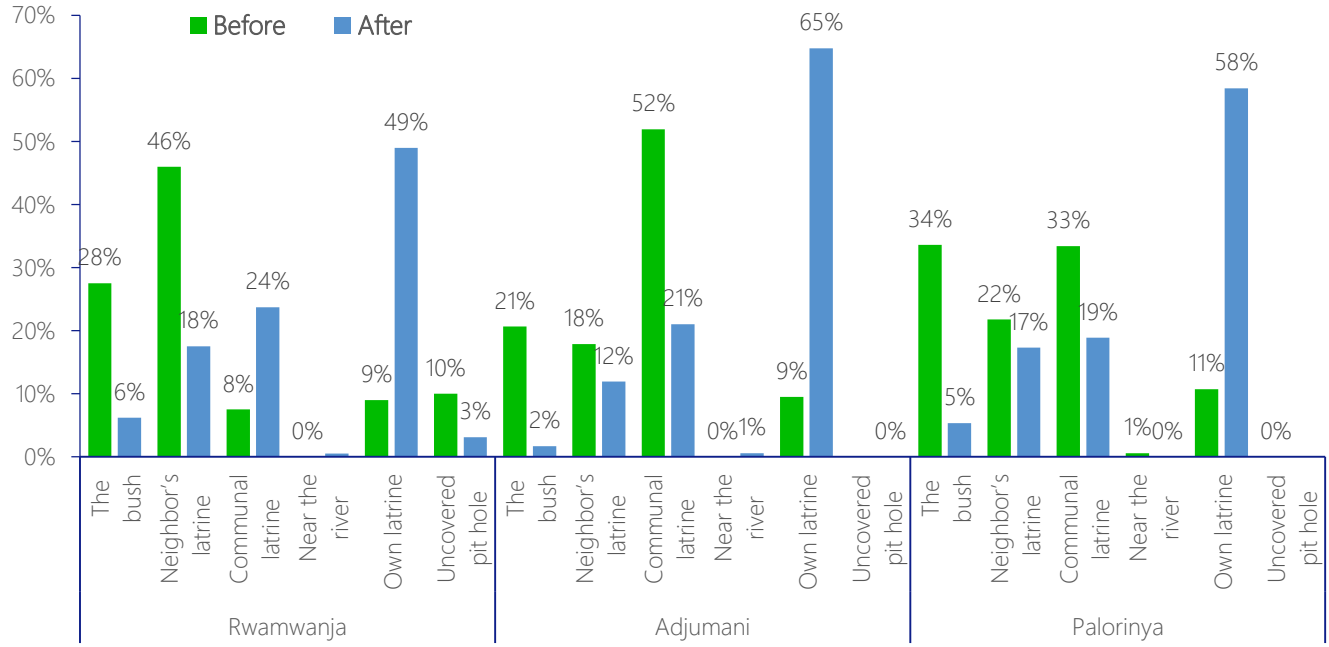
A needs assessment conducted in Adjumani and Palorinya prior to implementation of the LWF-ECHO project, had shown that 77.3% of refugees in Adjumani and only 7% of the refugees in Palorinya were using a pit latrine. During the endline survey, refugees were asked to indicate where they defecated before the LWF-ECHO and now after its implementation. 62% of the refugees in Rwamwanja, 79% in Adjumani and 66% in Palorinya indicated that they were using a latrine before the LWF-ECHO project (figure 22). Use of latrines has now (after the LWF-ECHO project) significantly increased as 91%, 98% and 94% of the refugees in Rwamwanja, Adjumani and Palorinya indicated that they use a latrine. This improvement is attributed to the massive sensitisations conducted across the project areas, construction of latrines for PSNs and provision of materials to other refugee households to construct their own latrines. The training of youth groups in making of bricks, latrine slabs and latrine construction as also facilitated this increase in latrine usage.

Figure 22: Use of latrines before and after ECHO Project across the settlements



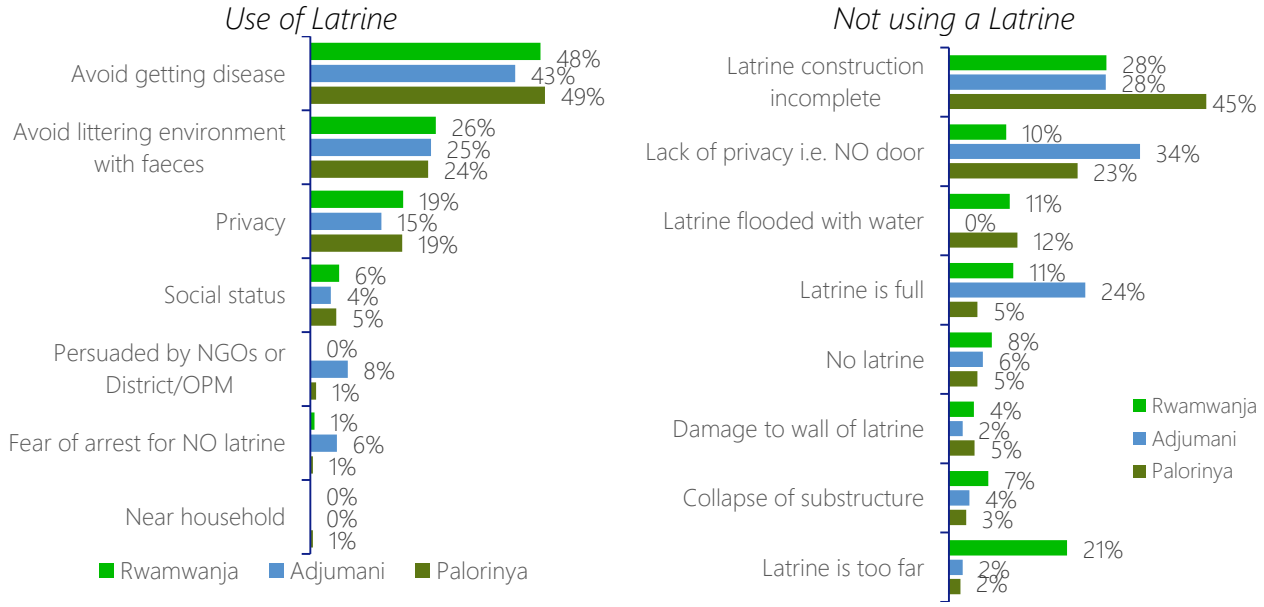
Endline results also show that before the project implementation; 49% of the people in Rwamwanja, 18% in Adjumani and 22% in Palorinya were defecating in their neighbours' latrine; 28%, 21% and 34% respectively were defecating in the bush; while 8%, 52% and 33% in Rwamwanja, Adjumani and Palorinya were using communal latrines (figure 23). Following the project interventions, there has been a reduction in use of neighbours' latrines, open defecation (use of the bush) and use of communal latrines and thus an increase in use of own latrines as reported by 49%, 65% and 58% of the respondents in Rwamwanja, Adjumani and Palorinya.

Figure 23: Places of defecation before and after the ECHO WASH project



Respondents to the endline WASH KAP survey that were using latrines identified the major reasons for using latrines such as; avoiding getting diseases, avoiding littering the environment with faeces and privacy (figure 24), thanks to the LWF-ECHO project's sensitisation and awareness campaigns conducted across the settlements. On the contrary, those who were not using latrines mentioned the following reasons in order of prominence; latrine construction was incomplete, lack of privacy (latrine had NO door), latrine was flooded with water, latrine was full, had no latrine, latrine was too far, collapse of substructure, and damage to walls of the latrine. Noteworthy are the respondents who indicated; lack of privacy (34% in Adjumani, 23% in Palorinya), that latrines were full (24% in Adjumani), and latrine was too far (21% in Rwamwanja). Therefore, subsequent ECHO projects in these areas need to focus on addressing these issues so as to have further improvements in sanitation and hygiene practices. The high prevalence of incomplete latrine construction raises a huge safety concern if the pits are not covered early enough.

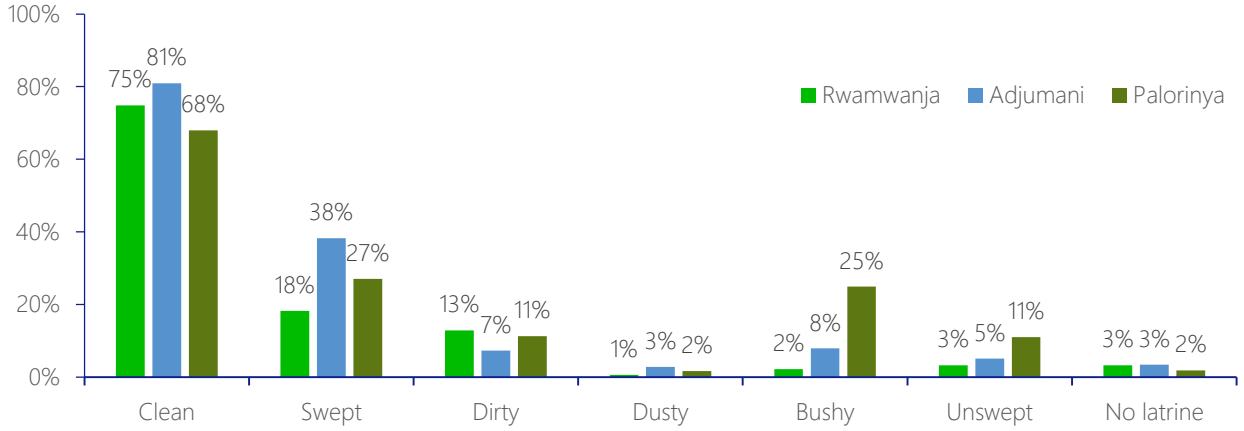
Figure 24: Reasons for using a Latrine Vs. Reasons for not using a Latrine



Cleanliness of latrines

As regards general cleanliness of the latrines, 75%, 81% and 68% of the latrines observed in Rwamwanja, Adjumani and Palorinya were found clean, while others were found swept with only a few that were found dirty; 13%, 7% and 11% respectively (figure 25).

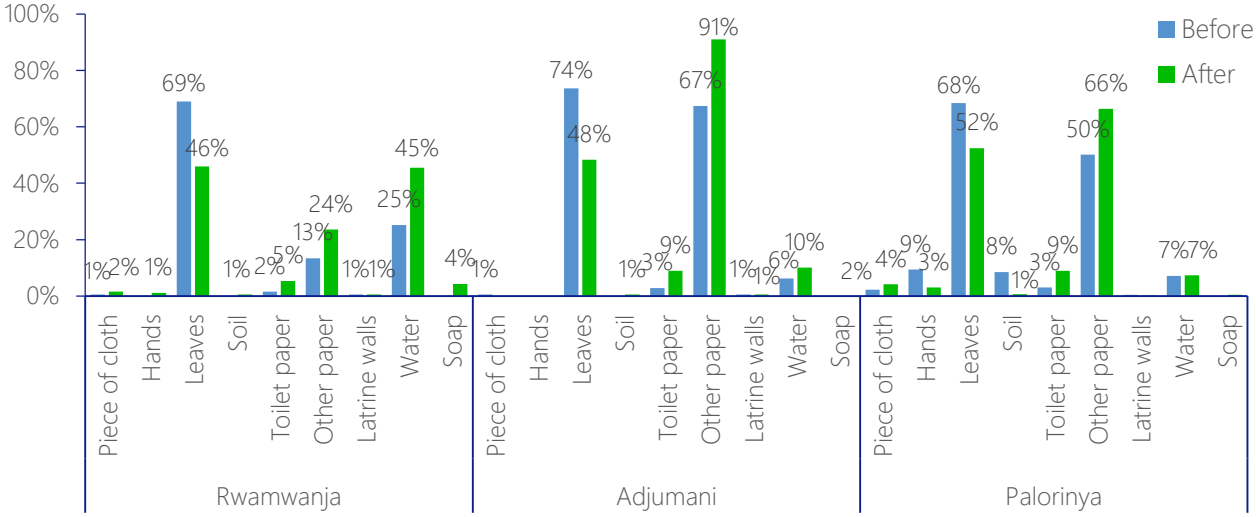
Figure 25: General cleanliness of the latrine and the surrounding area



Anal Cleansing

Results on anal cleansing practices show a great reduction in the number of respondents using leaves across the three settlements; however, use of leaves is still high with 46%, 48% and 52% in Rwamwanja, Adjumani and Palorinya still using them (figure 26).

Figure 26: Anal cleansing practices before and after the ECHO WASH project.

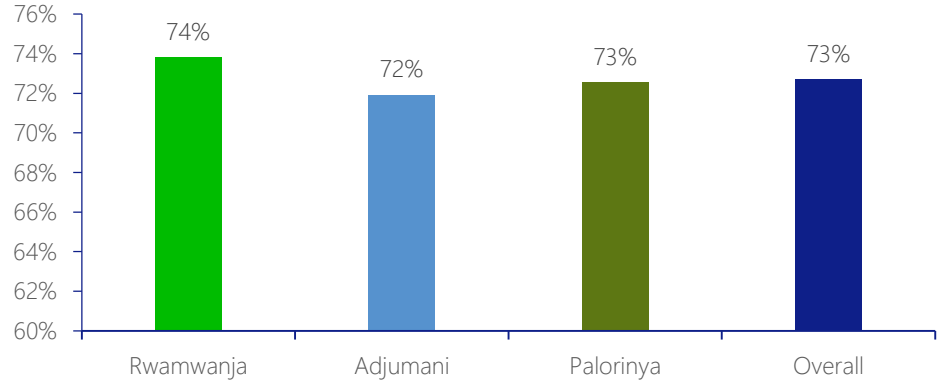


Hand Washing Behaviours

Results of the October 2016 WASH KAP survey indicated that in Adjumani and Palorinya respectively, 52.2% and 46% of beneficiaries reported washing their hands after using toilets and before food preparation. Results from the endline survey show that 74% of the respondents from Rwamwanja wash their hands, 72% from Adjumani and 73% in Palorinya, thus an increase of 20 and 27 percentage points in Adjumani and Palorinya respectively and this is attributed to the massive sensitisations conducted in these two locations (figure 27). Hand washing is the cheapest and simplest way to decrease incidence of water related diseases and is the best practice that any person should have knowledge of. In view of the fact that the dangerous behaviour of not washing hands is still prevalent in more than one quarter of the target population across the

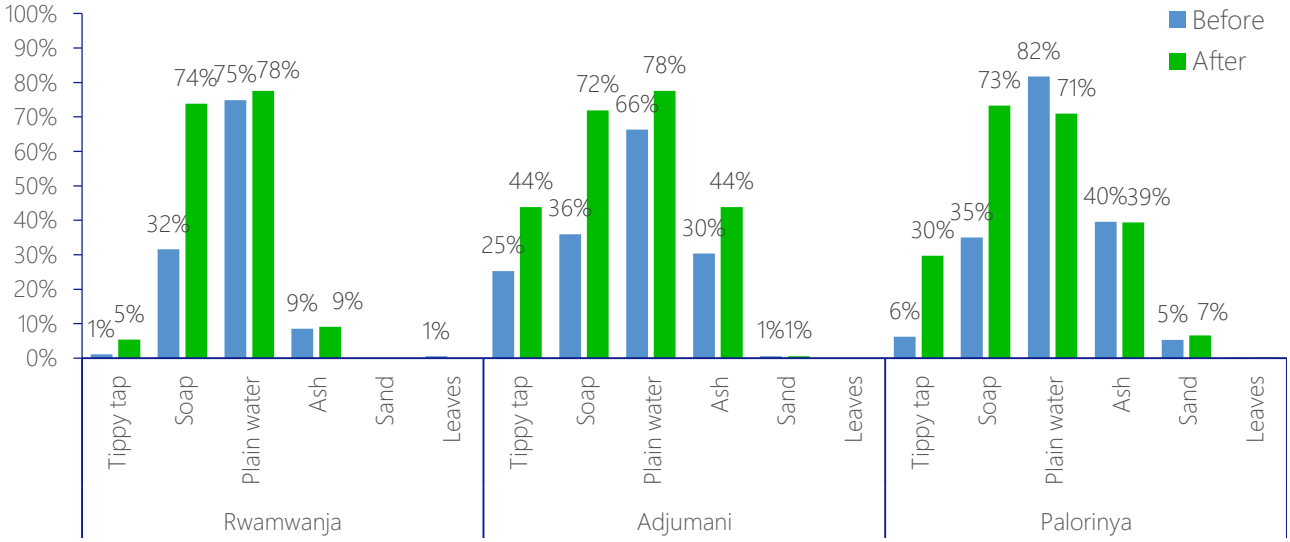
three project areas, future project need to continue sensitising the communities in order to have further improvements in this area so as to reduce the risk of disease spread.

Figure 27: Percentage of respondents who wash hands



Hand washing with soap is a critical practice and reduces the risk of contamination especially before food preparation, after eating food, and after visiting the toilet. Results in figure 28 below indicate a remarkable increase in number of respondents that indicated use of soap during hand washing from 32% to 74% in Rwamwanja, 36% to 72% in Adjumani and 35% to 73% in Palorinya (figure 28). However, with one quarter of the target population not having proper hand washing practices (hand washing with soap), the risk of disease spread is still prevalent in the target communities at large. Therefore, future projects need to address this risk through continued sensitisation and support with hand wash materials such as soap.

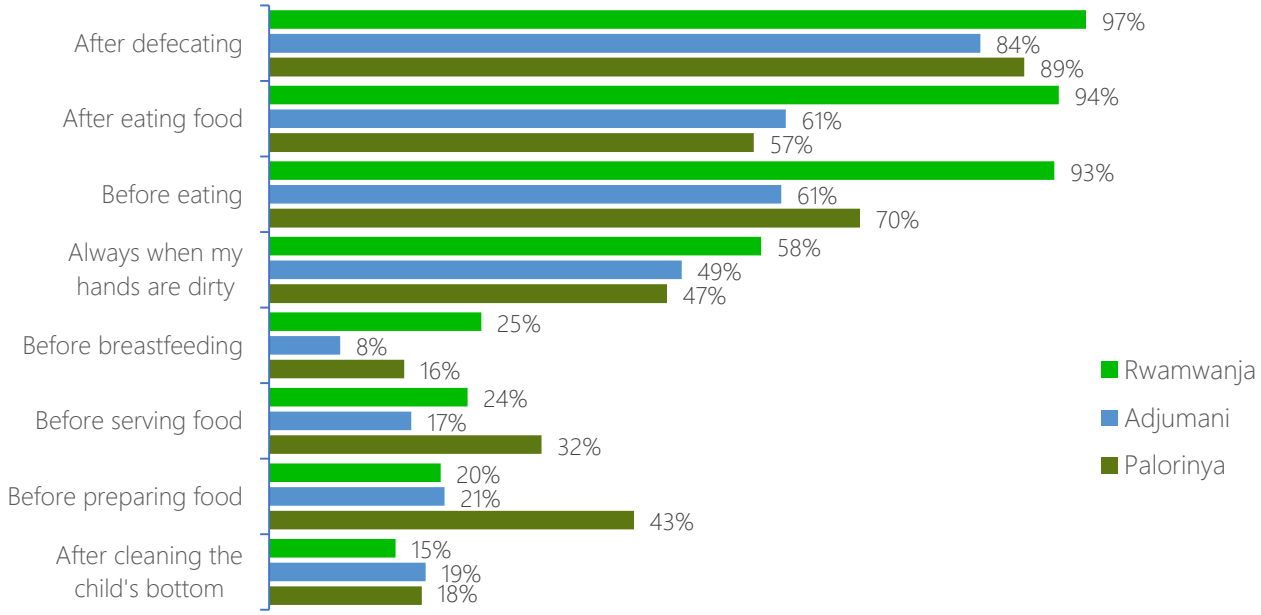
Figure 28: Hand washing practices before and after the ECHO WASH project



Respondents showed good knowledge of the critical times for washing hands especially in Rwamwanja, where 97% mentioned 'after defecating', 94% mentioned 'after eating food' and 93% 'before eating'. Knowledge of the need to wash hands 'after defecating' was high across all settlements with 84% of the respondent in Adjumani and 89% in Palorinya also mentioning it (figure 29). However, lower percentages were reported in Adjumani and Palorinya on the critical times of 'after eating food' with 61% and 57% and 'before eating' 61% and 70% in Adjumani and Palorinya, thus a need for continued sensitisation in subsequent projects. It is worth noting that some of the target population in Rwamwanja has been sensitized and provided with WASH

facilities under different programs since 2013, this explains the availability of knowledge on sanitation and hygiene practices among the respondents.

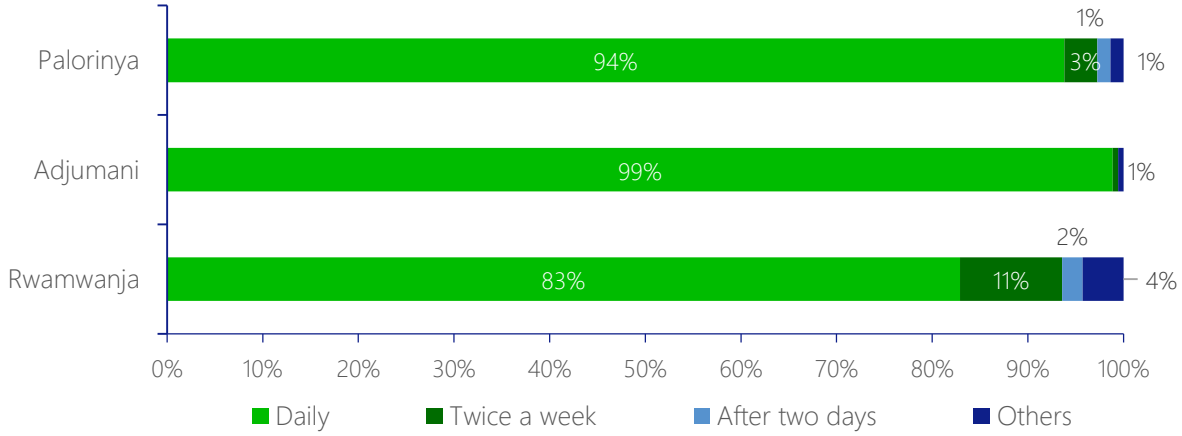
Figure 29: Right times for washing hands



Bathing Practices

In the end line survey, possibly thanks to the sensitisation of communities, increased availability of water in the settlements, and bath shelters provided by the project; bathing frequency on a daily basis is high with 94% of the respondents from Palorinya taking a bath daily and 99% from Adjumani. In Rwamwanja where no sensitisation on hygiene was conducted, 83% of the respondents take a bath daily while 11% take a bath twice a week compared to only 3% in Palorinya and none in Adjumani, thus improved hygiene practices among the target beneficiaries (figure 30).

Figure 30: Frequency of bathing

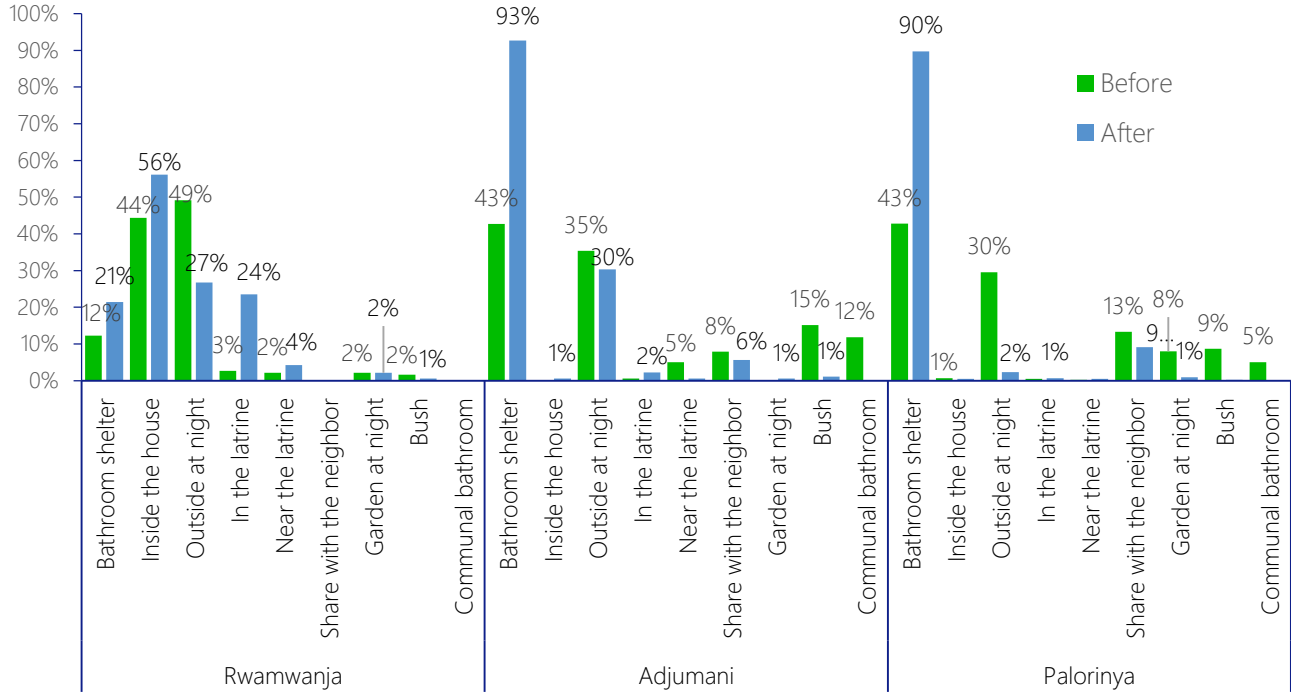


Others include; After doing heavy work, after sex, when my body begins to smell, and during my period

Endline survey results further indicate a remarkable increase in the percentage of target population bathing from bathroom shelters in Adjumani (93%, 50 percentage points increase when compared to situation before the project) and Palorinya (90%, 47 percentage points increase) compared to only 56% (12 percentage points increase) in Rwamwanja. This is evidence

of project efforts towards bath room shelter construction and continued sensitization to increase privacy and overcome protection risks for women and female youth. However, subsequent projects need to support construction of bath shelters especially in Rwamwanja.

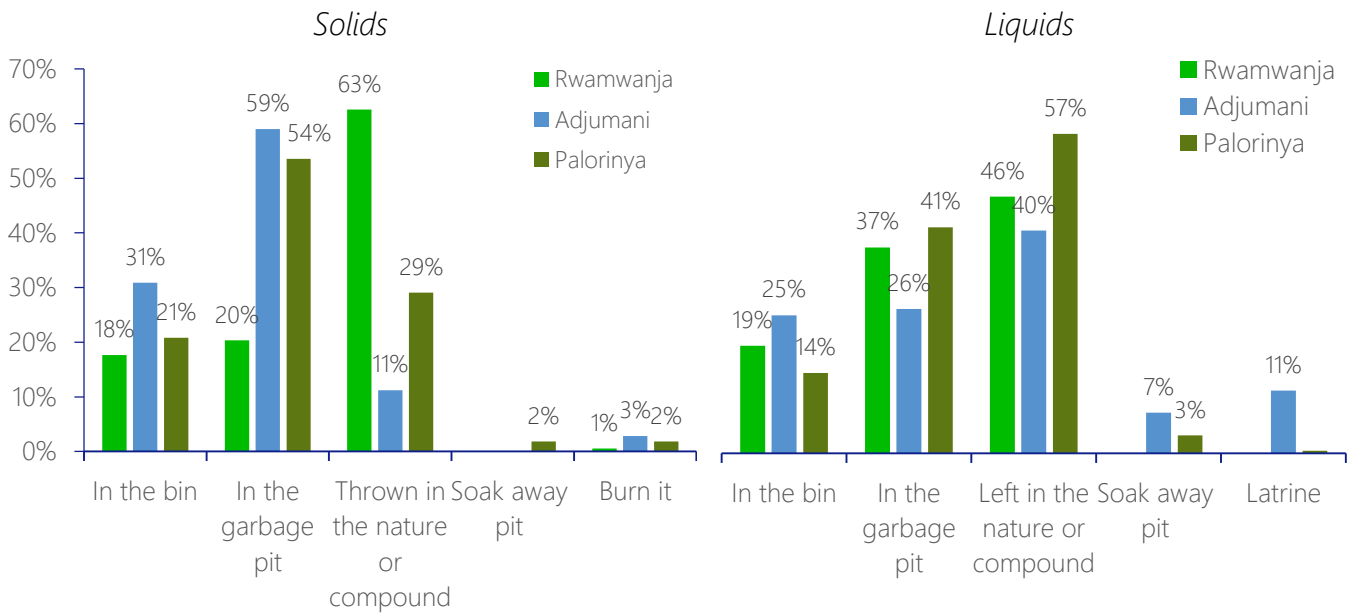
Figure 31: Bathing practices before and after the ECHO project



Waste Disposal

From the end line survey, it emerged that 59% of the respondents from Adjumani, 20% from Rwamwanja and 54% from Palorinya dispose the solid waste in the garbage pit. Since the majority dispose in garbage pit, some also dispose in bins whereas others throw in the nature or compound, especially in Rwamwanja with 63%. Very few burn it or even use soak away pits as demonstrated in the figure 32 below. Correspondingly, majority of respondents reported that they leave their liquid waste in nature or compound, that is 46%, 40% and 57% from Rwamwanja, Adjumani and Palorinya respectively. The other methods of disposal opted for include the use of garbage pits with 37% respondents from Rwamwanja, 26% in Adjumani and 41% in Palorinya. Future projects therefore need to continue and sensitize the target population about proper waste disposal practices. The low level of proper waste disposal in Rwamwanja was attributed to the limited number of garbage pits, lack of community sensitisation about waste management, and the lack of a ready market for plastics that has discouraged the waste management committees from actively embarking on sorting of waste, which would have resulted in proper waste disposal.

Figure 32: Disposal of household waste (solids and liquids)



5.3 Efficiency

The study evaluated the ECHO project's ability to deliver its goal and outcomes using means that are widely accepted through local and international standards and guidelines, and how the intervention made effective use of time and resources to achieve the desired results. This was achieved by assessing the evolution of the situation in water supply, sanitation facilities, shelter and livelihoods activities between the initial needs assessment, the baseline survey, and the endline survey or evaluation.

5.3.1 Contribution to security, safety, health and well-being of target beneficiaries

In line with the SPHERE Shelter and settlement standards on 'Covered living space' and 'Construction', the LWF ECHO project built new shelters, provided appropriate construction materials, tools and fixings, cash or vouchers to PSN households, trained youth groups (who did not have the capacity or expertise to undertake construction activities) in making of latrine bricks and slabs, and construction of latrines and shelters conforming to UNHCR minimum design standards. The shelters constructed had a roof cover of 18 iron sheets and measured 4.5m by 6.5m (approx. 29m^2, a covered floor area of at least 6m^2 based on the household size of 4.8 members, table 1) while the latrines had a roof cover of 2 iron sheets and were 4 metres deep. The shelters therefore met the minimum covered floor area per person of 3.5m^2.

The use of youth men and women in the construction of shelters, ensured involvement of the affected population and provided them with local livelihood opportunities. Each shelter fully complete with doors and windows was constructed at a reasonable labour cost of Ugx 500,000 (approx. $15) and a latrine was constructed at a reasonable labour cost of Ugx 80,000 (approx. $2.5). Eight (8) groups (15 members each) constructed a total of 142 latrines during the period January 2017 to June 2017 and earned a total of Ugx 24,310,000 (approx. $6,946, per capita income of $53.4), while 17 groups (10 - 15 members) constructed a total of 145 shelters, earning a total of Ugx 120,333,700 (approx. $34,381, per capita income of $152.1) during the same period. This demonstrated that the project used available resources in the most economical manner to achieve its objectives. The key challenge faced during the construction of latrines was that the concrete slabs were very heavy, which made some pits collapse and also posed a logistical challenge of moving them from the manufacturing sites to the target beneficiaries. As a result, the project later introduced plastic slabs to replace the concrete slabs, although these were quite expensive.

5.3.2 Significant improvement in access to clean water

The right to water and sanitation is inextricably related to other human rights and as such, it is part of the guarantees essential for human survival. In order to fulfill the right to water and reduce the transmission of faecal-oral diseases and exposure to disease-bearing vectors, the LWF-ECHO project improved access to clean water and promoted good hygiene practices. Endline WASH KAP survey results demonstrate that the project contributed to target populations having safe and equitable access to sufficient quality water for drinking, cooking and personal and domestic hygiene given that 79% of the respondents indicated that they have sufficient water to cover for all their household needs. The project also ensured that the people have adequate facilities to collect, store and use sufficient quantities of water for drinking, cooking and personal hygiene through provision of jerry cans and buckets for water collection and storage. The percentage of households having sanitary facilities such as; bathing shelters, refuse pits, and tippy taps increased following the implementation of LWF ECHO project interventions by 5 – 10 percentage points

when compared to the situation before the project (Figure 20). Endline data also shows an improvement in access to water in the project areas as 33% of the respondents in Palorinya, 49% in Adjumani and 33% in Rwamwanja cover 100m or less to access their water source. This indicator translates into amount of time saved, reduced burden of women in collecting water as well as increased time for economic use at a household level.

5.4 Impact

The project was implemented for a period of 15 months from 1st April 2016 to 30th June 2017 and the impact from some of the interventions by the project would ordinarily not be quickly realized over such a short period. However, due to the implementation of a number of interventions that included; shelter and latrine construction, environmentally friendly industries, waste management, and IGAs in Rwamwanja; and latrine and shelter construction as well as WASH interventions (construction of boreholes, communal latrines, communal rubbish places, community sensitisations on proper personal hygiene and sanitation) in Adjumani and Palorinya, the project has made a positive impact through improving both the health status and standards of livings of both refugees and host communities and will realise continued benefits in future.

5.4.1 Change in living conditions caused by the program activities

Quantitative results from the study showed that 97% of the target group members are engaged in trade of goods and services, while 85% are now generating income from small businesses of their choice which are key impacts of the LWF-ECHO project. Review of the project documents also revealed the following; 36 out of 42 of targeted group members (of at least 50% women) generating income from at least one of the 3Rs following the training, 17 groups (25 members each with at least 10% women) generating income from the sale of bricks and the construction of shelters and 11 groups (25 members each with at least 10% women) generating income from the sale of slabs and the construction of latrines. Review of project documents showed that all youth, men and women in groups (100%) are earning income from the businesses they established under the project and some have used their income to diversify their businesses to other activities like poultry, retail and catering businesses.

Qualitative results from the endline survey indicate that the living conditions of the target population improved as a result of the LWF-ECHO project interventions. The most remarkable improvements include:

- ✓ Respondents were living in shelters with roofs made of iron sheets as opposed to the old shelters with worn-out tarpaulins that had started to leak. According to FGD participants, the current shelters have enabled them to store their crops after harvest.
- ✓ At least two youth individuals in groups have opened up retail shops selling female and male clothes, while others now participate in sale of goods and services, transport and boda boda.
- ✓ A visit to individual youth in groups that received solar panels revealed that they are now able to work at night due to presence of light around their business premises; these were running petty trade businesses, selling food items and snacks, and tailoring using solar powered machines.
- ✓ One of the groups setup under the project, Kesheni women group in Kihuura, Rwamwanja is now able to do business against the mindset of male dominancy, selling of produce such as maize and peas. Their husbands are now used to them doing income generating activities.

- ✓ Another group called Rwencwera comprising men and women have been making group savings and now plan to start-up a catering business. Using their savings, they have so far bought energy saving stoves, big saucepans and plates. As their business expands, they expect to create jobs for other youth who will be employed as casual labourers and this will mean a spill over effect of the benefits of the LWF-ECHO project to other community members.
- ✓ As a result of the LWF-ECHO project, 20 idea winning groups were supported to start-up their businesses that include; dairy farming, fish farming, produce selling, bull fattening, and bee keeping. Out of these groups, 4 groups dealing in fish farming and produce selling demonstrated capacity and provided goods in market fairs organised for PSN households. Other groups are also on the path to provide goods and services in the communities, as revealed by the project staff interviewed.
- ✓ Making of energy saving stove has changed the standards of living of many youth as revealed by key informants. Those who were trained in stove making are now generating income and are also training other youth who missed out during the project interventions. There is market for stoves in the settlement hence they are able earn income for a better living.
- ✓ Endline survey results indicated that 96% of the respondents who engaged in income generating activities reported an evolution in income patterns and/or household assets which is a good indicator of improvement in the living conditions of the project beneficiaries.

5.4.2 Satisfaction with shelter and latrine construction

Most of the PSN households visited during the endline survey were contented with the shelters and latrines that were constructed for them as this has resulted in improved standard of living because they now feel safe, secure and can practice proper sanitation and hygiene.

The general living conditions of the refugees in the target locations have improved according to the discussions with FGD participants as a result of; the construction of PSN shelters and latrines which improved their living conditions, awareness creation on sanitation and personal hygiene, the safe water chains which improved the health status of refugees, and the construction of bore holes in different locations of the settlement which secured refugees with safe and clean water for drinking, cooking and washing.

However, some FGD respondents noted that the living condition of the people in other parts of the settlements not reached by the project have worsened due to; insufficient supply of water, delays in food supply, lack of firewood and poor medical services.

5.4.3 Project intervention resulting into availability of safe water for drinking, cooking and personal hygiene

Following implementation of the LWF-ECHO project, the endline survey results show that very few target beneficiaries are now using unprotected water sources (only 3% were using unprotected springs and 5% were using streams or river in Rwamwanja and none in Adjumani and Palorinya, figure 10), thus a very strong impact of the project.

The project intervention worked in reducing the travelling distance between households and water source points since more hand pump boreholes were constructed in the different areas of the settlements, 62% of the respondents from Rwamwanja, 53% from Adjumani and 57% from Palorinya reported to be collecting/fetching water from hand pump boreholes (figure 10). Responses from FGD participants also indicated that the target population is in position to get sufficient water for drinking, cooking and personal hygiene from the constructed boreholes as well

as from the water trucking tank that have been in position to avail sufficient water for the community which supported them in cleaning the utensils, clothes, and sometimes for irrigation of small gardens at their homes. The provision of buckets and jerry cans for fetching and storing of water has also promoted availability of safe water for drinking, cooking and personal hygiene. Data from the field survey show that 79% of households are able to get safe water for all household needs.

5.4.4 Increased knowledge in sanitation and hygiene

Improved access to sanitation and decrease in open defecation are among some of the most important factors which influence reduction of water born-diseases. Endline results show that before the project implementation; 49% of the people in Rwamwanja, 18% in Adjumani and 22% in Palorinya were defecating in their neighbours' latrine; 8%, 52% and 33% respectively were using communal latrines; while 28%, 21% and 34% respectively were defecating in the bush (figure 23). The project efforts to have an environment free from human faeces through provision of adequate, appropriate and acceptable toilet facilities as well as sensitisation resulted in increased ownership and use of own latrines as reported by 49%, 65% and 58% of the respondents in Rwamwanja, Adjumani and Palorinya (prior to project implements 9%, 9% and 11% respectively used own latrines). The use of own latrines has a strong impact on sanitation and hygiene due to ease of maintenance of household latrines and improved protection and privacy of women and girls. Defecation in the bush (open defecation) also reduced to 6%, 2% and 5% respectively. However, the practice of open defecation is still present in the project areas and therefore it's important that LWF and ECHO continue intervening to promote improved sanitation.

Respondents Knowledge on Sanitation and Hygiene

Results in Figures 33 to 37 demonstrate the respondents' knowledge on sanitation and hygiene practices. 73% of the respondents overall confirmed to have received sensitizations and trainings on personal hygiene and sanitation practices. Noteworthy is the high rate of sensitization 94% and 74% in Adjumani and Palorinya respectively which did not result in corresponding levels of knowledge among respondents on hygiene and sanitation practices when compare to results from Rwamwanja where only 50% of the respondents confirmed to have received sensitisation as demonstrated in figures 35 to 37 below. This was attributed to the fact that Palorinya, Agojo and Pagirinya are hosting new arrivals from June 2016, while some of the refugees in Rwamwanja have benefited from WASH sensitisations since 2013.

Figure 33: Percentage of respondents who have ever received sensitization on hygiene and sanitation practices.

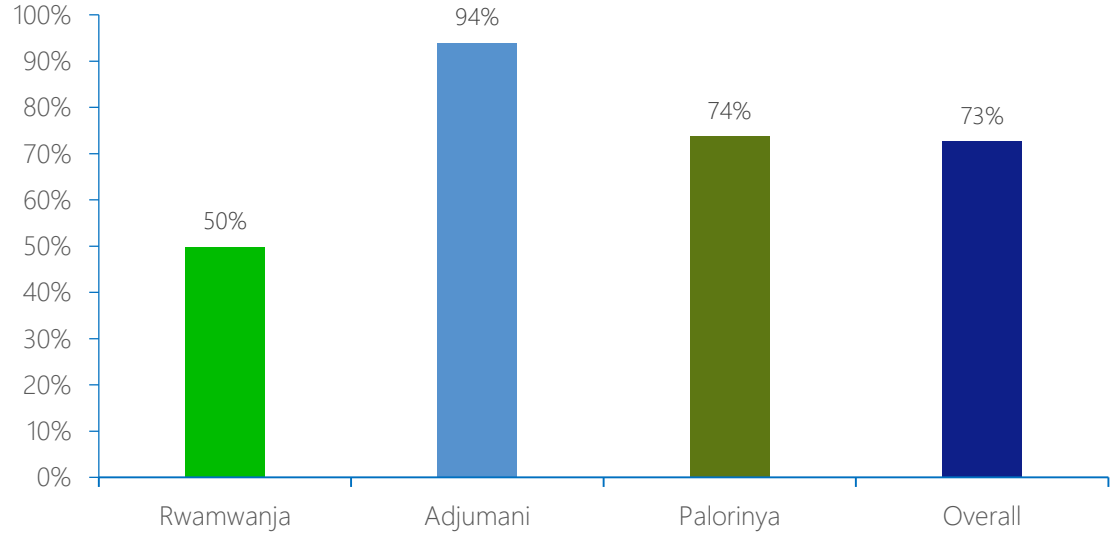
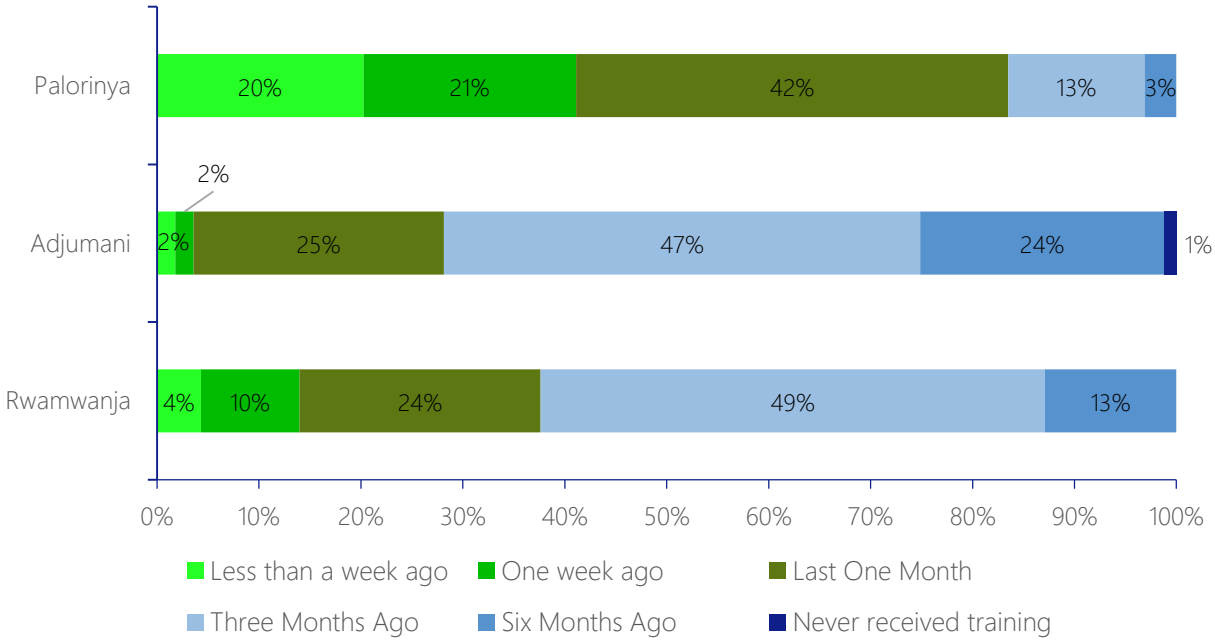


Figure 34: Last time of receiving training on sanitation and hygiene



Effects of the hygiene and sanitation sensitizations/ trainings

Key informants stated the there is a very good improvement in hygiene and sanitation in the settlements, and sufficient supply of water though there is need for motorised water supply and continuous awareness creation and sensitization about WASH. Majority of FGD participants reported to have received sensitizations and trainings services on hygiene and sanitation. The services were received on hand writing practices, importance of tippy taps as well as how they are made and used, ash and detergent usage, cleaning of houses and latrines on daily basis, washing hands with soap after visiting the latrines, washing jerry cans for fetching water, always making well use of latrine, safe water chain management, clean compound management, personal and communal hygiene management, defecating in the latrine, and having rubbish pits. They further revealed that the services impacted their lives by reducing on the diseases resulting from poor hygiene and sanitation such as cholera and other water born diseases.

Figure 35: Poor environmental management practices that can cause disease or illness

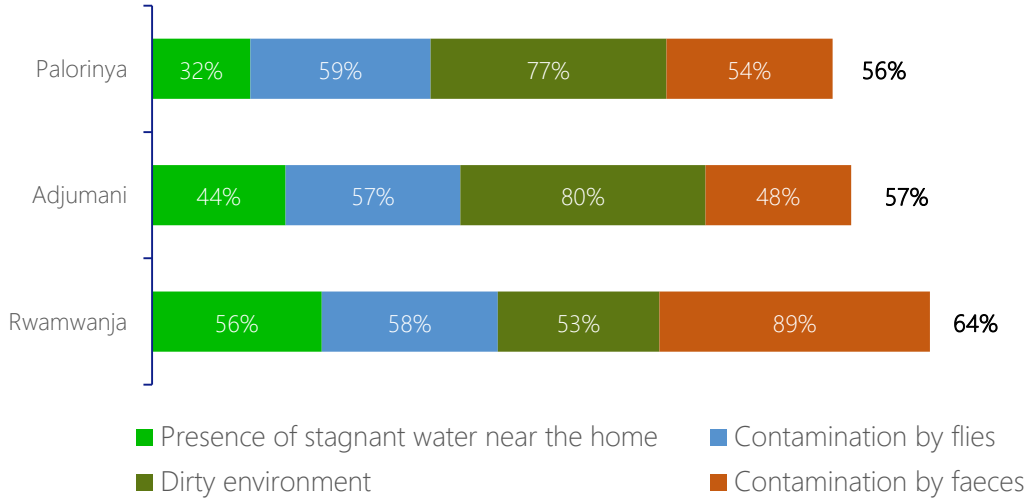


Figure 36: Poor sanitation or hygiene practices that can cause disease or illness

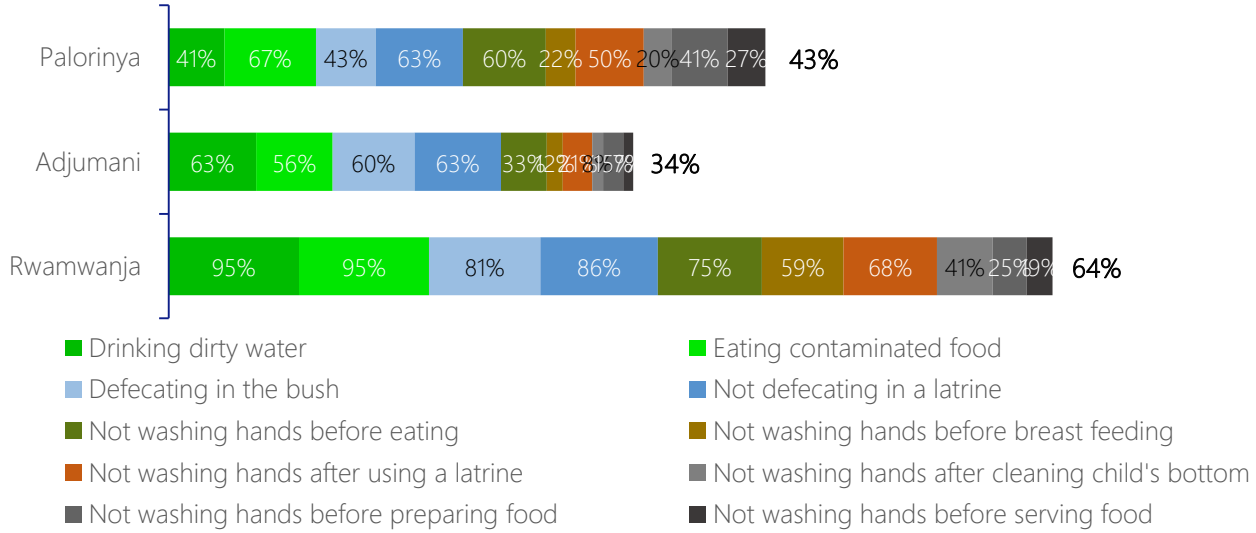
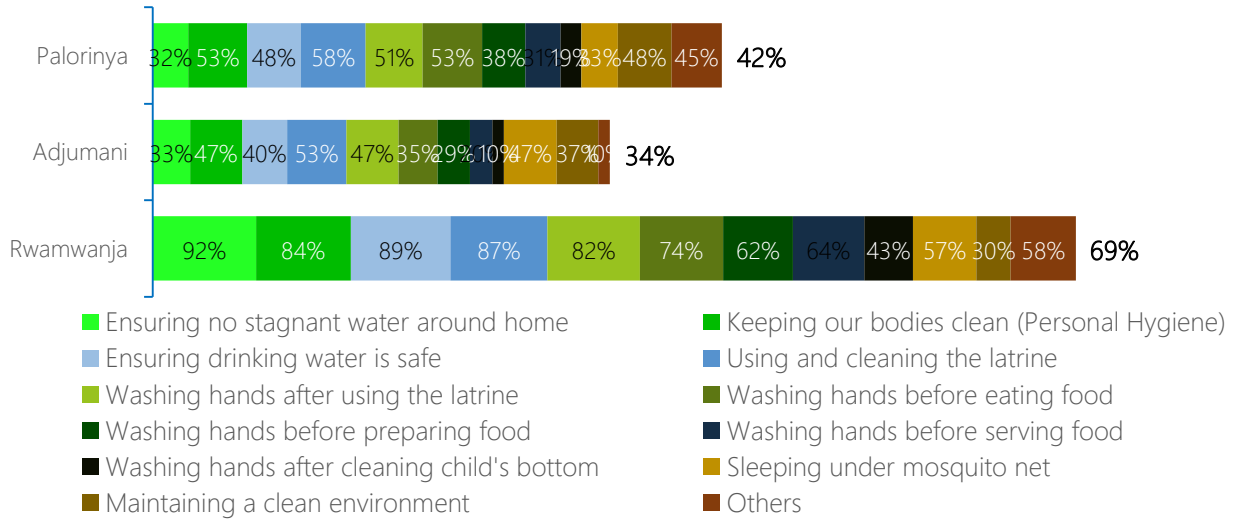


Figure 37: Good sanitation and hygiene practices that prevent disease or illness



Others include; Washing hands before breast feeding, following health advice of hygiene promoters and bathing after sex

5.4.5 Environmental Impact

In order to assess the project's efforts in minimizing adverse impact on the local natural environment as required by the SPHERE standards, an observation checklist was used to observe cleanliness of water point areas, communal and household rubbish places, sanitation and hygiene practices as well as the impact of the IGA to the environment. Out of the three refugee settlements visited and assessed, the water source points were maintained clean. Specifically, for Agojo in Adjumani settlement where massive sensation on WASH was done, the impact was so evident since almost all the households had latrines with tippy taps and either soap or ash. From a few market places that were visited by the survey team, the waste management committees were in charge of the rubbish places and this maintained the market places clean all the times. The evaluation team travelled across the project area and observed physical achievements of the project, quality of work, physical condition, distribution and performance of water facilities and many others. The physical constructions were visited to compare with the financial expenditure and to observe the quality of the outputs, suitability of sites and local management system. Below are the cases studies highlighting the key findings.

1. Latrines/toilets for PSN shelters

PSN household shelters have the latrines constructed with a tippy tap which is used for hand washing. Some have been able to set up bathing shelters made of grass thatch which has enabled on improvement of their personal hygiene and general sanitation in the household (*picture on the right*). The toilets/latrines are ever clean and this resulted from the WASH sensitizations they received from the ECHO project interventions. Generally, the trainings, sensitizations and provision of the WASH facilities such as tippy taps in the settlements improved the sanitation and hygiene in the settlements as observed by the endline survey team. (*Observed from Agojo refugee settlement in Adjumani district*)

2. People's practice on washing hands with soap/ash before eating, after visiting a toilet

Due to the sanitation and hygiene sensitizations and trainings interventions in the settlements by the ECHO project, observations revealed that most of the people in the settlements wash their hands before eating and after visiting toilets/latrines. Ash is more opted for during hand washing because its more accessible and it is acquired at a zero cost as compared to soap. This is elaborated in the picture on the right where the tippy tap has a small bottle side containing ash that is used with water for hand washing.

3. Community's disposal of rubbish /HH refuse

Rubbish places were constructed in some big markets in Rwamwanja and this was re-enforced by the training of waste management committees who handle disposal and management of both liquid and solid waste in communities and market places. However, some markets that have no rubbish places are still dumping rubbish anyhow. This made the markets look very dirty and the sanitation in such places is not good. Therefore, there is a need of constructing rubbish places in such markets. Most of the PSN shelters have no rubbish pits and they always dump both solid and liquid waste just behind their shelters.

4. Hygiene and sanitation of water source points

The community sources of water are easily accessible in the settlements because there is are a good number of them in the different locations of the settlements which enables everyone to access the safe water from water chains taps and boreholes. The water sources are also always clean and this is ensured by the very people in locations that collect water from that point.

5. Effects of manufacturing sites (for latrine slabs and brick, construction sites for PSN shelters), and other locations where IGAs are conducted by the project beneficiaries on the surrounding environment

Making of bricks and slabs has greatly affected the environment because whenever the clay soil which is used for making the bricks and slabs is excavated, big ditches are left open on grounds which track stagnant water which is a laying ground for mosquitoes. Land degradation can also be seen where excavations have been done. However, the brick, slab and stove making has improved people's living conditions greatly because they are now able to earn some income.

Impact of the program interventions on the environment

The project's contribution towards environmental conservation has been mainly through the training of 7 waste management committees (of 6 members each) on the 3Rs approach. The groups have been able to collect, recycle and reuse waste to make compost and earn a consolidated income of Ugx. 1,727,000 (approx. Ugx 250,000 or $70 per group) during the period January 2017 to June 2017, thus an impact on their livelihoods and the environment.

Discussions with FGD participants revealed the following about the project impact on the environment; improved personal and communal hygiene and sanitation through construction of latrines, improved waste disposal through construction of rubbish points which have helped in environmental conservation, reduced incidence of cutting trees for erecting shelters since all materials were provided by the LWF, improved livelihood support in terms of provision of sanitary facilities like hand washing facilities, soap and buckets; and improved health status since most of the refugees were sensitized about proper sanitation and hygiene.

Qualitative results further indicate that the energy saving stoves made by the trained youth group members use less charcoal hence prevent deforestation as people would be cutting down trees for firewood. Rubbish pit construction in most of the market places have prevented polluting the environment with both solid and liquid wastes. The waste management committee members sort rubbish to isolate plastics and bio-degradable material. The plastics are sold to plastic manufacturers, while bio-degradable material is isolated and used as manure.

However, the following negative impacts were also noted; the PSN shelter iron sheets are too bright for the elderly eyesight, bricks for construction of PSN shelters were made from the plots of the beneficiaries which affected soil fertility. Responses from key informants also reported a few negative impacts of the project interventions resulting from mainly brick and stove making. Making bricks for shelter and latrine construction requires use of murram soil whereby pits are dug and left open hence trapping running water which limits the amount of water reaching gardens for support of crop growing. Furthermore, the top fertile soils which are supposed to be used for purposes of growing crops are being wasted for making bricks.

5.5 Sustainability

Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after closure of the project and whether the beneficiaries can continue to reap the benefits autonomously. LWF has focused a lot on the sustainability aspect of its interventions and has made a lot of efforts to ensure financial, technical and institutional sustainability. Overall, mechanisms to ensure sustainability are in place and functioning, and all partners and stakeholders interviewed esteem that LWF interventions will be sustainable in the long run.

3.3.1 Financial sustainability

Out of the youth and women groups that the survey team visited, there is a saving system whereby every member of the group saves a portion of what they earn. This symbolizes financial sustainability in the long run for every project beneficiary most especially those engaged in IGAs. The waste management committee members are also in position to earn a living from recycling and sale of plastics.

As regards shelter and latrine construction, LWF-ECHO project provided free construction tools and expensive materials like irons sheets, cement, doors and windows to some beneficiary households,

and the households' contribution was to find the local materials, dig the pits and mould the bricks. Replication of latrines by non-project beneficiaries of the same quality and standard is therefore highly unlikely. Moreover, 28%, 28% and 25% of the respondents who did not have latrines from Rwamwanja, Adjumani and Palorinya indicated that their latrines were still not complete and this could be as a result of lack of materials or lack of financial capacity. The market for stoves is also subsidised as the project provides liners to the stove making groups and the stoves are being sold at Ugx 20,000. Without project support, it's highly unlikely that the stove makers shall continue to make the stoves of the same quality and standard or will the households be able to purchase the stoves at prices above Ugx 20,000.

Results in table 5 below are a summary of the consolidated income earnings by the groups for the 6 months' period January to June 2017. The groups that include; business idea competition, solar panel beneficiaries, latrine and shelter construction exhibit greater potential for sustainability due to an existing market for their goods and services within the settlement. This is further evidenced by the higher income per capita of at least $15 for the six months' period, with the slab and shelter construction groups having income per capita of $122.8 and $152.1 for the six months respectively. The energy saving stoves and waste management committees do not show great potential for sustainability due to a low income per capita of $6.9 and $11.8 for the six months respectively. In-depth discussions with key informants revealed that the waste management committees rely on incomes from plastics whose market is not readily available as the buyers are far away from the camps and the plastics have to be transported to them.

As regards energy saving stoves, currently stoves are being purchased at Ugx 20,000 yet the production costs have been highly subsidised by the project. It is highly unlikely that these group members, given their low incomes, shall be in position to buy raw materials and/or liners for production once project support is withdrawn. Neither is it likely that the beneficiary households will be able to purchase the stoves at a higher price than Ugx 20,000 (once the price is increased to cover all production costs post-project). It is therefore recommended that future projects should continue supporting these two group categories to overcome the existing barriers to income generation and market access. Sensitisation of the community on proper waste disposal practices shall also provide the waste management committee with additional incomes in form of collection fees and more opportunities for rubbish sorting once communities are able to use the existing waste disposal places.

Table 7: Analysis of group members consolidated incomes earned under each group

Group Category	# of Groups	Composition	# of members	Qty Produced	Qty Sold	Income Earned	Approx. Income ($)	Income per Capita ($)
Business idea competition	20	15 - 30 members	482	--	--	103,940,000	$29,697	$61.6
Energy saving stoves	7	15 - 30 members	148	820 liners	196 stoves	3,580,000	$1,023	$6.9
Waste Management committees	6	6 members	42	--	--	1,727,000	$493	$11.8
Solar panel beneficiaries	14	6 - 30 members	208	--	--	11,920,000	$3,406	$16.4
Latrine construction	8	15 members	130	142 latrines	--	24,310,000	$6,946	$53.4

Group Category	# of Groups	Composition	# of members	Qty Produced	Qty Sold	Income Earned	Approx. Income ($)	Income per Capita ($)
Slab production	3	10 members	30	142 slabs	--	12,898,000	$3,685	$122.8
Shelter construction	17	10 - 15 members	226	145 shelters	--	120,333,700	$34,381	$152.1
Total	75		784			278,708,700	$79,631	$101.6

The WASH component shows great scope and potential for sustainability due to the good functioning status of the boreholes and water chains based on the field observations made. However, the evaluation team did not find any mechanisms that allow for continued operation and maintenance of the water sites without the project support since related costs are not covered by water users.

3.3.2 Institutional sustainability

At the community level, project interventions of empowering youth and women groups through providing them with the technical skills and knowledge such as making stoves, slabs, laying bricks and construction has lead to training of trainers who have also gone ahead to support other groups. It was also established that group members decided to have an individual business and also participate in VSLAs where each group member contributes a weekly fee of UGX 2,000. The VSLAs will enable members to further improve and diversify their livelihoods through short-term borrowings. Furthermore, links created with market buyers of plastics enable waste committee members earn a living while conserving the environment. It was noted that the beneficiaries were encouraged to help in construction through fetching water and roofing thus learning how to do the work themselves. Furthermore, water user committees, hygiene promoters, RWCs, incentive workers under WASH, and community health clubs were setup to support in sensitization and awareness activities as well as monitoring of the WASH facilities.

At district level, key informant responses showed that the availability of district water officers that work together with VHTs in sensitizations and sub-county health inspectors and health assistants that train the refugees on how to handle water safely and to keep it clean are some of the existing structures to support the community in relation to access to safe water, sanitation and hygiene services, and community services. However, there was not strong evidence to show that water facility maintenance tasks are shared among water committees at the community level and the district local government structures.

3.3.3 Environmental sustainability

LWF's water projects do not have any negative environmental impacts. Concerning boreholes, the impact in terms of water resources abstraction is limited because of low yields and low consumption. Falling groundwater levels that have been observed are rather due to decreasing rainfall and not over-abstraction. Domestic water consumption, which is the main component of LWF water projects, is not a major issue in terms of impact on water resources. Due to absence of industrial activities and scarce urbanization, anthropogenic pollution of water points and groundwater in settlements is not a major issue. The only potential risks concern sanitation, as latrines may be a source of contamination if they are built too close to boreholes of other water sources. Majority of sanitation facilities were found to be well located at an acceptable distance from the water point.

5.6 Gender equality and inclusiveness

The LWF-ECHO project adopted a gender and age-sensitive approach in addressing the needs of targeted groups and individuals. Women represented more than 40% of the beneficiaries receiving livelihood support in most of the cases and where they were fewer, sensitization was conducted to encourage their involvement. Gender equality and inclusiveness approaches were employed for the success of the project implementation and the degree to which the project was attentive to the different needs, capabilities and vulnerabilities of girls, women, boys and men of all ages and abilities. The action considered age in beneficiary selection - prioritizing the elderly among the PSNs, and youth for the business competition. Latrines were constructed to be accessible to people of different age, gender and ability.

The FGD participants also noted that the project did not show any gender bias in its activities as both males and females were equally supported based on the conditions available. The sanitation facilities such as jerry cans and tippy taps were distributed equally among female and male headed households. However, there are no gender-segregated latrines and hand washing facilities in the community because both gender enjoy the facilities equally.

5.7 Humanitarian coordination

The LWF-ECHO project coordinated with other non-governmental organizations, United Nations structures, and local and national leadership. Dialogues and meetings were held with district officials and other stakeholder to share ideas. Interviews with project staff also indicated that LWF coordinates with other NGOs to ensure complementarity and avoid duplication of efforts. Other NGOs relevant to the LWF-ECHO project identified include; Plan International (construction of boreholes), Salvation Army (latrine construction), and Caritas (hygiene and sanitation facilities).

5.8 Safety and Security

Review of project reports indicate that in February and March 2017, there were reports of tensions arising from host communities' resentment towards hosting refugees in Moyo. Some host community members had also become aggressive to NGO staff, targeting especially staff of NGOs that are not hiring staff locally. Presence of police in refugee settlements helped to control the situations. It was further established that the LWF-ECHO project was not affected by these tensions, primarily due to the practice of close coordination and involvement of local community and due to LWF's efforts to recruit staff locally wherever possible.

The high prevalence of incomplete latrine construction raises a huge safety concern as some key informants and focus group discussion participants highlighted that a number of pits have been dug across the project area but owners delay to cover them which exposes children to risks of falling into the 4-metre deep open pits.

6. CONCLUSIONS AND RECOMMENDATIONS

The goal of the project was to enhance resilience, self-reliance, shelter, WASH services and hygiene practices for refugees and host community members. The project has adequately changed lives and improved well being of many refugees in Rwamwanja who are now able to engage in income generating activities and earn income for their livelihoods. In Adjumani, Palorinya, water supply, WASH facilities as well as sanitation and hygiene sensitization were really needed and has transformed the settlements and host communities' sanitation and living conditions. The support provided to PSNs and non-PSN households was also very impactful as their living conditions and sanitation practices were transformed compared to the situation before the project.

Before the project implementation, women and children carried the burden of collection of water from distant places whereby they had to walk long distances to reach a few water collection points in the settlements; the LWF-ECHO project has relieved this burden from numerous women and children through constructing more water points in different areas of the settlements thereby allowing them to move shorter distances hence less tiresome. By managing to achieve all set targets in the project, LWF has performed impressively, nevertheless shortfalls in behaviour change need be looked into with a different approach to enable projects like these have a lasting impact on its targeted beneficiaries. In conclusion, LWF-ECHO project has achieved its goals and objectives and has consequently resulted in a positive evolution of the situation in three refugee settlements of Adjumani, Palorinya and Rwamwanja for the better.

The water and sanitation component produced very positive results in the two refugee settlements of Adjumani and Palorinya. Analysis of project documents, interviews with key project staff and partners and data from the field survey enabled the evaluation team to make a positive assessment of the project in terms of its impacts. There are however several significant elements which could be improved in order to increase relevance, effectiveness, efficiency, impact and sustainability. These mainly concern the need to: pursue efforts to facilitate water communities especially concerning pump maintenance and repairs, increase sanitation and hygiene promotion and awareness, engage in stronger partnerships with other sector stakeholders, especially local government structures.

Recommendations for youth/women groups livelihoods component: -

1. Continuous support to the youth and women groups formed through providing market linkages and also providing raw materials for them will also improve more on their welfare.
2. Diversify livelihoods interventions to cater for youth interests in the labour market, such as retail business, tailoring, arts and crafts, etc.
3. Establish a monitoring committee responsible for construction of shelters and latrines; this will monitor adherence to standards as well as safety and security issues or concerns in the community.
4. Continue efforts to support other PSNs that were not reached by the project with latrines and shelters, especially in Mahega, Rwamwanja.
5. Sensitize the community on proper waste disposal in order to re-enforce the work of the waste management committees.
6. Continue efforts of linking waste management committee members to buyers of plastics so as to improve their motivation to do their work.

7. Continue supporting groups making energy saving stoves in order to boost their incomes. This can be done through continued sensitisation on the benefits of using energy saving stoves as well as linking them to market opportunities in the host community.

Recommendations for the water and sanitation component: -

1. Expanding the water and sanitation project component by moving on to adjacent zones which did not benefit from the project to reduce the pressure on constructed water points and sustain the lifespan of already existing boreholes. This may include the drilling of new and additional boreholes in densely populated areas, and upgrading existing sanitation facilities.
2. Continuing to promote improved hygienic practices within communities by constructing more communal latrines at market places would improve further the sanitation around them.
3. Consider engaging all relevant local government structures in project implementation to avoid losing some of the lasting benefits that could have been enjoyed had it been that all relevant bodies were fully involved and engaged.
4. Keep up efforts to sensitize communities on oral-faecal transmission and hygiene best practices, particularly concerning diarrheal diseases.
5. Embark on efforts to sensitize communities on the need to contribute financially for water facilities operations, maintenance and repairs. This could be in form of water collection fees charged by water committees that can be used to pay plumbers for minor repairs.
6. Explore efforts to support all households (including non-PSN households) to construct latrines to reduce pressure on communal or neighbours' latrines. This will also reduce girls and women's vulnerability to sexual and other forms of gender-based violence.
7. Continue efforts to bring water points closer to the beneficiaries, especially in Rwamwanja and Palorinya where 59% and 41% of the respondents respectively cover distances in excess of 200m to reach their nearest water source point. This should also be done with the aim of reducing the level of access to unprotected water sources in Rwamwanja standing at 8% (figure 10).
8. Keep up efforts to sensitize communities on making water safe for drinking, especially boiling of water that was only reported by less than 20% across all settlements. This should go hand-in-hand with sensitisation on hand washing with soap and at critical times. For better impact, channels of communication should include drama and radio broadcasting.

7. LESSONS LEARNED

The major lessons learned in the LWF implemented LWF-ECHO project are:

1. Concrete slabs were very heavy and could not be easily moved from the manufacturing sites to the targeted households, they would also make the pit latrines collapse. These were replaced by more expensive plastic slabs.
2. Machines for brick making required a lot of energy yet few bricks could be made. The youth resulted to use of hand moulds that expedited the process.
3. Linking of waste committee members to buyers of plastics and waste materials did not guarantee a ready market for the materials as transportation is required to the buyers. Efforts are also required to reduce cheating on weighing scales.

Appendix 1 – List of Key Informants

#	Name	Organization	Designation	Location
1	Anthony Mukambya	LWF	Monitoring and Evaluation Officer	Rwamwanja
2	Molly Ntakirutimana	LWF	ECHO Project Volunteer	Rwamwanja
3	Adong Jennifer	LWF	ECHO Project Manager	Adjumani
5	Obulejo Richard Terence	LWF	Field Extension Worker-WASH	Pagirinya
6	Raleo Agnes	LWF	Office Assistant	Pagirinya
7	Ajavu Patrick	LWF	Settlement Project Officer-Pagirinya	Pagirinya
8	Sam Andruga Ngeton	LWF	LWF Community Service	Agojo
9	Lalia Jane	Agojo Health Centre II	Enrolled Nurse	Agojo
10	Owiyo William	Agojo Refugee Settlement	Refugee Welfare Council Chairperson	Agojo
11	Mamawi Geofrey	LWF	Field Extension Worker-WASH	Agojo
12	Bembereza Simba	Agojo Refugee Settlement	Village Heath Team	Rwamwanja
13	Hakizimana Eric	Rwamwanja Refugee Settlement	Community Environmental Resource Person (CERP)	Rwamwanja
14	Munywamariba Gaspar	Rwamwanja Refugee Settlement	Refugee Welfare Council Chairperson	Rwamwanja
15	Woja Emmanuel	LWF	Incentive Worker	Palorinya
16	Ashant Godwin	Palorinya Refugee Settlement	Refugee Welfare Council Chairperson	Palorinya
17	Nuwagaba	Government H/C –II	Senior Clinical Officer	Palorinya

Appendix 2 – List of PSNs Surveyed

Camp Name	No.	Name	Gender	Age	Camp Name	No.	Name	Gender	Age
Rwamwanja	1	Jacqueline Bayauge	Female	43	Adjumani	1	Mociruku Victoria	Female	39
	2	Nduhiye Uwumana	Female	48		2	Dulu Shara	Female	68
	3	Uwimana Nyiraganizi	Female	56		3	Framciska Yakagi	Female	66
	4	Jean Bizimungu	Male	70		4	Timeri Fatina	Female	57
	5	Nyiransekuye Baziraka	Female	45		5	Lawa Grace	Female	27
	6	Tabaruka Noela	Female	37		6	Lawa Silvaria	Female	41
	7	Semuco Kanyandekye	Male	42		7	Luke Thomas Waka	Male	74
	8	Ntambabazi Munyirubera	Female	66		8	Leme Phillip Kauwa	Male	72
	9	Ilibyose Ilisha	Female	47		9	Immyami Peier	Male	33
	10	Mediatrico mukamugancin	Female	68					
	11	Marinarce Gimamata	Female	58					
	12	Nyirankanya Maria	Female	49					
	13	Elisabeth Nyirankundo	Female	65					
	14	Jaquiline Bayanvuga	Female	62					
	15	Hategekimana Joseph	Male	57					
	16	Nyirakamanza Jerenge	Female	66					
	17	Vumilia Mapedo	Male	43					

Appendix 3 – List of WASH Focus Group Discussion Participants

Camp name	Target Group	Name	Gender	Age
Agojo	Mixed			
		INYA MARGRE	F	38
		AGNES SIAIDIA	F	35
		HELLEN BISA	F	19
		JOYCE WASUK	F	30
		DRAZIdIO ANET	F	20
		MESIKO SISILY	F	26
		JODE LUCY	F	32
		AYIA MECHELINE	F	27
		REBBECA WANI	F	48
		AYIMBA JAMES	M	19
		JULIAS GAMA	M	21
		THEWYI MICHAEL	M	22
		AKEM WILLAMS	M	32
		OPI JAMES	M	36
Agojo	Men			
		Alafi Emmanuel	M	
		Igama Moses	M	
		Yuma David	M	
		Ijjo William Taban	M	
		Eremugo James	M	
		Drichi Francis	M	
		Yolia William Joseph	M	
		Job Francis	M	
Rwamwanja	Women			
		CHRISTINE MAPANDO	F	29
		EMIRANCE KAIRE	F	37
		MUFABAKUZE NTAHONTU	F	45
		WMILIYA PASCASIE	F	58
		VIOLETTE KANGABE	F	25
		IVONE BIRORI	F	26
		BEATRICE KANYELE	F	
		ACINATTE MUKESHAF	F	20
		RACHEL	F	17
		FARAHA	F	
Rwamwanja	Men			
		CHANTOIL SEMASAKA	M	27
		HAFASHAIMANA ELIYA	M	30
		HITIMANO GAKONA	M	45
		HARERIMANA M MITARE	M	40
		GAHAMNYI BENJAME	M	38
		RUHONGE JACKSON	M	26
		NGOGA JOSEPH	M	36
		H HAKIZIMANA EMERI	M	35
		ISHHIMWE ONERE	M	30
		BAHATI JOMTS	M	36
		TUYISENGEE MANWELE	M	30
		SEMUKO KANYANDEKYE	M	32
		ZARIGEZAHE NSENI YUVA	M	32

Camp name	Target Group	Name	Gender	Age
Rwamwanja	Men			
		ALAFI EMMANUEL	M	32
		ALEX NYUMA	M	22
		DRICH RICHARD	M	33
		TABAN MICHEAL	M	38
		AKOI CEASER	M	31
		DUKA FOHEL	M	22
		OJJO	M	30
		AUZO CHARLES	M	22
		AMGU JAMES KASSIM	M	31
		MYOLINX CELESTINO	M	35
Palorinya	Mixed			
		Wilson Wububе	M	50
		Godfrey Soma	M	38
		Gune Harriet	F	21
		Kloga Emmanuel	M	34
		Rose Jame	F	35
		Rebecca Juan	F	25
		Ropi Joyce	F	29
		Gune Grace	F	30
		Keji Anna	F	45
		Sworo Charles	M	25
		Jawsuk Samuel	M	20
Palorinya	Women			
		Juru Betty Enock	F	28
		Yine Esther Wurube	F	22
		Annet Kuli	F	25
		Josama Yotama	F	26
		Suku Gladys	F	23
		Esther Koden	F	26
		Agnes Poni	F	27
		Gune Esther	F	35
		Jackline Yenno	F	21
		Gire Mary	F	20
		Rose Mande	F	35
		Rejina Yeno	F	35
		Mariata Amandu	F	45
		Fordos Solelt	F	24
		Alice Poni	F	42
		Ropi Joyce	F	29
		Mary Kiden	F	25
		Gune Harriet	F	21
Pagirinya	Women			
		Dropia Jamila	F	48
		Mary Jua	F	31
		Joyce Chandia	F	33
		Joyce Minzi	F	27
		Josphine Eva	F	20
		Juru Mary	F	22
		Inyaa Joyce	F	30
		Mocirku Gladu	F	25
		Jesca Dosmani	F	29
		Jackline Kasara	F	23

Appendix 4 – List of IGAs Focus Group Discussion Participants

Location	Activity	#	Name	Gender	Age
Base Camp	Salon Group	1	Anutuheire Prossy	F	35
		2	Kwarija Annah	F	40
		3	Agasha Naume	F	18
		4	Mbabazi Rose	F	47
		5	Nyiramutuzo Edith	F	29
		6	Isyaka Fiston	F	26
Base Camp	Stove Making	1	Twinamasiko Moses	M	34
		2	Kayuruka Francis	M	75
		3	Komwaka Anifa	F	60
		4	Katushabe Mariam	F	20
		5	Kakuhanga Sadick	M	24
Nkoma	Stove Making	1	Twagiromwunya Emmanuel	M	26
		2	Mugisha Jean Pual	M	26
		3	Nsantobushoro Andrew	M	32
		4	Zawadi Alice	F	30
		5	Umwari Esther	F	22
		6	Mambi Bizimungu	M	35
		7	Ntabaringanira Janine	F	40
Mahega A2	Brick Making, Slab Making & Latrine Construction	1	Mutambala Kalunga	M	45
		2	Keke Razi	M	45
		3	Bahati Seburo	M	41
		4	Joseph Evaliste	M	24
		5	Mugisha Emeri	M	25
		6	Vimiriya Denize	M	23
		7	Hakizimana Aroizi	M	32
		8	Bitakuya Sililere	M	34
		9	Bahati Kanani	M	27
Kyempango B	Rubbish & Waste Mg Committee	1	Didy Mutokambali	M	43
		2	Ntirgenya Nzatunga	M	31
		3	Hategekimana Ezekiel	M	29
		4	Assimwe Nsekanabo	M	37
		5	Maombi Deborah	F	33
		6	Mwadjuma Mbugato	M	40
		7	Bahati Aline	F	37
		8	Hatiboki Ditdont	M	37
		9	Twiceli Nosinti	M	37
		10	Munyarushago Skibara	M	55
		11	Chimaniza Nyeespe	M	27
		12	Masanyu Bonekosiri	M	52
		13	Nyirobibotojik Betiton	M	51
		14	Bohoti Espikonse	M	35
		15	Twagirayesu Innocent	M	25
Pagirinya	Latrine and Construction Group	1	Vuzi Emmanuel	M	
		2	Angu Godfrey	M	
		3	Mawadri Dickson	M	
		4	Dropia Jamila	F	
		5	Nyoling Celestrine	F	
		6	Drithi Richard	M	
		7	Angu James Kassi	M	
		8	Koma Ronald	M	
		9	Daniel Alier Lual	M	
		10	Ojjo Dominic	M	

Appendix 5: Endline Survey Tools

1. WASH Questionnaire

SURVEY QUESTIONNAIRE

My name is _____ and I am working for LWF in Rwamwanja, Adjumani and Palorinya refugee settlements. We are conducting an EU ECHO survey for Enhanced Resilience and Self-Reliance of Congolese and Sudanese Refugees and Host Community Members.

This project is one of the LWF's Livelihoods initiatives aimed at improving the quality of life and reduce the vulnerability of refugees and host communities in and around the refugee settlements. The project focuses on securing sustainable livelihoods through environmentally friendly industries, helping the beneficiaries set up businesses of their choice and boosting the already existing businesses, increasing environmental protection, and contributing to improved sanitation and dignified living conditions within the settlement.

Your participation in this study is voluntary and your decision to participate in this interview, or not, will in no way affect, either positively or negatively, your chances of receiving benefits from LWF.
Note that if you agree to participate, the information that you provide will remain confidential, and will not be shared with anybody other than those involved in the study. Also note that it is your right to refrain from answering any question, or to stop the interview at any time.

The survey should take about **25 minutes**.

THE INFORMATION YOU PROVIDE WILL BE TREATED WITH UTMOST CONFIDENTIALITY

SECTION 1: GENERAL INFORMATION			
1.1	Questionnaire No.		
1.2(a)	Enumerator Name/ Code:		
1.2(b)	District name	1= Adjumani 2= Moyo 3= Kamwenge	
1.3	Camp Name	1=Rwamwanja 2=Palorinya 3=Adjumani	
1.4	Zone/Settlement name	1. Mahega 2. Mahani 3. Kyempango 4. Nkoma 5. Agojo 6. Pagirinya 7. Zone I	
1.5	Interview date	_____/_____/20__	
1.6	Language for interview	1= English ..... 2 = French ..... 3 = Kinyabuisha 4 = Swahili ..... 5 = Others (Specify	

SECTION 2: RESPONDENT INFORMATION / DEMOGRAPHY			
2.1	Respondent's name	_____	
2.2	Gender	1. Male **2.** Female	
2.3	Age of respondent	Indicate the age of respondent in complete years	
2.4	Age in complete years	1. Below 17 years 2. 18-30 years 3. 30 and above	
2.5	Relationship to head of household	1. Head 2. Wife/husband 3. Son/daughter/adopted child 4. Grandchild 5. Niece/nephew 6. Father/mother	7. Sister/brother 8. Son/daughter-in-law 9. Brother/sister-in-law 10. Other relative 11. Servant 12. Other non-relative
2.6	Number of people in the household	|_____|	

2.7	Religion	1. Christian 2. Pentecostal 3. Muslim 4. No religious affiliation 5. Traditional/African 6. Others	|_____|
2.8	Marital Status	1. Married 2. Single (bachelor/spinster) 3. Separated 4. Widowed 5. Divorced	|_____|
2.9	Highest level of Education of the respondent	1. Never been to school 2. Primary education 3. Secondary Education 4. Certificate 5. Diploma 6. Degree	|_____|
2.10	Type of Residence	1.Refugee 2.Host Community	|_____|
2.11	How do you agree/disagree with the following statement: "Your settlement is safe and secure"	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	|_____|
2.12	Does the shelter meet the following requirements?	1. 3.5M2 Floor cover 2. Culturally accepted 3. Made up of local materials 4. Safe and secure	|_____| |_____|
2.13	Is the household registered as a PSN (Persons with Special Needs) household?	1.Yes 2.No	|_____|

SECTION 3: Access to sustainable livelihood and income generating activities

3.1	Do you own a small business?	1. Yes 2. No	|_____|
3.2	What type of business are you engaged in?	1. Maize milling. 2. Tailoring 3. Fish farming 4. Dairy farming 5. Goat rearing 6. Apiary group 7. Poultry keeping. 8. Construction 9. Bricks and slab making 10. Bakery 11. Others	|_____| |_____|
3.3	Is this a business of your choice?	1. Yes 2. No	|_____|

3.4 What was your total income from sales in the past 30 days?

Item Sold	**Quantity Sold (Kg)**	**Price (Uganda Shillings)**	**Total Income**
1.			
2.			
3.			
Total			

3.5 What were your expenditures on the business in the past 30 days?

Description	**Quantity (Kg)**	**Cost (Uganda Shillings)**
1.		
2.		
3.		
Total		

3.6 What was your total profit in the past 30 days? ***(total income***

Total Income *(From QN 3.4)*	**Total Expenditure *(From QN 3.5)***	**Total Profit (Total Income – Total Expenditure)**

	from sales – total expenditures)			
3.7	Which of the following income-generating activities did LWF support you in?	1. Sale of bricks 2. Construction of shelters 3. Sale of latrine slabs	4. Construction of latrines 5. Others Specify	|_____|
3.8	What was your source(s) of income before you were supported to start this business?	_____		
3.9	On average, how much did you earn a month before you started this business?	_____		
3.10	What have you spent your income on this month?	1. School fees 2. Health 3. Food	4. Clothing 5. Household assets 6. Other, specify	|_____| |_____|
3.11	How do you compare your income before and after joining the project?	1. Increased 2. Reduced 3. The same as before		|_____|
3.12	Do you save any of your monthly income?	1. Yes 2. No		|_____|
3.13	How much do you save on average in a normal month?	_____		
3.14	Do you feel that your living conditions have improved or worsened over the last 6 MONTHS?	1. Improved 2. Worsened 3. The same as before		|_____|
3.15	What reasons do you attribute to your answer above?	_____		
3.16	Do you belong to a group for example a youth group, VSLA, women or men group?	1. Yes 2. No		|_____|
3.17	Have you had any training about the Uganda business legal framework (VAT, PAYE)?	1. Yes 2. No		|_____|
3.18	Have you participated in any trade fair?	1. Yes 2. No		|_____|
3.19	Who were the organizers of the trade fair?	_____		
SECTION 4: Environmental Impact Assessment				
4.1	What common practices in the settlement endanger the environment	_____		
4.2	What are you doing to protect the environment	_____		
4.3	Is your business environmental friendly?	1. Yes 2. No		|_____|
4.4	Are there any activities the community has undertaken to safe guard the environment?	1. Yes 2. No		|_____|
SECTION 5: Sanitation and Hygiene				
5.1	Have you ever received sensitization on hygiene and sanitation practices?	1. Yes 2. No		|_____|
5.2	If yes, when was the last time you received training?	1. Less than a week ago 2. One week ago 3. Last One Month 4. Three Months Ago 5. Six Months Ago 6. Never received training		|_____|

5.3	Does the settlement household have a latrine complete with slab, walls, roof and door?	1. Yes 2. No	|_____|
5.4	How far is the nearest latrine from your house?	1. Less than 25m or steps 2. 25-50m or steps 3. More than 50m or steps	|_____|
5.5(a)	Where were you defecating before the ECHO Project [6 MONTHS ago]?	1. The bush 2. Neighbor's latrine 3. Communal latrine near house 4. Communal latrine near the market/school/mosque/church 5. Near the river 6. Other, specify	|_____| |_____| |_____|
5.5(b)	Where do you defecate now?	1. The bush 2. Neighbor's latrine 3. Communal latrine near house 4. Communal latrine near the market/school/mosque/church 5. Near the river 6. Other, specify	|_____| |_____| |_____|
5.6	If latrine is used, what are the reasons for latrine use?	1. Privacy 2. To avoid getting disease 3. Social status 4. To avoid littering environment with faeces 5. Persuaded by NGOs or District/OPM 6. Fear of arrest for NO latrine by leaders/government officials 7. Others, Specify	|_____| |_____| |_____|
5.7	If latrine not being used, what are the reasons?	1. Lack of privacy i.e. NO door 2. Latrine construction incomplete 3. Latrine is full 4. Collapse of substructure 5. Damage to wall of latrine 6. Latrine flooded with water 7. Latrine is too far 8. Others, Specify	|_____| |_____| |_____|
5.8(a)	What were you using for anal cleansing before the ECHO Project [6 MONTHS ago]?	1. Piece of cloth 2. Hands 3. Leaves 4. Soil 5. Toilet paper 6. Other paper 7. Latrine walls 8. Others, Specify	|_____| |_____| |_____|
5.8(b)	What do you use for anal cleansing now?	1. Piece of cloth 2. Hands 3. Leaves 4. Soil 5. Toilet paper 6. Other paper 7. Latrine walls 8. Others, Specify	|_____| |_____| |_____|
5.9	What is the general cleanliness of the latrine and its surrounding area?	1. Clean 2. Dirty 3. Dusty 4. Bushy 5. Swept 6. Unswept	|_____| |_____| |_____|
5.10	Are there any signs of latrine construction beginning?	1. Yes 2. No	|_____|
5.11	What are the reasons/challenges for NOT constructing a latrine?	1. Rocky ground 2. Collapsing soils (sandy) 3. Water logged area 4. Lack of tools for pit digging 5. Has not received slabs and poles 6. Lack of superstructure materials 7. Beliefs/Cultural/Taboo 8. It is a taboo to defecate in the latrine 9. Latrine smell 10. Loss of fetus into latrine 11. Operation and maintenance 12. Problem of termites 13. Concerns about what to do when latrine is full 14. Shortage of skills 15. Others, Specify	|_____| |_____| |_____|
5.12	Do you and your family members wash your hands?	1. Yes 2. No	|_____|

5.13(a)	What were you using for hand washing before the ECHO Project [6 MONTHS ago]?	1. Hand washing station/tippy tap 2. Soap 3. Plain water 4. Ash 5. Sand 6. Others, Specify		|_____| |_____| |_____|
5.13(b)	What do you use for hand washing now?	1. Hand washing station/tippy tap 2. Soap 3. Plain water	4. Ash 5. Sand 6. Others, Specify	|_____| |_____| |_____|
5.14	What are the right times for washing your hands?	1. Always when my hands are dirty 2. After eating food 3. After defecating 4. Before eating 5. Before breastfeeding	6. After cleaning the child's bottom 7. Before preparing food 8. Before serving food 9. Others, Specify	|_____| |_____| |_____|
5.15	How often do you bathe?	1. Daily 2. Twice a week 3. After two days 4. After doing heavy work	5. After sex 6. When my body begins to smell 7. During my period 8. Others, Specify	|_____| |_____| |_____|
5.16(a)	Where were you bathing from before the ECHO Project [6 MONTHS ago]?	1. Inside the house 2. I bathe from outside at night 3. More than 1 In the latrine 4. Near the latrine besides the household Share with the neighbor 5. From the garden at night		|_____| |_____| |_____|
5.16(b)	Where do you bathe from now?	1. Inside the house 2. I bathe from outside at night 3. More than 1 In the latrine 4. Near the latrine besides the household Share with the neighbor 5. From the garden at night		|_____| |_____| |_____|
5.17(a)	What poor environmental management practices can cause disease or illness?	1. Presence of stagnant water near the home 2. Contamination by flies 3. Dirty environment 4. Contamination by faeces		|_____| |_____| |_____|
5.17(b)	What poor sanitation or hygiene practices can cause disease or illness?	1. Drinking dirty water 2. Eating contaminated food 3. Defecating in the bush 4. Not defecating in a latrine 5. Not washing hands before eating	6. Not washing hands before breast feeding 7. Not washing hands after using a latrine 8. Not washing hands after cleaning child's bottom 9. Not washing hands before preparing food 10. Not washing hands before serving food	|_____| |_____| |_____|
5.18	What good sanitation and hygiene practices prevent disease or illness?	1. Ensuring no stagnant water around home 2. Keeping our bodies clean (Personal Hygiene) 3. Ensuring drinking water is safe 4. Using and cleaning the latrine 5. Washing hands after using the latrine 6. Washing hands before eating food 7. Washing hands before preparing food 8. Washing hands before serving food	9. Washing hands after cleaning child's bottom 10. Washing hands before breast feeding 11. Sleeping under mosquito net 12. Maintaining a clean environment 13. Following health advice of hygiene promoters 14. Bathing after sex 15. Others, Specify	|_____| |_____| |_____|
5.19(a)	What sanitation facilities did you have before the ECHO WASH Project?	1. Drying racks 2. Bathing shelters 3. Refuse pits 4. Tippy taps		|_____| |_____| |_____|

5.19(b)	What sanitation facilities do you have in your homes now?	1. Drying racks 2. Bathing shelters 3. Refuse pits 4. Tippy taps		|_____| |_____| |_____|
5.20	Where do you collect/fetch water for your household?	1. Motorized Borehole 2. Hand pump borehole 3. Shallow well 4. Protected spring 5. Tap stands (water trucking)	6. Rain water tanks 7. Unprotected spring 8. Stream or river 9. Other specify	|_____| |_____| |_____|
5.21	How far is the water source to your household?	1. Less than 50m 2. 50-100m 3. 101-200m 4. 201-300m 5. 301-400m	6. 401-500m 7. 501-600m 8. 601-700m 9. More than 700m	|_____|
5.22	What container(s) does the household use for water collection?	1. 5litre jerry can 2. 10 litre jerry can 3. 20 litre jerry can 4. Pots 5. Buckets 6. Saucepans		|_____| |_____| |_____|
5.23	How do you store drinking water in the house?	1. Pots 2. Jerrycans 3. Buckets 4. Saucepans		|_____| |_____| |_____|
5.24	Do you wash water storage containers?	1. Yes 2. No		|_____|
5.25	If yes, how often?	1. Every day 2. Every other day 3. After 5 days 4. After two weeks 5. Every month 6. When water begins to smell 7. When inside of container is green		|_____| |_____| |_____|
5.26	Do you have sufficient water for all your household needs?	1. Yes 2. No		|_____|
5.27	What is the general cleanliness of the water site and its surrounding area?	1. Clean 2. Dirty 3. Dusty 4. Bushy 5. Swept 6. Unswept		|_____| |_____| |_____|
5.28	What do you do to ensure the water in the containers in your house remains safe?	1. Covering the container 2. Preventing young children from drawing the water 3. Cleaning the container regularly 4. Keeping the storage container on a raised platform 5. Using scooper for drawing the water from the container and a separate one for drinking	6. By boiling it 7. By filtering 8. By disinfecting it with chlorine tablets/water guard 9. Do not know	|_____| |_____| |_____|
5.29	Where do you dispose off household waste(solid)?	1. In the bin 2. In the garbage pit 3. Thrown in the nature or compound 4. Soak away pit		|_____| |_____| |_____|
5.30	Where do you dispose household waste(liquid)?	1. In the bin 2. In the garbage pit 3. Left in the nature or compound 4. Soak away pit		|_____| |_____| |_____|

2. Youth Survey Questionnaire

YOUTH SURVEY QUESTIONNAIRE

My name is _____ and I am working for LWF in Rwamwanja, Adjumani and Palorinya refugee settlements. We are conducting an EU ECHO survey for Enhanced Resilience and Self-Reliance of Congolese and Sudanese Refugees and Host Community Members.

This project is one of the LWF's Livelihoods initiatives aimed at improving the quality of life and reduce the vulnerability of refugees and host communities in and around the refugee settlements. The project focuses on securing sustainable livelihoods through environmentally friendly industries, helping the beneficiaries set up businesses of their choice and boosting the already existing businesses, increasing environmental protection, and contributing to improved sanitation and dignified living conditions within the settlement.

Your participation in this study is voluntary and your decision to participate in this interview, or not, will in no way affect, either positively or negatively, your chances of receiving benefits from LWF.
Note that if you agree to participate, the information that you provide will remain confidential, and will not be shared with anybody other than those involved in the study. Also note that it is your right to refrain from answering any question, or to stop the interview at any time.

The survey should take about **10 minutes**.

THE INFORMATION YOU PROVIDE WILL BE TREATED WITH UTMOST CONFIDENTIALITY

SECTION 1: GENERAL INFORMATION				
1.1	Questionnaire No.			
1.2	Camp Name	1=Rwamwanja 2=Palorinya 3=Adjumani		
1.3	Zone name	8. Mahega 9. Mahani 10. Kyempango	11. Nkoma 12. Agojo 13. Pagirinya	14. Zone I 15. Zone II 16. Zone III
1.4	Interview date	_____/_____/2017_		
1.5	Language for interview	1= English 2 = French 3 = Kinyabuisha	4 = Swahili 5= Madi	6=Arabic 5 = Others (Specify)
SECTION 2: RESPONDENT INFORMATION / DEMOGRAPHY				
2.1	Respondent's name			
2.2	Gender	3. Male **4.** Female		
2.3	Age of respondent	***Indicate the age of respondent in complete years***		
2.4	Age in complete years	1. Below 17 years 2. 18-30 years	3. 30 and above	
2.5	Highest level of Education	7. Never been to school 8. Primary education	9. Secondary Education 10. Certificate	11. Diploma 12. Degree
SECTION 3: Access to sustainable livelihood and income generating activities				
3.1	What productive assets do you possess?	1 Animals 2 Motorcycle 3 Bicycle 4 Land 5 Sewing machines 6 Telephone 7 Other, specify		
3.2	what is the average total income from your business every month?			

3.3	How do you compare your household assets before and after joining the project?			
3.4	Do you own a small business?	1. Yes 2. No		
3.5	What type of business do you have?	1. Maize milling. 2. Tailoring 3. Fish farming 4. Dairy farming	5. Goat rearing 6. Apiary group 7. Poultry keeping. 8. Construction	9. Bricks and slab making 10. Bakery 11. Others……. …
3.6	Is this a business of your choice?	1. Yes 2. No		
3.7	3.7 If no to 3.6, what business would you prefer doing?			
3.8	What was your total income from sales in the past 30 days?			
3.9	What were your expenditures on the business in the past 30 days?			
3.10	What was your total profit in the past 30 days? ***(total income from sales – total expenditures)***			
3.11	How do you compare your income before and after joining the project?	1.Increased 2. Reduced	3. The same as before	
3.12	Do you save any of your monthly income?	1. Yes 2. No		
3.13	How much do you save on average in a normal month?			
3.14	1. Have you noted any improvements in youth livelihoods in the settlement? Mention the improvements. Can you attribute any of these improvements to the ECHO interventions? What project interventions are responsible for the mentioned improvements? 2. What are the current livelihoods constraints or challenges faced by youth in this community? Are there ways the ECHO Project could have done things differently and been successful in overcoming these challenges or constraints? What else can be done to overcome these livelihoods challenges or constraints? 3. What aspects of the ECHO Project would you say have been the most positive for you? 4. Has there been anything about the ECHO Project that disappointed you? If yes, please mention what has disappointed you? 5. Are there certain beneficiaries of the ECHO Project that have experience greater outcomes when compared to others that you are aware of? If yes, please explain. 6. Are there any ways that the ECHO Project could have done things differently and been more successful at helping its beneficiaries improve food security in the community? Please explain. What strategies and activities do you recommend for improvement of future programs of this nature? 7. In your opinion, what is required to make the outcomes of the ECHO Project more sustainable? 8. Is there anything that hasn't been mentioned yet that the ECHO Project could have done differently to bring more benefits to its beneficiaries? **END OF INTERVIEW** Please thank respondent for his or her cooperation.			

3. Key Informant Interview Guides

Staff

1. What has been the program's contribution to the lives of your beneficiaries either directly or indirectly and the community in which they live?
2. In your opinion has the program achieved its objectives? Can you highlight some of your major achievements?
3. What structures exist (at both government and community level) to support the community in relation to access to safe water, sanitation and hygiene services, community services, including construction of shelters and latrines for persons with specific needs (PSNs), protection, psychosocial support, livelihoods and environmental conservation? What is their level of participation in the project cycle?
4. Do you think the activities or interventions of the LWF EU-ECHO project were effective?
5. What is the impact of the intervention on the environment (both positive and negative)? How were the negative effects mitigated if any?
6. What processes and systems have you put in place that are likely to support the continued implementation of the program?
7. What other organizations (non-governmental organizations, United Nations structures, and local and national leadership) are you working with to meet the humanitarian needs of the community? How do you think your capabilities complement each other?
8. What lessons have you learnt during this project implementation?
9. What strategies and activities do you recommend for improvement of future programs of this nature?
10. Comment on the adequacy of WASH services and good hygiene practices in the settlement?
11. What is your overall observation of shelters in the refugee settlement in terms of safe and dignified shelters before and after the project intervention?

Local Leaders

1. What were the main needs of people in your area before the start of the LWF EU-ECHO project?
2. Do you feel the project tackled the real or actual problems that you face as a community?
3. What has been the program's contribution to the lives of the beneficiaries either directly or indirectly and the community in which they live?
4. In your opinion, did the project meet humanitarian objectives?
5. In your opinion, were the interventions more relevant and more appropriate than in other cases?
6. What is the project's coverage in the refugee settlement?
7. Did the resources input in this program deliver the expected results?
8. How would you rate the benefits of this project to the people?
9. What has happened in the community as a result of the project?
10. What is the impact of the intervention on the environment (both positive and negative)? How were the negative effects mitigated if any?
11. What types of LWF EU-ECHO project activities have had a major impact on or transformed the lives of the people of your community?
12. Do you think you can maintain the higher level of livelihood standards that have been obtained through LWF EU-ECHO project intervention?
13. What structures exist (at both government and community level) to support the community in relation to access to safe water, sanitation and hygiene services, community services, including construction of shelters and latrines for persons with specific needs (PSN), protection, psychosocial support, livelihoods and environmental conservation? What is their level of participation in the project cycle?
14. What is the level of community participation in the different project stages?

15. How, and in what ways, has the project been gender sensitive and involved both genders as participants and beneficiaries?
16. Are there gender-segregated latrines and hand-washing facilities in the community?
17. Is there gender-balance in community decision making forums?
18. Are there any safety and security issues that have emerged in the community in the last one year?
19. If any, how were they addressed?
20. What strategies and activities do you recommend for improvement of future programs of this nature?

Environment Officers

1. Do you think the activities or interventions of the LWF EU-ECHO project were effective?
2. What has happened in the community as a result of the project?
3. How would you rate the benefits of this project to the people?
4. What types of LWF EU-ECHO project activities have had a major impact on or transformed the lives of the people of your community?
5. What structures exist (at both government and community level) to support the community in relation to access to safe water, sanitation and hygiene services, community services, including construction of shelters and latrines for persons with specific needs (PSN), protection, psychosocial support, livelihoods and environmental conservation? What is their level of participation in the project cycle?
6. What is the level of community participation in the different project stages?
7. Are there gender-segregated latrines and hand-washing facilities in the community?
8. How, and in what ways, has the project been gender sensitive and involved both genders as participants and beneficiaries?
9. Is there gender-balance in community decision making forums?
10. What is the impact of the intervention on the environment (both positive and negative)? How were the negative effects mitigated?
11. Are there any safety and security issues that have emerged in the community in the last one year?
12. If any, how were they addressed?
13. What strategies and activities do you recommend for improvement of future programs of this nature?

Health Specialists

1. Do you think the activities or interventions of the LWF EU-ECHO project were effective?
2. How would you rate the benefits of this project to the people?
3. What has happened in the community as a result of the project?
4. What types of LWF EU-ECHO project activities have had a major impact on or transformed the lives of the people of your community?
5. Do you think you can maintain the higher level of livelihood standards that have been obtained through LWF EU-ECHO project intervention?
6. How, and in what ways, has the project been gender sensitive and involved both genders as participants and beneficiaries?
7. What structures exist (at both government and community level) to support the community in relation to access to safe water, sanitation and hygiene services, community services, including construction of shelters and latrines for persons with specific needs (PSN), protection, psychosocial support, livelihoods and environmental conservation? What is their level of participation in the project cycle?
8. What is the level of community participation in the different project stages?
9. Are there gender-segregated latrines and hand-washing facilities in the community?
10. Is there gender-balance in community decision making forums?

11. What is the impact of the intervention on the environment (both positive and negative)? How were the negative effects mitigated if any?
12. What strategies and activities do you recommend for improvement of future programs of this nature?

4. PSN Household Guide

1. Is the settlement you are living in safe and secure? If yes, what are some of the specific features that make it safe and secure? How has the project interventions helped in improving the safety and security in the settlement?
2. Have you received sensitization on hygiene and sanitation? Which trainings have you received? How have those trainings /services impacted your life? Which hygiene practices have you adopted from the sensitizations?
3. Were you in position to get sufficient and safe water for drinking, cooking and personal hygiene in the past 6 MONTHS? If no, what has the project intervention done to ensure that you have safe water for drinking, cooking and personal hygiene? How have you benefited from the project interventions as regards to sufficient and safe water?
4. Do you have a rubbish and waste disposal around your shelter? If no, where do you normally dispose off both your solid and liquid waste?
5. Are you contented with the shelter and latrine which were constructed for you during the ECHO project? If no, what are your reasons?
6. Apart from shelter and latrine construction, what other benefits have you been able to receive from the ECHO projects? How have those benefits impacted your life?
7. Do you think you can maintain the higher level of livelihood standards that have been obtained through LWF EU-ECHO project intervention? How will you be able to achieve this? If no, why and what can be done to help you maintain the standards?
8. What strategies and activities do you recommend for improvement of future programs of this nature?

5. Environmental Observation Checklist

1. Do PSN shelters have latrines/toilets?
2. Is the toilet/latrine clean?
3. Note down other observations made on household latrines?
4. What is people's practice on washing hands with soap/ash before eating, after visiting a toilet etc.?
5. How is the community's disposal of rubbish /HH refuse?
6. How is waste and rubbish disposal around PSN shelters?
7. How is the hygiene and sanitation of water source points like boreholes and wells?
8. What is the status of the community's sources of water in terms of access to safe water?
9. Examine the effect of manufacturing sites (for latrine slabs and brick, construction sites for PSN shelters), and other locations where IGAs are conducted by the project beneficiaries on the surrounding environment?
10. Access community's knowledge, attitude and practices with regard to water safety, hygiene and sanitation?
11. Find out and document any unintended benefits/ harms brought about by the project activities to the environment like recycling wastes, waste management?
12. What intervention areas need further exploration through qualitative assessment to determine factors that worked for and/or against the results attainment?

Final Report for "Endline survey and evaluation on LWF-ECHO project in Adjumani, Rwamwanja, and Palorinya refugee settlements" submitted by Bronkar.

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