Final Report for End line Evaluation of Kainuk and Kasei Community Resilience Project

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February 2018

ACKNOWLEDGEMENT

This end line evaluation report on Community Resilience Project in Kainuk division in Turkana South District in Turkana County and Kasei and Sook divisions in West Pokot County is the outcome of extensive interviews and discussions with community members, including community leaders, in the divisions, county government ministries and departments, local and international non-governmental organizations, and community-based organizations.

Our sincere gratitude goes to all who contributed to the end line evaluation. We are indebted to various stakeholders, including county authorities, chiefs and assistant chiefs, community leaders, community organizations, and international and local organizations, which provided valuable feedback and shared their strategies, experiences and challenges. KRCS recognizes the contribution of all other stakeholders not specifically mentioned here.

Our immense gratitude also goes to Mr. Januarius Obongita, KRCS Monitoring, Evaluation, Accountability and Learning Officer, who provided sturdy and exceptional administrative and technical support during the implementation of the end line evaluation. KRCS recognizes the valuable support of the following, without whom the end line evaluation would not have been successfully completed: KRCS' programs, M&EAL, project field and the BRC team; led by the KRCS team, Lydia Atiema, Elijah Muli, Suada Ibrahim, Reuben Momanyi, Dancan Oranda, Chris Okotch, Mcwalter Oola and Daniel Wanyoike.

The exceptional work of the consultants, ResearchIntel Africa Ltd. (RIAf), under the leadership of Mr. Tobias Odhiambo and supported by Mr. George Otieno and Mr. David Kamau, is duly recognized.

Finally, special thanks go to those who worked long hours to provide essential administrative and technical support to ensure successful completion of this exercise, including everyone who provided valuable comments on the report, and whose wisdom is incorporated in it.

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TABLE OF CONTENTS

ABBREVIATIONS

BRC	British Red Cross
CABESI	Camel, Bees and Silk
CBO	Community Based Organization
CBDRT	Community Based Disaster Response Team
CMDRR	Community Managed Disaster Risk Reduction
CSI	Coping Strategy Index
CV	Curriculum Vitae
EWS	Early Warning Systems
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FBO	Faith Based Organization
FCS	Food Consumption Score
FGD	Focus Group Discussion
GoK	Government of Kenya
HDDS	Household Dietary Diversity Score
HH	Household
IGA	Income Generating Activity
KRCS	Kenya Red Cross Society
KII	Key Informant Interviews
LHMS	Livestock Husbandry and Management Services
N	Total sample
n	Sub-sample
NDMA	National Drought Management Authority
NGO	Non-governmental Organizations
PPS	Population Proportional to Size
SHEPP	School Hygiene Education Promotion Programme
ToR	Terms of Reference
WASH	Water Sanitation and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

With financial support from the British Red Cross (BRC), the Kenya Red Cross Society (KRCS) in partnership with the County governments of Turkana and West Pokot implemented a three year Community Resilience Project in Kainuk division in Turkana South District in Turkana County and Kasei and Sook divisions in West Pokot County.

The project aimed to build community resilience through improving food security and livelihoods in households, improving health, hygiene and sanitation as well increasing community response to disasters in the target communities of Turkana and West Pokot counties through a number of strategies: expanding the project into Kasei and Sook divisions in West Pokot County; introducing beekeeping as a livelihood option; introducing of shade net irrigation in Kainuk division; and addressing security issues through enhanced community involvement and building capacity of project staff and volunteers about the project security.

The purpose of the end line evaluation was therefore to establish the final status of the project's outcomes and related indicators against which the baseline benchmark results and mid-term review results of the project was compared and impact, if any, established. In line with the OECD DAC evaluation criteria or principles, the end line evaluation further examined the relevance, efficiency, effectiveness, impact and mechanisms for sustainability alongside documentation of lessons learnt and best practices in implementation of the project, organizational learning and best practices, beneficiary participation and accountability, partnerships, stakeholder engagement and integration, feedback and communication process, and cross cutting areas mainly gender to address inequality among project beneficiaries, and make recommendations.

The end line evaluation study adopted a mixed-method approach entailing desk review, quantitative and qualitative designs. Using a list of beneficiary households and schools, the sample for the quantitative design was drawn using a stratified sampling methodology. The qualitative design which entailed use of Focus Group Discussions (FGDs) and Key Informants Interviews (KIIs) adopted a purposive sampling approach due to the need of targeted and relevant interviews.

The end line evaluation was conducted in October 2017 in Kainuk division in Turkana South and Kasei and Sook divisions in West Pokot. The evaluation targeted beneficiary households and school children interviewed through use of both survey questionnaires and Focus Group Discussion (FGD) guides; and key informants (KRCS and BRC staff, KRCS volunteers, project school principals, community leaders, partner civil society organizations (CSOs), disaster-related County government agencies and community based disaster response team (CBDRT)) interviewed using Key Informant Interview (KII) guides.

Data collected through the quantitative approach using survey questionnaires was analysed using IBM SPSS Statistics Version 23 and mainly entailed conducting a univariate or descriptive analysis of the quantitative data. Analysis of qualitative data entailed grouping of collected information by themes drawn from study objectives and project indicators to facilitate content and thematic analysis.

Major Findings and Key Results

In evaluating the project's relevance, efficiency, effectiveness, outcomes and emerging impact, sustainability, a unipolar scale[1] of 1 to 5 where 5 is excellent (fully met), 4 is satisfactory (mostly met), 3 is attention (partially met), 2 is caution (does not meet the evaluation criterion with significant issues to be addressed) and 1 is problematic (does not meet the evaluation criterion with serious Deficiencies issues to be addressed) was utilized to measure the perceived extent of effectiveness or satisfaction with implementation or achievement of a given project area[2].

A. Relevance The extent to which the project interventions met needs of the beneficiaries; the appropriateness of results in relation to the needs of the communities, national policies and priorities as well as the relevance of the project's design/strategies set out to achieve the expected results	Rating (5): **Excellent**

The use of an inclusive approach entailing involvement of local institutions and target groups during the project's design and all planning forums has ensured that the objectives of the project were wholly aligned with the needs, expectations and interests of the target groups and stakeholders. This entailed use of NDMA, County government officials, CBDRT, farmer groups, existing NGO such as Mercy Corps, school children in school health clubs, farmer group members, veterinary drug store vendors, KRCS volunteer network in target groups' communities to train and support farmers, community members and school children ensured inclusion of existing grassroots initiatives in the implementation of the project thus safeguarding the project's relevance and further strengthening community ownership of the project

Further, the project's strategy of partnering with CBOs in target groups' communities to implement activities under the project has safeguarded the project's relevance, strengthened community ownership of the project, and guaranteed sustainability of the implemented activities.

Through capacity building as one of the project's strategies, the capacities of the target groups have been strengthened in a number of ways thus evidencing the relevance of the project to their needs and achievement of expected results.

B. Efficiency The extent to which the project has used resources in a cost effective way to achieve its objectives and results in terms of delivering quality, on time, and compared to alternatives, within budget	Rating (4): **Satisfactory**

Save for the delayed roll-out of construction of borehole to support establishment of irrigation networks due to the time taken in carrying out a hydrological survey consultation, virtually all activities were achieved on time using available resources, the project demonstrated compliance to set activity timelines and output targets in achieving its objectives and results and within budget. Key facilitating factors were early development and approval of work plans linked to the indicators of the project, activities and budget, joint quarterly performance review meetings, and technical support provided by the projects' stakeholder groups.

Further, the project used available resources in the most economical manner to deliver quality and timely results compared to alternatives. Strategies employed to ensure cost effective and transparent use of available resources during implementation of the project included: adoption of a partnership-based implementation thus enabling leveraging partners' time, finance and personnel resources; implementation of multiple activities by partners sequentially organized to reduce costs such as travel;

[1] The rating scale adopted allows for measuring the degree of satisfaction or effectiveness with regard to implementation or achievement of key project areas. A 5 point unipolar rating scale offers adequate number of scale points to allow detection of shifts in changes of scores as compared to a scale with fewer scale points.
[2] See annex 2 on description of rating scale

and participation of partner stakeholder groups in identification and prioritization of project activities thus ensuring inclusivity and transparency; and having partner quarterly review meetings to discuss implementation progress of the project including tracking costs and budgetary implications for all planned activities.

The overall governance and management of the project characterized by dedicated personnel with clear reporting lines and structures was efficient. Key strategies deployed to ensure cost effective achievement of the project's objectives and results on time: use of local institutions with grass roots presence ensured direct linkages with target groups thus cost effective use of time and financial resources in reaching the target groups; working with partners with national presence and experience in project areas provided linkages with the government and other key state and non-state actors thus ensuring cost effective use of time and delivery of quality outputs; and presence of KRCS staff and volunteers in the two counties of West Pokot and Turkana ensured cost effective supervision, monitoring, and co-ordination of the project's activities.

A well-defined authorization and approval terms for any funds disbursements, to reduce possibilities of fiduciary risks complemented by a financial system with internal controls and external audits show evidence of sound fund management. Purchasing of any goods and services followed stipulated procurement procedures at all times.

C. Effectiveness The extent to which the objectives of the project were achieved or expected to be achieved taking into account end results for target groups and stakeholders as well as the effects of unplanned results and assumptions/risks affecting the project	Rating (4): **Satisfactory**

The final results of the project are provided in the matrix below.

Table 1: End line status of expected results and related indicators

PROJECT TITLE: STRENGTHENING COMMUNITY RESILIENCE IN TURKANA AND WEST POKOT COUNTIES								
GOAL: INCREASED RESILIENCE OF COMMUNITIES IN KAINUK, KASEI AND TURKWEL DIVISIONS OF TURKANA AND WEST POKOT COUNTIES TO THE IMPACTS OF DISASTERS								
Hierarchy of Result	**Indicator & Question number in Tools**	**Indicator definition**	**Indicator computation**					
			Level of disaggregation	**Category**		**Indicator BASELINE level & C.I. (%)**		**Project Target**	**Indicator END LINE level & C.I. (%)**
Goal: Increased resilience of communities in Kainuk, Kasei and Turkwel divisions of Turkana and West Pokot Counties to the impact of disasters	**% of people affected by disasters in South Turkana and West Pokot**		**Division**	Kasei Division		**96.1**	**±4.9**	**N/A**	**67.7 %[63.2,70.0]**
				Kainuk Division		**95.5**	±4.5		**67.8%[65.0,70.0]**
				Sook Division		**95.0**	±5.0		**65.1%[60.2,68.8]**
				Aggregate		**95.5**	±4.8	**<50%**	**64.7%[64.7, 68.9]**
OUTCOME 1: FOOD SECURITY AND LIVELIHOOD									
OUTCOME 1: Improved food security and livelihood for 580 households in Turkana south (Kainuk - 310) and West Pokot (Kasei and Sook - 270 HHs)	% of HHs reporting more than one source of livelihood **Community Survey tool: Q5 & Q6**	**Source of livelihood:** Proportion of HHs using more than one method to meet the requirements of their households	Division	Kasei division		42%	±5.8	**N/A**	36%[25.0,47.7]
				Kainuk division		67%	±5.6		46%[38.8,53.2]
				Sook division		53%	±5.9		26%[17.1,34.1]
				Aggregate		**59%**	**±5.8**	**65%**	**38%[32.8,43.4]**
	Household Coping Strategy Index **Community Survey tool: Q101 & Q102**	**Household Coping Strategy (CSI):** Proportion of HHs using different strategies to deal with absence of sufficient food or money to buy such food.	Division	Kasei	CSI 0 - 20	0%	±2.8	**N/A**	19%[9.7,29.0]
					CSI 21 - 40	10%	±5.4		45%[32.3,58.1]
					CSI 41 - 60	45%			19%[9.7,29]
					CSI 61 - 80	16%	±5.1		10%[0,22.6]
					More than CSI 80	29%	±4.3		6%[0,16.1]
				Kainuk	CSI 0 - 20	15%	±3.4		29%[21,35.2]
					CSI 21 - 40	47%	±5.6		48%[38.1,56.2]
					CSI 41 - 60	26%			18%[11.4,24.8]
					CSI 61 - 80	9%	±5.9		3%[0,6.7]
					More than CSI 80	3%	±4.8		3%[0,6.7]
				Sook	CSI 0 - 20	4%	±3.2		61%[50.7,70.4]
					CSI 21 - 40	19%	±5.3		37%[28.2,46.5]
					CSI 41 - 60	39%			1%[0,4.2]
					CSI 61 - 80	26%	±5.4		1%[0,4.2]
					More than CSI 80	13%	±4.4		0% [0,0]
				Aggregate	**CSI 0 - 20**	**10%**	**±3.2**	**15%**	**38%31.9,44.9]**
					CSI 21 - 40	**34%**	**±5.5**	**37.4%**	**43%[37.7,49.8]**
					CSI 41 - 60	**32%**		**19%**	**13%[8.7,16.4]**
					CSI 61 - 80	**15%**	**±5.8**	**10%**	**3%[1.4,5.3]**

					More than CSI 80	**9%**	**±4.6**	**6%**	**2%[0.5,4.8]**
	Number of food groups consumed at the Households in the last 24 Hrs (Dietary diversity) **Community Survey tool: Q100**	**Dietary diversity:** Types of foods or diet accessed and consumed by HHs in the last 24 hours. [**Food Consumption Score (FCS)]**	Division	Kasei	Less than 4 food groups	9%	±3.4	**N/A**	11%[2.3,20.5]
					4 to 5 food groups	13%	±4.0		18%[9.1,27.3]
					More than 5 food groups	78%	±4.9		70%[59.1,81.8]
				Kainuk	Less than 4 food groups	0%	±0		5%[2.2,7.9]
					4 to 5 food groups	3%	±2.0		9%[5.8,13.7]
					More than 5 food groups	97%	±2.0		86%[79.9,90.6]
				Sook	Less than 4 food groups	0%	±0		1%[0,4.8]
					4 to 5 food groups	8%	±3.2		4%[0,7.3]
					More than 5 food groups	92%	±3.2		95%[91.5,98.8]
				Aggregate	**Less than 4 food groups**	**1%**	**±1.2**	**1%**	**5%[2.6,7.2]**
					4 to 5 food groups	**6%**	**±2.8**	**3%**	**9%[6,11.7]**
					More than 5 food groups	**93%**	**±3.0**	**95%**	**86%[82.3,90.2]**
OUTPUT 1.1: 340 households in Turkana South and West Pokot have improved capacity in undertaking bee farming	% of households with improved capacity in bee farming **Community Survey tool: Q47, Q52 & Q53**	**Improved capacity in bee farming:** Proportion of HHs reporting improved knowledge on management of stocks of honey bees for income generation and dietary diversity as a result of access to training on beekeeping and practicing of knowledge acquired	Division	Kasei division		23%	±4.5	N/A	28%[16.7,44.4]
				Kainuk division		39%	±0		60%[50,70.5]
				Sook division		18%	±5.3		48%[30.9,60.9]
				Aggregate		**32%**	±4.0	**95.7%**	**53%[45.4,60.5]**
OUTPUT 1.2: 40 households reporting surplus in crop yield, including diversification in food crops produced for HH consumption, market and trade in Kainuk	% of households reporting an increase in crop yield *(Insert the type of crop being targeted here)* compared to the last season of harvest **Community Survey tool: Q15**	**Crop yield**: Proportion of HHs reporting an increase in harvested production per unit of harvested area for crop products	Type of crop (KGS)	Maize		1219.5		1243.9	-
				Kales		454.2		463.3	-
				Sorghum		175.0		0	-
				Pumpkins		65.0		66.3	-
				Tomatoes		305.0		311.1	-
				Beans		30.0		31.5	-
				Cowpeas		20.0		21	-
				Total yield		**2,268.7**		**2,137.1**	-
	% of households supplying food crops to the market **Community Survey tool: Q17**	**Supplying food crops to the market:** Proportion of HHs that are selling food crops at the market including at their gates	Households	**Aggregate**		**18%**	**±4.5**	**21%**	**15%[5.9,23.5]**
OUTPUT 13: 200 households practicing pastoralists are supported with capacity in livestock Husbandry and management	% of pastoralist HHs accessing livestock husbandry and management services (LHMS) **Community Survey tool: Q31 & Q32**	**Access to livestock husbandry and management services:** Proportion of HHs accessing and utilizing LHMS services entailing selecting, breeding, raising and marketing of livestock for food and income generation	Division	Kasei division		0%	±0	**N/A**	71%[54.2,83.3]
				Kainuk division		0%	±0		95%[90.5,100]
				Sook division		0%	±0		64%[51.1,77.8]
				Aggregate		**0%**	**±0**	**50%**	**73%[64.4,81.1]**

OUTCOME 2: WATER, SANITATION AND HYGIENE								
Hierarchy of Results	**Indicator**	**Indicator definition**	**Indicator computation**				**Project Target**	**Indicator end line level & C.I. (%)**
			Level of disaggregation	**Category**	**Indicator baseline level & C.I. (%)**			
OUTCOME 2: 2,700 households comprising 16,200 community members (6,000 Kainuk,6000 Kasei and 4,200 Sook) have access to water and improved sanitation and hygiene practices	Distance (Km) and time (Min) covered by household members to access the nearest improved water source for domestic use **Community Survey tool: Q59 & Q63**	**Access to improved water source:** Proportion of HHs covering less than 1 km or less than 30 minutes one-way to collect water **(NB: The primary source of water for all beneficiary HHs surveyed is surface water)**	Division [DISTANCE (0 – 1 KM)]	Kasei division	0%	±0.0	**N/A**	50%[37.1,61.4]
				Kainuk division	0%	±0.0		54%[45.3,61.9]
				Sook division	0%	±0.0		45%[36.6,53.7]
				Aggregate	0%	±0.0	**60%**	**51%[44.5,57]**
			Division [TIME (0 – 30 MIN)]	Kasei division	0%	±0.0	**N/A**	55%[40.9,68.2]
				Kainuk division	0%	±0.0		54%[46,61.9]
				Sook division	0%	±0.0		35%[25.6,46.3]
				Aggregate	**0%**	**±0.0**	**60%**	**48%[42.3,54]**
	% of beneficiaries (Households members and school children) practicing hand washing at critical times **Community Survey tool: Q85** **Children Survey tool: Q2**	**Practicing hand washing at critical times:** Proportion of HHs and school children practicing at least 3 critical times for washing hands with running water and cleansing agent mainly soap or ash to prevent infection (i.e. after defecation, before eating, after playing, before handling food and after cleaning child)	Division (Households)	Kasei division	6%	±2.8	**N/A**	50%[38.6,61.4]
				Kainuk division	54%	±5.9		50%[43.9,56.8]
				Sook division	9%	±3.4		40%[31.7,48.8]
				Aggregate	**34%**	**±5.6**	**51%**	**47%[41.5,53.2]**
			Schools	Sex	Boys 76%	±4.3	**N/A**	85% [80.4,89.5]
					Girls 81%	±4.0		89% [84.4,93.6]
					Aggregate 78%	**±4.2**	**90%**	**87% [83.5,90]**
				Age	Less than 10 years old 59%	±5.0	**N/A**	85% [77.8,100]
					10 to 12 years old 85%	±3.6		83% [74.7,90.4]
					13 to 15 years old 78%	±4.2		89% [84.6,92.5]
					More than 15 years old 61%	±4.9		85% [74.6,92.1]
					Aggregate 78%	**±4.2**	**90%**	**87% [83.5,90]**
	% beneficiaries (Households members and school children) accessing a sanitation facility (Latrines, toilets) **Community Survey tool: Q66 & Q69**	**Access to sanitation facility:** Proportion of HHs and school children accessing facilities and services for the safe management of human excreta (urine and faeces), including the collection, transport, treatment and reuse/ disposal, of urine, faeces, or wastewater	Division (households)	Kasei	6%	±2.8	**N/A**	4%[0,15.9]
				Kainuk	22%	±4.9		19%[12.2,24.5]
				Sook	8%	±3.2		17%[12,26.1]
				Aggregate	**16%**	**±4.3**	**33%**	**16%[9.8,22.5]**
			School children	Aggregate	**100%**	**±0**	**100%**	**100%**
OUTPUT 2.1: One community borehole, and 12 school sanitation facilities	% of beneficiaries (household members and school children) with knowledge of hand	**Hand washing techniques:** Proportion of HHs and school children aware of routine and	Households	Kasei division	6%	±2.8	**N/A**	9%[5.2,12.9]
				Kainuk division	14%	±4.1		18%[11,25.3]
				Sook division	7%	±3.0		10%[6.4,14.9]
				Aggregate	**10%**	**±3.6**	**20%**	**14%[9.2,21.7]**

constructed and 34 villages facilitated with hygiene promotion.	washing techniques **Community Survey tool: Q83** **Children Survey tool: Q1**	hygienic methods of washing hands in order to reduce contamination through use of soap/ash and running water	Sex (School children)	Boys	22%	±4.2	N/A	40%[33.5,46.4]
				Girls	26%	±4.4		41%[34.4,48.1]
				Aggregate	**24%**	**±4.3**	**40.8%**	**41%[35.5,45.5]**
			Age (School children)	Below 10 years	0%	±0	**N/A**	11%[0,33.3]
				10 to 12 years	18%	±3.9		29%[18.1,39.8]
				13 to 15 years	31%	±4.7		43%[36.8,49.1]
				More than 15 years	15%	±3.6		52%[41.3,63.5]
				Aggregate	**24%**	**±4.3**	**40.8%**	**41%[35.5,45.5]**
	Number of functional sanitation facilities at the community level (including schools) **School heads KII tool: Q6 (b) and (c)**	**Functional sanitation facilities:** Number of sanitation facilities in the target communities and schools that are in working condition and operational all days of the week.	Schools	Boys' sanitation facilities	51		51	51
				Girls' sanitation facilities	39		62	62
				Staff's sanitation facilities	15		24	24
				Sanitation facilities for special groups (young children & PWDs)	3		0	-
				Urinal block	9		0	2
	Number of functional water facilities for domestic use within the project sites **KRCS staff KII tool: Q19b (i) & (ii)**	**Functional water facilities:** Number of water facilities in the target communities and schools that are in working condition and operational for at least 2 days in the last 2 weeks.	Division	Kasei division	1 borehole		1	2 boreholes
				Kainuk division	6 boreholes		1	6 boreholes
				Sook division	1 borehole & 1 piped system		0	1 borehole & 1 piped system
				Aggregate	**8 boreholes & 1 piped system**		**10**	**2 boreholes (1 in Kainuk and 1 in Kasei (Kamrio)**
			Schools	**Aggregate**	2 boreholes & 1 piped system		0	-

OUTCOME 3: DISASTER PREPAREDNESS AND RESPONSE							
Hierarchy of Results	**Indicator**	**Indicator definition**	**Indicator computation**				
			Level of disaggregation	**Category**	**Indicator baseline level & C.I. (%)**	**Project Target**	**Indicator end line level & C.I. (%)**
OUTCOME 3: KRCS, County government and communities able to anticipate and respond to disasters in Turkana and West Pokot	Community members demonstrating improved knowledge on disaster management	**Improved knowledge on disaster management:** Proportion of HHs demonstrating improved understanding of activities and measures for disaster prevention, mitigation and preparedness assessed through level of access to training on disaster management as well as demonstrable understanding of disaster preparedness and response			**26%** This indicator required demonstration exercises by survey respondents to assess their knowledge on disaster management. However, these were not carried out. A proxy indicator to measure knowledge on disaster management is Indicator 2c under Project Outcome 3 (Output 2) which shows that only 26% of all households surveyed reported knowledge and understanding of disaster preparedness & response.	**39%**	**77%** Compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34% in Sook), approximately 77% of surveyed household respondents (75% in Kainuk, 57% in Kasei, 90% in Sook) at end line reported having knowledge in disaster management
	"Number of CMDRR and EWS plans developed and shared	**Plans developed and shared**: Number of plans developed and used to guide county budgets for disaster contingency funds that	At the time of the study, CMDRR and EWS plans were yet to be developed and shared with county governments. However, there are plans in place to				Three draft plans have been developed to address disaster preparedness and response

	with the county through the NDMA Structures, influencing county budgets for disaster contingency funds" **KRCS staff KII tool: Q28b (i) & (ii)** **County government KII tool: Q49b (i) & (ii)** **CSOs KII tool: Q48b (i) & (ii)** **CBDRT members FGD Tool: Question C (bullet 5)**	have been shared through NDMA structures	meet with NDMA to prepare the CMDRR and EWS plans.	**2**	including emergency preparedness and resource mobilization plan, a draft Compensation framework for both West Pokot and Turkana Counties
OUTPUT 3.1: KRCS, County government and communities in Turkana and West Pokot counties have capacity to prepare and respond to disasters	Joint planning and coordination between the community, KRCS and the county government in Turkana and West Pokot counties in disaster preparedness and response. **KRCS staff KII tool: Q29 (a) & (b)** **County government KII tool: Q49c (i) & (ii)** **CBDRT members FGD Tool: Question C (bullet 2)**	**Joint planning and coordination:** Between the community, KRCS and the county governments of Turkana and West Pokot, establish existence of joint generation of activity sequences, joint selection of activities to be implemented and joint implementation of selected activities mainly in disaster preparedness and response.	There is evidence of joint planning between KRCS and the County governments with regard to developing CMDRR and EWS plans towards addressing disaster preparedness and response. In addition, under the County Steering Group (CSG), NGO partners including County departments of Disaster Management meet to plan and support emerging disasters in the project locations. However, and as noted by one of the key informants surveyed, there still lacks a formal framework to guide this partnership.	**N/A**	Joint planning and coordination between the community, KRCS and the county government in Turkana and West Pokot counties and partner NGOs in disaster preparedness and response has been undertaken in a number of ways: joint disaster management training to improve capacity of the volunteers and County staff in effectively and efficiently anticipating and responding to disasters; collaborative steering group meetings at county and sub-county level levels mainly in the areas of disaster management including cash transfer; County Food Security Technical Working Group to address the effects of drought through preparation of emergency preparedness and resource mobilization plan; and a forum aimed at finalization of Compensation framework and Disaster Management Act for West Pokot County to guide peace activities within the County.
	KRCS Kainuk and West Pokot field staff and	**Equipped:** Number of KRCS staff and volunteers provided with required facilities,	**9** While all KRCS staff and volunteer reported having	**120**	**120** To ensure that KRCS staff and

	volunteers equipped to prepare and respond to disasters. **KRCS staff KII tool: Q27a (i) (ii) (iii)**	equipment and materials needed for preparing and responding to disasters	the required knowledge to respond to disasters in the regions, all of the nine surveyed staff/volunteers indicated that they are not adequately equipped to respond to disasters in the project locations The surveyed staff highlighted a number of challenges that hinder them from carrying out their tasks satisfactorily which include: lack key equipment such as first aid kits and protective clothing such as gloves; inadequate transport resources; lack of food in the field; and lack of incentives for volunteers for continued motivation.				volunteers are adequately equipped to respond to disasters, a number of activities have been undertaken: capacity building provided by RCAT ToTs and officials from National Drought Management; provision of Disaster Response Kits; facilitation of their meetings, KRCS staff and volunteer have participated in team building sessions to motivate them in their role in disaster management.	
	Community members report an improvement in knowledge in disaster preparedness and response. **Community Survey tool: Q93 & Q94**	**Improved knowledge:** Proportion of HHs reporting improved understanding on how to prepare and respond to disaster (Measured through establishing access to training on disaster preparedness and response and demonstration on knowledge on preparedness and response)	Division	Kasei	33%	**N/A**	±5.6	73%[61.4,86.3]
				Kainuk	20%		±4.7	85%[79.1,90.6]
				Sook	34%		±5.6	93%[86.6,97.6]
				Aggregate	**26%**	**39%**	**±5.2**	**85%[80.8,89.4]**

D. Outcomes and emerging impact The positive and negative, primary and secondary long-term effects/changes produced by the project, indirectly or directly, intended or unintended	Rating (4): **Satisfactory**

A number of benefits from this project both intended and unintended, short term and long term, have been realized as enumerated below:

- There is a significant improvement in bee farming capacity in all administrative divisions with Kainuk registering an improvement from 39% at baseline level to 60% at end line level, from 23% at baseline to 28% at end line for Kasei, and 18% at baseline to 48% at Sook. The training of 40 farmers (33M, 7F) facilitated by officials from Ministry of livestock development between 26th and 29th September 2017 and continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits to Silenga bee farmers group, Nasuguta government resource centre and CABESI market place in Kapenguria in West Pokot during the period between July 10 – 12, 2017 may have contributed to the gains in knowledge in beekeeping and therefore apiary management.
- End line data shows that approximately 73% of surveyed pastoralists as compared to 0% at baseline reported having access to and utilizing livestock husbandry services as a result of a number of factors: establishment of two drug stores in Turkwel and Kakong managed by Community Disease Reporters (CDR) have remained operational thus providing the much needed veterinary services and livestock drugs and other equipment; training and exchange visits to Sook and Kakong involving Community Diseases Reporters (CDRs) and County veterinary doctors and covering proper storage, handling and prescription, disease diagnosis and treatment as well as good customer relation, and proper record keeping; training of 40 Community Animal Health Workers (CAHWs) (20 in Turkana and 20 in West Pokot) on animal husbandry and management; and linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice.
- Compared to a baseline of 0%, approximately 51% of households surveyed at end line reported having an improved water source within approximately 0 to 1 km of their homes while approximately 44% of the surveyed respondents indicated that they take approximately 0 to 30 minutes for a round-trip to collect water from the improved water source including queuing. A total of two newly constructed boreholes in Kainuk (Kainuk borehole for irrigation) and Kositei (Kamurio borehole for domestic and livestock) were carried out during the project period. In addition, training of the established community level water management committees has ensured proper management, operations and maintenance of the boreholes thus guaranteeing sustainable and improved water sources to community households in the project area. The benefits of the newly constructed boreholes cannot be overstated. For example, it was noted that community members of Kamrio now draw water from the system instead of travelling to Turkwel located approximately eight kilometres away. In addition, the water system provides water for livestock that do not graze far from home like shoats and calves[3].
- Approximately 87% of interviewed school children at end line as compared to 78% at baseline reported practising hand washing in at least three critical times. On-going SHEPP activities in project supported schools involving established school health clubs pivotal in passing WASH related messages to the school fraternity (including through murals on school buildings mainly hand washing at 4 critical moments, drinking treated water always to prevent diarrheal diseases; avoid open defecation, keeping the toilet clean; general body hygiene; and keeping the school compound tidy) may have contributed to the increased knowledge on hand washing among school children
- Compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34% in Sook), approximately 77% of surveyed household respondents (75% in Kainuk, 57% in Kasei, 90% in Sook) at end line reported having knowledge in disaster management. It was established

[3] It is a tradition by pastoralists that they remain at home with some livestock especially shoats and calves.

that community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction (e.g. in Kositei and Kaptolomo locations) on conflict resolutions, food security, first aid and sanitation and hygiene

E. Sustainability The extent to which the project has established and built institutional capacity that ensures the continuation and maintenance of the project's results/outcomes taking into consideration the capacities built for the target groups, government, community and civil society stakeholders as well as for partners and sub-grantees	Rating (4): **Satisfactory**

The project's sustainability was ensured through a number of key strategies:

- *Partnership between state and non-state actors:* Through collaboration with NDMA, County governments of Turkana and West Pokot, CBOs such as farmer groups and CBDRTs and NGOs such as Mercy Corps, the project has contributed to strengthening cooperative relationships between state and non-state actors at national and county level that will be sustained into the future. As aforementioned, the project identified and involved local structures from the onset mainly County governments, CBOs and NGOs with grass roots presence, school children clubs, schools, and individuals such as chiefs and including them in key decision making and planning forums such as assessing and prioritizing the needs of target groups to influence the project's activity implementation. This has ensured community ownership and therefore enhancing sustainability of the project's activities at community level.
- *Development of exit plan and holding close-out meeting:* In addition to holding a close-out meeting to discuss key issues including the project's process and outcome effectiveness, budget close-out, lessons learned, and roles and responsibilities turnover, a viable phasing out plan was developed and is currently being implemented.
- *Continued support for the project's activities:* A key aspect of the close-out meeting and the phase out plan is continued support to established and implemented activities under this project. Evidence of further commitment of partners and associates to the sustainability of the project was not established. However, it is expected that established community structures such as CBDRTs and farmer groups (shade nets and bee farmers) will continue to support the project's activities. Successful project outputs such as veterinary drug stores are self-sustainable if properly managed by the trained vendors.
- *Capacity building and hygiene promotion campaigns:* As aforementioned, capacity building involving training and in some cases exchange visits of beneficiaries mainly community members and school children is a long term strategy for viability of protecting gains realized as a result of the project's activities. As earlier stated, already members of established school health clubs are acting as role models in promoting sanitation and hygiene through carrying out sensitization on sanitation and hygiene in their respective communities. Further, KRCS staff and volunteers and County staff have been trained on various components of disaster management thus expected to continue to deliver the relevant expected project results.

Lessons learned

The final evaluation identified key lessons from this project. These are:

- Long term projects as opposed to short term projects as is the case with the Kainuk Kasei Community Resilience Project ensure adequate time for monitoring of project activities and instituting well thought out implementation strategies to ensure sustainability
- Partnering with committed stakeholder groups is key in viability of a project as far as financial commitment is concerned

- Existing KRCS structure at grassroots level through volunteer network ensures viability and continuity of key aspects of the project such as provision of advisory services on disaster management

Recommendations and conclusions

A. Conclusions

Overall, the project was successful in its primary goal of contributing to increased resilience of communities in Kainuk, Kasei and Turkwel divisions of Turkana and West Pokot Counties to the impact of disasters

- The training beekeeping farmers facilitated by officials from Ministry of livestock development and continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits may have contributed to the gains in knowledge in beekeeping and therefore apiary management
- The establishment of drug stores in Turkwel and Kakong managed by CDR, training and exchange visits to Turkwel involving CDRs and County veterinary doctors, training of CAHWs on animal husbandry and management and linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice has been pivotal in ensuring huge improvement in access to and utilization of livestock management and husbandry services
- Construction of new boreholes and rehabilitation of existing ones and training of established community level water management committees has ensured that community households in the project locations have access to sustainable and improved water sources with guaranteed management, operations and maintenance of the boreholes
- On-going SHEPP activities in project schools involving established school health clubs pivotal in passing WASH related messages to the school fraternity and community members may have contributed to the increased knowledge on hand washing among school children and possibly in community settings
- Community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction, conflict resolutions, food security, first aid and sanitation and hygiene thus partly explaining the enhanced knowledge on disaster management

B. Recommendations

- There is need to give more attention to community-shared learning mainly through exchange visits via village-to-village visits to afford beneficiary communities the opportunity to learn from each other and exchange ideas on both successful and problematic management of all project domains of food security, WASH and disaster preparedness and response.
- KRCS should lobby for financial support for locally based extension service training institutions to ensure continuous training of community members as change agents. The training institutions can also be utilized as locations for demonstration of innovative approaches in the areas of food security, WASH and disaster preparedness and response and skill training offered in other useful areas in agri-business, literacy and numeracy skills, organizational development.
- While sanitation hardware mainly toilets may exist in some households, they are not well maintained. It is important that KRCS considers establishment of management systems as part of future projects to keep sanitation facilities clean and in working condition without which can lead to both health and environmental problems
- As WASH in Schools is not considered a priority for most communities and municipalities, the situation in many places is deplorable to the extent that there are even no toilets for students and teachers to use. In other situations, the physical infrastructure may exist, but it is not well maintained. No management system is in place to keep facilities clean every day, and children do not practise proper hygiene, all of which can lead to both health and

environmental problems. In other words, there is a need not just for WASH, but for sustainable Water, Sanitation and Hygiene

- While KRCS has worked mainly with the national and county governments as well as NGOs such as Mercy Corps, it is important to advocate and lobby for support aimed at addressing the transitional context of this project. Specifically, it is important to give more attention to capacity building of intermediate level actors for longer term and sustainable back up to beneficiary communities and schools for supporting the operation and maintenance of gains made.
- Among other things, the project realized successful establishment of CBDRTs and early warning systems, training in disaster risk management, and preparing a community Disaster Risk Management Plan which are measures of success of any community based disaster risk management process. However, to fully benefit from the established structures, it is important that continuous and regular community simulations and exercises are carried out to ensure continuous capacitating of the beneficiary at-risk communities.
- Notwithstanding the fact that the project is nearing completion, it is vital that formal bilateral cooperation agreements/memoranda of understanding are drawn prior to KRCS exiting the project to guarantee partner commitment and therefore project sustainability.
- Documentation and sharing of case studies and learning areas is key in lobbying state and non-stated actors for policy strengthening and funding to ensure maximization of the impact of the explicit and tacit knowledge on the disseminated experiences from this project.

CHAPTER 1: EVALUATION BACKGROUND

This chapter contains the evaluation background that covers the insights and context in which the evaluation was undertaken. It comprises of the project background information on the 'Kainuk and Kasei Community Resilience Project' the purpose of the end line evaluation and the evaluation research objectives.

1.1 Background and Scope of the project

The Kainuk Community Resilience project commenced in April 2013 at Kainuk division in Turkana County and revised in March 2015 and extended to include Kasei and Sook Divisions in West Pokot County.

The revised project whose goal was to increase resilience of communities in Kainuk, Kasei and Sook divisions of Turkana and West Pokot Counties to the impact of disasters targeted the intersecting areas of: food security and livelihoods; water, sanitation and hygiene; and disaster preparedness, response and management. As illustrated below (Table 2), the project therefore benefitted households in the target communities, KRCS and county government staff.

Table 2: Project outcomes and beneficiaries

Outcome	Beneficiaries
1. Improved food security and livelihood	580 households distributed as: 310 households in Kainuk division in Turkana south and 270 households in Kasei and Sook divisions in West Pokot
2. Improved access to water, sanitation and hygiene practices	2,700 households comprising 16,200 community members distributed as: 6,000 in Kainuk division in Turkana South and 6000 in Kasei and 4,200 in Sook divisions in West Pokot. Also includes 12 schools equally distributed in the three divisions of Kainuk, Kasei and Sook divisions.
3. Improved capacity on disaster response and management	4 community-based disaster response team (CBDRT) distributed as: 2 CBDRT in West Pokot County and 2 CBDRT in Turkana County each comprising 30 members drawn from the target villages Training 6 county personnel and 40 volunteers on Disaster management Conducting peace activities between Pokot and Turkana communities

The expected results and related indicators for the project are shown in *table 1*

1.2 Objectives of the evaluation

The specific objectives of the end line evaluation were:

i. Establish end line information against the project log frame indicators at community level compared to the benchmark statistics at baseline to provide levels of achievement/non achievement for the project.
ii. Assess the outcomes and results of the project by evaluating information, services and products generated from the project in terms of its relevance, effectiveness, efficiency, sustainability, partnerships and learnings.
iii. To document community perception of their participation and how KRCS accountability standards have been applied in the project

CHAPTER 2: EVALUATION SCOPE AND METHODOLOGY

This chapter deals with the methodology employed in carrying out the end line evaluation. More specifically, it describes in detail the various approaches used in conducting the evaluation and the target scope for each approach used. In addition, the justifications for adoption of the various methodologies used are provided.

2.1 Evaluation design

As detailed below (Table 3), the evaluation adopted a mixed methods design comprising desk review, quantitative and qualitative study designs. The desk review was undertaken by reviewing relevant literature on water and sanitation, disaster risk management, food security measures among others to enrich the study design, data collection tools and overall synthesis of report. The quantitative design, carried out through survey questionnaire method targeting direct project beneficiaries provided numerical measures of project output and outcome indicators by use of descriptive data. The qualitative design, carried out through focus group discussions (FGDs) method targeting direct project beneficiaries and Key Informant Interviews (KIIs) method targeting key informants was used to contextualize the quantitative data and provide an in-depth analysis of the qualitative output and outcome indicators. This approach allowed for complementarity of source data thus ensuring reliable and valid assessment findings based on results and conclusions drawn using the three different methodologies

Table 3: The end line evaluation methodological framework

Methodology	Rationale	Approach	Tool
I. Desk research	Review of relevant literature to enrich study design, tools and reporting	*Review of project documents and other relevant documents* that include: • Programme start-up documents including project proposal and M&E framework and other project related documentation • KRCS Monitoring and Evaluation Policy • The Project Evaluation Plan • Monitoring data (at Midterm and Final Evaluation) • Special studies conducted throughout implementation • Baseline data, project reviews and reports & data collection tools • Semi-annual technical progress and financial reports submitted by KRCS to British Red Cross (BRC); • Any other project documents which will enable the final evaluation team to get acquainted with the program • Relevant Government of Kenya and County reports and documents for background information and establishing the socio-economic and political context in which the project took place.	Content analysis of documents and files, largely unstructured textual content, relevant to the evaluation
II. Quantitative	Serves to produce quantifiable results	Use of ***survey questionnaire*** with key beneficiary populations of the target communities: *beneficiary women and men as well as girls and boys in target villages in Kainuk, Kasei and Turkwel divisions*	Fully structured questionnaire entailing face to face or one on one interviews with the key beneficiary groups and using PDAs on an ODK platform to ensure accurate and quality data and timeliness
III. Qualitative	Serves to capture the target subjects' experiences, opinions and attitudes	Use of ***Focus Group Discussions (FGD)*** with key beneficiary populations of the target communities: *beneficiary women and men as well as girls and boys in target villages in Kainuk, Kasei and Turkwel divisions, CBDRT members*	Unstructured FGD guide in a group discussion involving 8 – 12 participants guided by an expert moderator.

		The Most Significant Change[4] (MSC) technique as a form of participatory M&E will be integrated as a part process in FGDs and will be used to assess unexpected positive and negative outcomes of the project and very best success stories. The technique will involve the collection of significant change (SC) stories originating from project beneficiaries, with regard to perceived changes that have occurred as a result of the project. The 'story-telling', guided by a prepared semi-structured tool, will be captured through note-taking by a note-taker nominated by the evaluation team as well as through audio recording.	Individual story telling by direct project beneficiaries either within the confines of FGDs or one-on-one
		Entails use of ***Key Informant Interviews (KII)*** with **external experts and stakeholders** drawn from*: KRCS project staff and BRC officials involved in design and implementation of project; Community Based Organizations (CBOs); International & local Non-Governmental Organizations (NGOs); Faith Based Organizations (FBOs); county departments of Ministry of Water & Irrigation and Ministry of Agriculture, Livestock and Fisheries departments; National Drought Management Authority (NDMA); officials of West Pokot and Turkana counties; and Community leadership (Chiefs)*	Unstructured KII guide using face to face or one on one interviews with selected key stakeholders

a. Desk Research

Desk research as a secondary source of information entailed review of relevant documents with a view to streamline the methodology and more specifically to inform on tool design. Key documents that were reviewed included the project start-up documents, the baseline report, narrative semi-annual and annual reports, partner reports and case studies and other readily available literature on community resilience, WASH, food security and livelihoods.

b. Quantitative and qualitative methodologies

In carrying out the quantitative and qualitative designs of the end line evaluation, a combination of probability and purposive sampling methods were deployed depending on the composition of each category of target group. Table 4 below shows the sampling design approach used for each of the end line evaluation targets.

Table 4: The baseline study sample design description

Target Respondents	**Sampling Design**	**Methodology**		
		Survey questionnaires	**FGDs**	**KIIs**
i. Household members[5]	Random sampling from a list of community members drawn from *sub-locations in* the target geographical locations *(Kainuk and Kaputir locations in **Kainuk Division**, Kaptolomo location in **Kasei Division** and Kositei location in **Turkwel division**)*	X	X	
ii. School children	Random sampling from a list of school children in school drawn from each of the 10 supported schools *(Kainuk, Koputiro, Chebokachin, Riting, Nakwamoru, Lonyangalem, Lorogon, Kaptir, Juluk and Turkwel Gorge)*	X	X	
iii. School principals	Purposive sampling from the10 supported schools *(Kainuk, Koputiro, Chebokachin, Riting, Nakwamoru, Lonyangalem, Lorogon, Kaptir, Juluk and Turkwel Gorge)*			X
iv. Community leaders (Village elders & Chiefs)	Purposive sampling of *village elders and chiefs* in the target geographical locations *(Kainuk and Kaputir locations in **Kainuk Division**, Kaptolomo location in **Kasei Division** and Kositei location in **Turkwel division**)*			X

[4] The MSC approach was originally developed by Rick Davies through his work with a participatory rural development project in Bangladesh in 1994. In 2000 the name Most Significant Change Approach was settled on as it embodies one of the most fundamental aspects of the approach: the collection and systematic selection of reported changes

[5] The sampled HHs will cover all Outcome areas of food security and livelihood, WASH and Disaster Management

v. Civil Society Organizations (CSOs)	Purposive sampling of *CBOs International & local NGOs and FBOs* working in and around the target geographical locations *(Kainuk and Kaputir locations in **Kainuk Division**, Kaptolomo location in **Kasei Divisio**n and Kositei location in **Turkwel division**)*			X
vi. Government Ministries, Departments & Agencies (MDAs) including NDMA	Purposive sampling of *officials of county departments of Ministry of Water & Irrigation and Ministry of Agriculture, Livestock and Fisheries departments and National Drought Management Authority (NDMA)*working in and around the target geographical locations *(Kainuk and Kaputir locations in **Kainuk Division**, Kaptolomo location in **Kasei Divisio**n and Kositei location in **Turkwel division**)*			X
vii. KRCS staff & volunteers	Purposive sampling of KRCS staff and volunteers working in the project locations			X
viii. Disaster Management response team	Purposive sampling of members of community based disaster management response team (CBDMRT) in four locations			X

In drawing the quantitative sample, a probability sampling methodology entailing simple random sampling from a list of project beneficiaries was utilised thus ensuring that each beneficiary had an equal and known chance of being selected for inclusion in the study. Further, use of a probability sample ensured that the sample is representative and therefore offering reliable and valid study data. Thus, a representative sample of 236 households were randomly selected from a list of 580 project beneficiary households drawn from the three divisions of Kasei, Kainuk and Sook grouped within farming categories of animal husbandry, crop production and beekeeping. In addition, beneficiary schools were randomly sampled from a list provided by KRCS within which 373 primary school children drawn from levels 5, 6 and 7 were randomly selected using school registers to participate in the end line evaluation.[6] Out of the targeted sample of 236 households, a total of 265 successful interviews were achieved.

In addition, out of the targeted 373 school children, a total of 369 were achieved[7]. A breakdown of the quantitative target and achieved sample composition is detailed in Table 5 in below.

Table 5: Qualitative FGD target and achieved sample composition

Community Schools	**Target Sample**	**Sample Achieved**
Kaptir	72	68
Lorogon	77	66
Kainuk Mix	91	84
Lonyangalem	14	14
Riting	60	69
Turkwel Gorge	59	68
Total	**373**	**369**

The qualitative design through FGDs and KIIs utilized purposive sampling of project beneficiaries and stakeholders respectively. Specifically, FGDs with beneficiary household respondents and school children were carried out. A total of 11 FGDs comprising of five FGDs with beneficiary households, four FGDs with beneficiary school children and two FGDs with CBDRT members were successfully conducted. A breakdown of the FGD target sample scope and achievement is detailed in Table 6 below.

Table 6: Qualitative FGD target and achieved sample composition

Category	**Thematic area**	**Proposed target locations**	**Target scope**			**Achieved sample**		
			Sex disaggregation		Total number of proposed FGDs	Sex disaggregation		Total number of proposed FGDs
			Females	Males		Females	Males	
Beneficiary	Animal	Loyapat	1	1	2	1	-	1

[6] Refer to Annex I for detailed calculation of sample sizes for household respondents and school children
[7] See study challenges and limitations under Section 2.5

households	husbandry/ WASH/ Disaster Management	(Kainuk) & Nakwamoru (Kaputir)						
	Beekeeping/ WASH/ Disaster Management	Lorogon (Kaputir) & Keses, Kour, Songok in (Kaptolomo)	2	2	4	2	1	3
	Crop farming/ WASH/ Disaster Management	Kainuk (Kainuk)	1	1	2	1	-	1
Beneficiary school children (Class 5 – 7)	WASH	Nakwamoru & Lonyangalem primary schools	2	2	4	2	2	4
CBDRT	Disaster		2		2	2		2
Total			**7**	**7**	**14**	**7**	**4**	**11**

The project stakeholders, selected based on their expertise in the subject matter of community resilience, level of involvement in the project and/or prior/on-going collaboration with KRCS in the project, were interviewed using KIIs. A breakdown of the KII target sample scope and achievement is detailed in Table 7 below.

Table 7: Qualitative KII target and achieved sample composition

Target group	Target respondent	Target scope	Achieved sample
County departments of Ministry of Water & Irrigation and Ministry of Agriculture, Livestock and Fisheries	County Project officers	6	4
National Drought Management Authority (NDMA)	National project officers	1	1
CSOs	FBOs, NGOs & CBOs including community groups e.g. for disaster management	2	2
Community leaders	Chiefs	2	2
KRCS	Staff & volunteers	5	4
Schools	School principals	6	6
Total		**22**	**19**

2.2 Data Analysis

Data collected through the quantitative approach was analysed using IBM SPSS Statistics Version 23. Sample proportions of key attributes were computed through carrying out a univariate or descriptive analysis of the quantitative data. Data collected using the qualitative approach underwent grouping of collected information by themes to facilitate content analysis.

2.3 Training

Prior to carrying out a pre-test of the survey tools and data collection, a total of 26 research assistants comprising 10 females and 16 males were trained mainly on five key areas: instrument administration; interview techniques; procedures and skills; importance of the survey and research process. The training which took three days focussed on specific objectives that included; familiarization with the study TOR; evaluation questions and questionnaire flow; recording of information; integrity during data collection; and informed consent and confidentiality as key components of research ethics.

2.4 Ethical Considerations

Prior to conducting interviews with all respondents, written and oral consents were sought and obtained from literate and illiterate respondents respectively after being explained to the purpose of the evaluation in a language that they fully understood. In case of child participants, consent were

sought from gate keepers mainly school principals. Further, respondents were allowed not to answer any questions they were not comfortable with as well as terminate the interview at any time they deemed fit. As part of addressing confidentiality issues, respondents' names and addresses were not recorded on the questionnaires.

2.5 Limitations of the final evaluation

During the end line evaluation, two limitations and challenges were observed. These included:

1. Respondents selected to participate in the final evaluation lacked records of production yields. The provided production yield data is based on recall and may therefore not represent an accurate picture.
2. Target respondents were interviewed in a central location thus denying the study the opportunity to verify the reported status of water and sanitation facilities.

CHAPTER 3: EVALUATION FINDINGS AND INTERPRETATIONS

3.1 Introduction

To understand the contribution of the project to improved food security/livelihood, access to water, sanitation & hygiene and disaster management in the community, this end line evaluation sought to assess the level of achievement of the project's output and outcome indicators under its goal of increasing resilience of communities in Kainuk, Kasei and Sook divisions of Turkana and West Pokot Counties to the impact of disasters.

In this regard, the evaluation findings cover the eighteen result areas[8] as well as results of the project's relevance, efficiency, effectiveness, mechanisms for sustainability and documentation of lessons learned.

3.2 Results

A. Relevance

The extent to which the project interventions met needs of the beneficiaries; the appropriateness of results in relation to the needs of the communities, national policies and priorities as well as the relevance of the project's design/strategies set out to achieve the expected results	Rating (5): **Excellent**

The final evaluation established that the project was developed based on the community priorities identified through needs assessments and was also developed together with partners and target groups thus ensuring that the proposed interventions were relevant to the target groups. Specifically, the objectives of the project and its expected results were designed together with partners and target groups during the log-frame review process, hence ensuring that the target groups are represented at all decision making and planning forums. This ensured that the project's activities were aligned to the expectations, needs and interests of the target groups.

> *"…the second thing was the community buy in, where we felt that these activities were relevant and previously discussed with them in coming up with the component and so the community felt that they were very relevant especially in West Pokot where there is access of water, there the farmers were very interested in being supported in terms of farming, veterinary drug store. So the other aspect was to get the community buy in and acceptance that the components were in line with what they were thinking…"*
>
> ***KII, KRCS Official***

Further, the project's use of local institutions mainly national and county government line ministries, NGOs and local community based organisations (e.g. Ministry of Agriculture and Livestock, Nasuguta GoK Resource Centre, Mercy Corps, CABESI Self Help Group, Selenga Group Beekeepers, FAO among others) in target communities to carry out project activities such as training, capacity building, supportive supervision and sharing of information ensured inclusion of existing grassroots initiatives by pre-existing NGOs in the implementation of the project thus safeguarding the project's relevance and further strengthening community ownership of the project.

The end line results showed that through the project's strategies, the capacities of the target groups have been strengthened in a number of ways thus evidencing the relevance of the project and achievement of expected results. Key examples include:

- *Compared to a project target of 96% of households reporting improved capacity in bee farming,* there is a significant improvement in bee farming capacity in all administrative divisions with Kainuk registering an improvement from 39% at baseline level to 60% at end

[8] See table 1

line level, from 23% at baseline to 28% at end line for Kasei, and 18% at baseline to 48% at Sook. The training of 40 farmers (33M, 7F) facilitated by officials from Ministry of Agriculture and Livestock Development between 26th and 29th September 2017 and continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits to Silenga bee farmers group, Nasuguta government resource centre and CABESI market place in Chepareria in West Pokot during the period between July 10 – 12, 2017 may have contributed to the gains in knowledge in beekeeping and therefore apiary management

- *Against the project target of 50% of pastoralist HHs accessing livestock husbandry and management services,* the end line data shows that approximately 73% of surveyed pastoralists as compared to 0% at baseline reported having access to and utilizing livestock husbandry services as a result of a number of factors: establishment of two drug stores in Turkwel and Kakong managed by Community Disease Reporters (CDR) have remained operational thus providing the much needed veterinary services and livestock drugs and other equipment; training and exchange visits to Sook and Kakong involving Community Diseases Reporters (CDRs) and County veterinary doctors and covering proper storage, handling and prescription, disease diagnosis and treatment as well as good customer relation, and proper record keeping; training of 40 Community Animal Health Workers (CAHWs) (20 in Turkana and 20 in West Pokot) on animal husbandry and management; and linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice
- *Against the project target of 60%*[9] *of community households accessing improved water sources*, approximately 51% of households surveyed at end line as compared to 0% at baseline reported having an improved water source within approximately 0 to 1 km of their homes while approximately 44% of the surveyed respondents indicated that they take approximately 0 to 30 minutes for a round-trip to collect water from the improved water source including queuing. A total of two newly constructed boreholes in Kainuk (Kainuk borehole for shade nets irrigation) and Kositei (Kamurio borehole for domestic and livestock use) were carried out during the project period. Guaranteed management, operations and maintenance of the boreholes through training of established community water management committees has also ensured that community households in the project locations have access to sustainable and improved water sources. The water management committee consisting of 9 males and 3 females responsible for Kamrio borehole was trained on how to manage the borehole including sourcing for repairs and ensuring efficiency in the water use. The benefits of the newly constructed boreholes cannot be overstated. For example, it was noted that community members of Kamrio now draw water from the borehole instead of travelling to Turkwel located approximately eight kilometres away. To add the availability of water has attracted more settlements in the area. This explains the importance of the water facility. However, this may create unintended outcomes such as overcrowding that if left unattended to may lead to increased water consumption beyond the borehole's capacity.
- *Against the project target of 90% of school children having knowledge of hand washing in at least three critical times*, approximately 87% of interviewed school children at end line as compared to 78% at baseline reported having knowledge of hand washing in at least three critical times. On-going SHEPP activities in the targeted schools involving established school health clubs was pivotal in passing WASH related messages to the school fraternity (including through murals on school buildings mainly hand washing at 4 critical moments, drinking treated water always to prevent diarrheal diseases; avoid open defecation, keeping the toilet clean; general body hygiene; and keeping the school compound tidy) may have contributed to the increased knowledge on hand washing among school children.
- *Against the project target of 39% of community members showing an improvement in knowledge in disaster preparedness and response*, approximately 77% of surveyed household respondents (75% in Kainuk, 57% in Kasei, 90% in Sook) as compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34% in Sook divisions) reported having knowledge in

[9] Other BRC funded projects in the region have contributed to access to improved water sources e.g. newly constructed boreholes in Kaptolomwo (Kour borehole) and Nakwamoru (Nakwamoru borehole).

disaster management. It was established that community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction (e.g. in Kositei and Kaptolomo locations) on conflict resolutions, food security, first aid and sanitation and hygiene.

B. Efficiency

The extent to which the project has used resources in a cost effective way to achieve its objectives and results in terms of delivering quality, on time, and compared to alternatives, within budget	Rating (4): **Satisfactory**

To a large extent, the project demonstrated compliance to set activity timelines and output targets in achieving its objectives and results and within budget. Virtually all activities were achieved on time which was mainly attributed to joint organization of activities, existing good relationship and mutual support among partners. However, in Kainuk, the roll-out of construction of borehole for irrigation to support establishment of irrigation networks experienced a delay in procuring firms to undertake installations. However, capacity building on management and use of the irrigation networks and other related activities such as formation of farmer groups, distribution of farm inputs, and ploughing, harrowing, levelling and fencing of farms have been carried out. By the time of carrying out this evaluation, 40 farmers engaged in shade nets had transplanted tomatoes, spinach and kales among other horticultural crops. A spot check in the shade nets revealed that tomatoes were at flowering stage. The distribution of bee hives delayed in the first quarter of 2016 owing to incomplete procurement of bee hive sets necessary for complete installations.

To a large extent, end line results showed that the project used available resources in the most economical manner to deliver quality and timely results compared to alternatives. Three key strategies were employed to ensure cost effective and transparent use of available resources during implementation of the project:

- Adopting a partnership-based implementation thus enabling leveraging partners' time, finance and personnel resources; this included quarterly review meetings between KRCS and BRC at headquarters and project level to diagnose and discuss project work plan, budget absorption and activity implementation and actions to be undertaken to ensure activities were implemented as planned and corrective measures adhered to.
- Partners implemented multiple activities sequentially organized to reduce travel costs; and
- Participation of partners/beneficiaries through established farmer, bee, water and disaster committees in implementation of the project including discussions on time and budgetary implications of project activities and decisions.

At human resource level, the general governance and management of the project was noted to be efficient to a large extent as it was characterized by dedicated personnel with clear reporting lines and structures. The project had a project coordinator and project officer who oversaw the entire management of the project with technical and operational support of KRCS's key personnel including program manager, finance manager, regional finance officer, field staff and volunteers. Three key strategies deployed in the cost effective implementation of the project to achieve its objectives and results on time:

- Use of local institutions represented at the county level such as the line ministries of the county government and existing NGOs such as Mercy Corps, with grass roots presence has ensured direct linkages with target groups thus cost effective use of time and financial resources in reaching the target groups;
- Working with partners with national presence and experience in disasters such as NDMA has provided linkages with the government and other key state and non-state actors thus ensuring cost effective use of time and delivery of quality outputs; and

- Presence of KRCS officers and volunteers in the two counties of West Pokot and Turkana implementing the project was important in providing cost effective co-ordination of the project through providing required support, monitoring and supervision to achieve expected outcomes and impact.

Further, there is evidence of sound fund management. The project had in place mechanisms, key of which are a well-defined authorization and approval terms for any funds disbursements, to reduce possibilities of fiduciary risks. This is complemented by a financial system which is effective to a large extent, with internal controls and external audits which act as proof in sound management of funds. In purchasing of any goods and services, the project followed stipulated procurement procedures at all times.

C. Effectiveness

The extent to which project interventions achieved the desired outcomes, including issues of program management such as decision making processes, risk management, institutional arrangements and partnerships with project partners and their effects on the project results.	Rating (4): **Satisfactory**

3.3 Project Outcome 1: Food security and livelihood

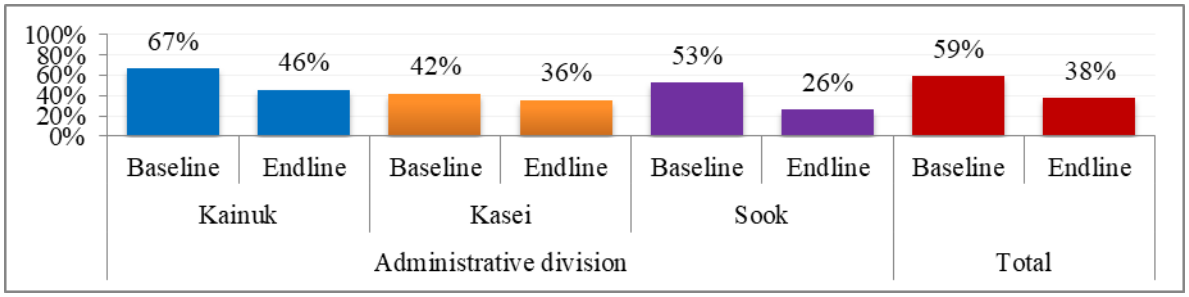
3.3.1 Output 1: Improved food security and livelihood for 580 households in Turkana south [Kainuk (310 HHs)] and West Pokot [Kasei and Sook (270 HHs)]

One of the outputs of the project was the realization of improved food security and livelihoods of target households in Kainuk division in Turkana South and in Kasei and Sook divisions in West Pokot. Improved availability, access, affordability and utilization of food and enhanced livelihood sources are vital in ensuring food security and livelihoods of households in the target project locations. This is premised on the fact that when households engage in a wide range of activities to earn a living, they increase their income base available to meet the basic needs (that includes food) in the short run. This then gradually shifts to secondary needs such as education for children, medical care in midterm and asset creation in the long run as result of the multiplier effects of the livelihood activities.

a. Indicator 1a: Percentage of households reporting more than one source of livelihood

Against the project target of 65% of HHs reporting more than one source of livelihood, the end line results show that 38% (95% CI [32.5, 43.8]) of surveyed households (42% in Kasei, 46% in Kainuk and 26% in Sook) as compared to a baseline level of 59% (42% in Kasei, 67% in Kainuk and 53% in Sook) reported having more than one source of income.

Figure 1: Proportion of surveyed respondents reporting having more than one source of income



While crop production (mainly in Kainuk, livestock rearing (mainly in Kasei and Sook) and beekeeping production (in Kasei, Kainuk and Sook) are the major income sources for surveyed

households in the target project locations, end line results revealed that fewer households at end line (38%) as compared to 59% at baseline had more than one source of income.

The reduction in the number of income sources can be attributed to the prolonged drought in the project locations as revealed by respondents participating in group discussions. A majority of FGD participants indicated that drought had ravaged their regions and together with cattle rustling, had affected their income generating activities and therefore resulted into reduced standard of living.

> *"…the long drought has brought us a lot of misery, we have lost our cattle and also been affected by cattle rustling. Nearly everyone here has no other income to allow them buy our cattle to save us from drought and the little that remain are raided…we now do not have any other income …"*
>
> ***Male FGD respondent, Turkana***

However, respondents who have realized increased sources of income or level of income and therefore improved standard of living has enhanced their ability to provide education to their children and siblings, access healthcare, and adequate and nutritious food. These are mainly farmers practicing beekeeping production.

> *"…more income sources has helped me educate my children who were not in school, two of them are going back to school. Red Cross has helped me travel a lot and in this I get paid thus I am able to provide food for my family. The money I get, I use it wisely to acquire food such as maize and mangoes that were too expensive for me before…"*
>
> ***Most Significant Change (MSC) story, male respondent, Beekeeping, Kasei Division***

While the standard of living for a majority of surveyed households has reduced due to reduced number of income sources, analysis of the 2017 Quarter 2 and 3 progress reports revealed that target project households have benefitted from capacity building through training and exchange visits, improved access to services through establishment of veterinary stores and agricultural extension services from the sub county livestock and agricultural officers from Kainuk and Kasei respectively, distribution of beehives to beekeeping farmers, training of farmers, exchange visits between farmers and continuous monitoring by KRCS/BRC.

- KRCS and its partners have implemented capacity building with regard to a number of intervention areas including: shade nets irrigation, modern food production and post-harvest management and group dynamics targeting 40 farmers [12 males (M), 28 females (F)]; rangeland management training targeting 102 farmers (77M, 25F) in West Pokot; and beekeeping training covering apiary establishment and management as well as training on group dynamics targeting 33 farmers (33M, 7F).
- Establishment of veterinary drug stores in Kakong and Turkwel and training of the community animal health workers as veterinary store vendors on basic stock management, proper storage, drug arrangement and organization, handling and prescription, disease diagnosis and treatment, marketing and use of alternative drugs, good customer relation, and proper record keeping.
- Sponsoring beekeepers' exchange visits to CABESI Self-help Group and honey sellers in Kapenguria, Selenga beekeepers' group in Sook, and Nasuguta GoK resource centre in Pokot South
- Distribution of 340 beehives to 340 farmers (236M, 104F) and follow up supportive supervision and monitoring from the ABL who supplied assorted bee hive kits and conducted training to farmers on beekeeping management.

b. Indicator 1b: Household Coping Strategy Index (CSI)

Overall, 10% of households at baseline as compared to 38% at end line recorded a CSI score of 0 – 20, 34% of households at baseline compared to 43% at end line recorded a CSI score of 21 – 40, 32% of households at baseline compared to 13% at end line recorded a CSI score of 41 – 60, 24% of

households at baseline compared to 5% at end line recorded a CSI score of at least 61. This denotes a reduction in the number of coping strategies.

The household Coping Strategies Index (CSI) developed in Uganda, Ghana, and Kenya, is used to measure the impact of food aid programs, as an early warning indicator of impending food crisis, and as a tool for assessing both food aid needs and whether food aid has been targeted to the most food insecure households[10]. In this study, the household CSI[11] was used to establish the different coping strategies used by target households in dealing with absence of sufficient food or money to buy food.

The coping strategies used to assess the level of food insecurity in study areas mainly fell into four categories: dietary change; short-term measures to increase household food availability; short-term measures to decrease numbers of people to feed; and rationing, or managing food shortage. For each coping strategy, a seven-day recall period was used to establish accurate data on food consumption and deployed coping strategies. Further, due to unequal severity in coping strategies used (e.g. skip entire day without eating and rely on less preferred and less expensive foods), each strategy was assigned weights reflective of perceived level of severity on a scale of one to four where one is least severe, two and three intermediate and four is most severe. The sum of total weighted scores computed by summing the products of frequency of coping strategies deployed over a period of one week and the relative severity weight gives the CSI denoting the level of food insecurity in the target households. The higher the CSI score, the more food insecure a household is and contrariwise.

As shown in Table 8 below, approximately 45% of beneficiary households in Kasei division at baseline as compared to 16% at end line, 39% in Sook division at baseline as compared to 1% at end line, and 12% in Kainuk at baseline compared to 6% at end line recorded a CSI score of at least 61. This denotes a reduction in the number of in the number of coping strategies.

Table 8: Household Coping Strategy Index (CSI) of target households in the week prior to the evaluation exercise

Household Coping Strategy Index (CSI)	**Administrative divisions**						**Total**	
	Kasei		**Kainuk**		**Sook**			
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
CSI 0 - 20	0%	19%	15%	29%	4%	61%	10%	38%
CSI 21 - 40	10%	45%	47%	48%	19%	37%	34%	43%
CSI 41 - 60	45%	19%	26%	18%	39%	1%	32%	13%
CSI 61 - 80	16%	10%	9%	3%	26%	1%	15%	3%
More than CSI 80	29%	6%	3%	3%	13%	0%	9%	2%

According to the NDMA's Early warning bulletin for December 2017, the CSI score for West Pokot County was 8.6 as compared to 7.5 in November 2017, this lied within the expected normal range of below <14.5 represented for West Pokot. The CSI score for Turkana County was 25 being an increase from 16 recorded in November 2017. This remained below normal (32) for the Turkana County. The upward trend in the CSI is attributed to households engaging other ways of getting food because milk, which would supplement food supply, was decreasing and was mostly consumed by children, whereas maize price was slightly going up. The notable consumption based coping strategies employed by majority of the households during the month included reliance on less preferred/less expensive food.

The overall improvement in Kainuk in Turkana South (agro pastoral zone) and Kasei (pastoral zone) in West Pokot as compared to other areas in the respective counties can be contributed by the project's interventions in improving food security.

[10] CSI Field Methods Manual, Copyright © 2008 Cooperative for Assistance and Relief Everywhere, Inc. (CARE). Used by Permission. http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf
[11] Adopted by consultant to measure CSI

This was undertaken by increasing opportunities to ensure food availability through shade nets irrigation, improving existing livelihoods options as depicted by improving livestock husbandry practices and bee keeping through modern bee hives management. These acted as income earners to cushion households from shocks emerging as a result of prolonged drought as sales of vegetables, honey, milk, healthy livestock and other bee and animal products provided money to purchase food, and support household needs and also provided food to consume at the household level.

Conflicts over resources such as pasture and livestock increases the vulnerabilities from drought and food insecurity as communities are disintegrated as a result of injuries, deaths, displacements that have other negative impacts. To this end, the project's objective of strengthening KRCS, county government, community systems such as the CBDRTs, peace committees, and sports teams by conducting peace initiatives between Turkana and West Pokot communities (dialogues, peace building activities, meetings at various levels) promoted social cohesion that activated the utilisation of land for food production, rangeland management for pasture and livestock management and movement of goods and services among the communities.

This ultimately contributed to the reduction in coping strategies as witnessed by the percentage of households with CSI score of between 0-20 and 21-40 that increased from 10% to 38% and 34% to 43% respectively. More households applied less severe strategies to cope with limited food to consume at end line than at baseline. The vulnerability continuum as explained in Table 8 showed a reduction in the percentages of households lying in strata CSI 41-60, CSI 61-80 and more than 80; from 32% to 13%, 15% to 3% and 9% to 2% respectively; coinciding with the increase in the percentage of households lying in CSI 0-20 and CSI 21-40 as explained above.

c. Indicator 1c: Number of food groups consumed at households in the last 24 hours

Compared to a baseline level of 93% (78% in Kasei, 97% in Kainuk and 92% in Sook), the end line results show that 86% of surveyed households (71% in Kasei, 86% in Kainuk and 95% in Sook) reported having consumed at least six food groups in the last week prior to evaluation.

Dietary diversity is a qualitative measure of food consumption that reflects household access to a variety of foods, and is also a proxy for nutrient adequacy of the diet of individuals[12]. The household dietary diversity score (HDDS) is meant to reflect, in a snapshot form, the economic ability of a household to access a variety of foods.

Studies have shown that an increase in dietary diversity is associated with socio-economic status and household food security (household energy availability).[13,14]One way of measuring dietary diversity is through establishing the number of food groups consumed by target households in typical week.

Thus analysis of number of food groups consumed in the last week prior to evaluation shows that 86% of all households surveyed consumed at least six food groups while 9% and 5% consume four to five food groups and less than four food groups respectively. This is a slight reduction in the proportion of households that consumed at least six food groups at baseline (93%), and an increase in the remaining categories of household that consumed four to five food groups (6% at baseline) and less than four food groups (1% at baseline).

A lower proportion of households in Kasei division (78%) as compared to households in Kainuk (97%) and Sook (92%) divisions consumed more than 5 food groups in a week.

[12] Gina, K. Terri, B. & MarieClaude, D. 2011. Guidelines for measuring household and individual dietary diversity. Nutrition and Consumer Protection Division, Food and Agriculture Organization of the United Nations. http://www.fao.org/fileadmin/user_upload/wa_workshop/docs/FAO-guidelines-dietary-diversity2011.pdf

[13] Hoddinott, J. & yohannes, y. 2002. Dietary diversity as a food security indicator. FANTA 2002, Washington DC. (available at http://www.aed.org/Health/upload/ dietarydiversity.pdf)

[14] Hatloy, A., Hallund, J., Diarra, M.M. & Oshaug, A. 2000. Food variety, socioeconomic status and nutritional status in urban and rural areas in Koutiala (Mali). Public Health Nutrition 3: 57-65

This is shown in the Table 9 below.

Table 9: Number of food groups consumed by target households in the week prior to the evaluation exercise

Category	Kainuk		Kasei		Sook		Total	
	Baseline n=140	End line n=139	Baseline n=31	End line n=44	Baseline n=77	End line n=82	Baseline n=249	End line n=265
Less than 4 food groups	0%	5.0%	9%	11.4%	0%	1.2%	1%	4.9%
4 to 5 food groups	3%	9.4%	13%	18.2%	8%	3.7%	6%	9.1%
At least 6 food groups	97%	85.6%	78%	70.5%	92%	95.1%	93%	86.0%

However, a further analysis of individual food consumption pattern across project locations of Kasei, Kainuk and Sook shows that target households still consume cereals (energy dense but of lower and poor quality protein content) on a near daily basis (5 days a week) as compared to meat and fish (energy dense with fat and of highest quality protein and easily absorbable micronutrients) which is consumed once every 7 days. In addition, dairy products including milk were consumed by surveyed households 4 days a week.

3.3.2 Output 2: 340 households in Turkana South and West Pokot have improved capacity in undertaking bee farming

a. Indicator 2a: Percentage of households with improved capacity in bee farming

Against the project target of 95.7% of HHs reporting improved capacity in bee farming, approximately 53% (95% CI [44.7, 60.5]) of surveyed beekeeping farmer HHs (28% in Kasei, 60% in Kainuk and 48% in Sook at end line as compared to a baseline level of 32% (23% in Kasei, 39% in Kainuk and 18% in Sook) rated their capacity in beekeeping as 'good'. This is a significant increase in perceived capacity in beekeeping production.

A proxy indicator used to establish capacity in bee farming was the assessment of beekeepers' current level of knowledge on beekeeping production for household consumption and/or income generation on a scale of 1 to 5 where 1 is very poor and 5 is excellent. Combining knowledge ratings 3—5 as good and 1—2 as poor, the end line data showed that approximately 53% of surveyed beekeeping farmer HHs compared to a baseline level of 32% of surveyed beekeepers indicated that their capacity in beekeeping production was good. This showed a marked improvement in capacity in bee farming. As shown below (Table 10), there was a significant improvement in bee farming capacity in all administrative divisions with Kainuk registering an improvement from 39% at baseline level to 60% at end line level, from 23% at baseline to 28% at end line for Kasei, and 18% at baseline to 48% at Sook.

Table 10: Current level of knowledge in beekeeping production

Capacity in beekeeping	Administrative division						Total	
	Kainuk		Kasei		Sook			
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
Poor	61%	40%	77%	72%	82%	52%	68%	47%
Good	39%	60%	23%	28%	18%	48%	32%	53%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Group discussions with beekeeping farmers and interviews with key informants showed that beekeeping farmers had benefitted from exchange visits and increased sensitization on beekeeping from Ministry of Agriculture and Livestock officials, KRCS project team and trainer of trainers (ToTs) comprising of selected beekeeping farmers who had been trained on apiary management. The

net result of these activities was improved knowledge on beekeeping as evidenced through Table 10 above.

> *"…capacity building has gone into that component whereby they had been trained on honey and the whole component of beekeeping like were to set up the hives, how to harvest, where to market, they have been linked to other co-operatives they have been taken to fairs and exchange visits in terms of building capacity and understanding, etc…"*
>
> ***Officer, KRCS***

Further, group discussions with farmers also revealed that beekeeping farmers had received beehives from KRCS with approximately 38% of these beehives colonized. While drought has ravaged beekeeping activities and therefore ensured poor production, interviewed farmers believed that the increased ownership of more and productive beehives has increased their production capacity.

According to the projects progress report Quarter four of 2017 that reflected the period from October 2017 to December 2017, some of the farmers integrated traditional beehive management practices using log hives with the modern hives in some of the areas to attract bees and boost colonisation; bee colonisation increased by 2 percent from 36 percent in quarter 3 to 38 per cent (129 out of 340). In particular, over 60kg of honey was harvested compared to 30 kgs in quarter three. The honey was sold locally thus increasing available disposable income to meet household's basic needs.

Further, analysis of project progress reports, which corroborated the above study findings, revealed that intensified and continuous training and sensitization, exchange visits, and distribution of beehives have been carried out which could have contributed in a large way to the marked improvement in capacity of beekeeping farmers. Specifically, analysis of the 2017 Quarter 3 Progress Report revealed that the improved knowledge in beekeeping and therefore apiary management is as a result of the following key factors:

- Knowledge gained from training of 40 farmers (33M, 7F) facilitated by officials from Ministry of livestock development in the years 2016 and 2017
- Continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits to Silenga bee farmers group, Nasuguta government resource centre and CABESI market place in Chepareria in West Pokot during the period between July 10—12, 2017.
- Demonstration to farmers on harvesting methods and provision of modern harvesting gears
- Continuous involvement of the African Beekeeping in monitoring and provision of technical support.
- Use of the traditional log hives alongside the modern ABL hives attracted bees to the apiaries this contributed to the colonisation rates realised.
- Use of experienced local bee farmers to support new bee farmers improved the management of the bee hives; this can be epitomised by one bee farming group in Nakwamoru who shifted from using bee stands made of wood to hang the bee hives on tree trunks and branches to using iron wires to hang the bee hives as the wood stands were susceptible to termites and prevented bees from colonising.

3.3.3 Output 3: 40 households reporting surplus in crop yield, including diversification in food crops produced for HH consumption, market and trade in Kainuk

a. Indicator 3a: Percentage of households reporting an increase in crop yield compared to the last season of harvest

By the time of conducting this study, none of the surveyed crop production farmers had realized any crop yield in the last season of production since production activities had recently commenced. However, in late December 2017 (after the end of active field data collection) the project team reported that 16 farmers from eight shade nets produced 60 crates of tomatoes and 45 kgs of kales

(sukumawiki). This will be captured comprehensively in the project's end term report as harvesting was on-going.

Evaluation results showed that none of the surveyed crop production farmers had realized any crop yield in the last season of production since production activities recently commenced. Group discussions with crop production farmers showed that shade nets and nurseries had recently been set up and therefore yet to realize any yield.

This is corroborated by a KRCS officer who indicated that crop production activities have just commenced and therefore no crop yield recorded in the last season of production.

> *"…And of course regarding crop farming, we cannot talk about increased food production because they are still in the phase where they are doing the production but they have benefited from training, exchange visits, building their capacity in their different levels etc…"*
>
> ***Officer, KRCS***

The above evaluation findings are further corroborated by the 2017 Quarter 3 Project Progress Report which showed that crop production farmers benefitted from a number of activities:

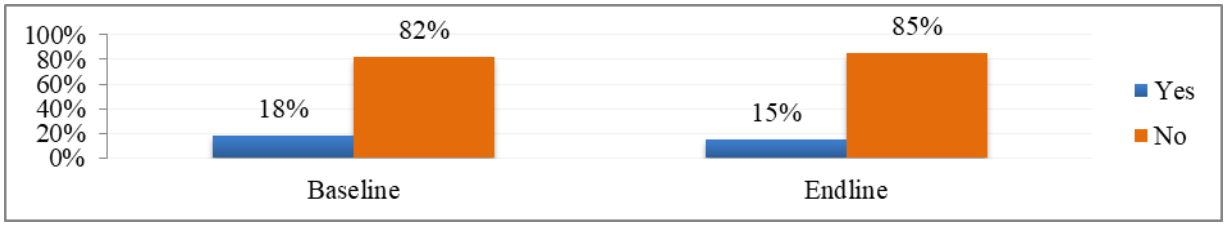
- Installation of shade nets, irrigation pipes, water tank(storage), solar panel, water channels
- A newly drilled and equipped borehole to supply the established 20 shade nets with readily available water; bush clearing, levelling, ploughing, harrowing and fencing;
- Formation of a farming group to support management of shade nets and land preparation and nurseries;
- Provision of agricultural inputs including seed; and fertilizer from PAVES VETAGRO suppliers
- Linking the farmer groups to market centres and opportunities

b. Indicator 3b: Percentage of households supplying food crops to the market

Against the project target of 21% of crop farming HHs reporting supplying food crops to the market, end line data shows that approximately 15% (95% CI [5.9,23.5]) of surveyed crop production farmers as compared to a baseline level of 18% reported having supplied food crops (maize, kales and tomatoes) to the market in the last season of production. Hence no change in the proportion of surveyed crop production farmers supplying food crops to the market in the last season of production was recorded.

As shown in Figure 2 below, no change in the proportion of surveyed crop production farmers supplying food crops to the market in the last season of production was recorded. Compared to a baseline level of 18%, end line data shows that approximately 15% of surveyed crop production farmers reported having supplied food crops (maize, kales and tomatoes) to the market in the last season of production.

Figure 2: Proportion of surveyed respondents reporting having supplied food crops to the market



This is corroborated by group discussions findings with crop farmers in Kainuk who reported that production activities begun late hence no recorded increase in number of farmers supplying food crops to the market. However, evaluation data revealed that approximately 88% of crop production farmers have received technical support and farm inputs from KRCS in the form of setting up shade

nets, certified crop seeds, and farm implements including jembes, wheelbarrows, slashers and pangas, watering cans, knapsack sprayers and spades.

However, the recent project quarter four of 2017 progress report showed that 16 farmers from eight shade nets sold assorted produce where the main market was Kainuk trading centre. 60 crates of tomatoes and 45 kgs of kales (sukumawiki) were sold worth KShs 114,600. This will be comprehensively captured and reported in the end of project report as by the time of undertaking this study, no produce had been reported from the shade nets.

c. Indicator 3c: Percentage of pastoralist households accessing livestock husbandry and management services (LHMS)

Against the project target of 50% of pastoralist HHs accessing LHMS, approximately 73% (95% CI [64.8,81.1])of pastoralist HHs at end line (71% in Kasei, 95% in Kainuk and 64% in Sook) as compared to a baseline level of 0% (0% in Kasei, 0% in Kainuk and 0% in Sook)reported having access to and utilizing livestock husbandry services.

At baseline, none of the pastoralist households had accessed animal and husbandry services and had in the past travelled very long distances to access such services such as veterinary drug stores. However, the end line data showed that approximately 73% of surveyed pastoralists reported having access to and utilizing livestock husbandry services. This is shown in Table 11 below.

Table 11: Proportion of surveyed pastoralists accessing livestock husbandry and management services

Category	Administrative division						Total	
	Kainuk		Kasei		Sook			
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
Yes	0%	95%	0%	70.8%	0%	64.4%	0%	73.3%
No	100%	5%	100%	29.2%	100%	35.6%	100%	26.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Group discussions with sampled pastoralists show that they have immensely benefitted from accessible veterinary drug stores that were initially not available forcing them to travel long distances to access animal husbandry services. In addition, interviewed pastoralists indicated that KRCS has linked them to livestock husbandry extension officers hence receiving valuable advice on livestock diseases and treatment.

> *"…unlike before where we normally gave up looking for animal husbandry services due to the distances involved with no guarantee of finding the medicine you are looking for, we now have animal medicine right here which you can access any time there is need and even on credit and also hire equipment such as pumps…things are now better…"*
>
> ***Pastoralist, FGD, Sook***

Analysis of the 2016 and 2017 project progress reports corroborates the above evaluation findings. Specifically, three key factors resulting in to sustainable project outputs brought about the feel good perception regarding livestock husbandry and management services:

- Two drug stores established in Turkwel and Kakong managed by Community Disease Reporters (CDR) have remained operational thus providing the much needed veterinary services and livestock drugs and other equipment.
- Training and exchange visits to Sook and Kakong involving Community Diseases Reporters (CDRs) and county veterinary doctors and covering proper storage, handling and

prescription, disease diagnosis and treatment as well as good customer relation, and proper record keeping

- Training of 40 Community Animal Health Workers (CAHWs) (20 in Turkana and 20 in West Pokot) on animal husbandry and management
- Linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice

3.4 Project Outcome 2: Water, Sanitation and Hygiene (WASH)

The post-2015 development agenda on water, sanitation, hygiene and the elimination of inequalities has a number of targets key of which is Target 2 that addresses the objective of realization of the following: use of basic drinking-water supply and hand washing facilities by everyone when at home; all schools and health centres provide all users with basic drinking-water supply and adequate sanitation facilities, hand washing facilities and menstrual hygiene facilities; and inequalities in access to each of these services have been progressively eliminated.

3.4.1 Output 1: 2,700 households comprising 16,200 community members (6,000 Kainuk, 6000 Kasei and 4,200 Sook) have access to water and improved sanitation and hygiene practices[15]

a. Indicator 3a: Distance (Km) and time (Min) covered by household members to access the nearest improved water source for domestic use

Against the project target of 60% [16]of HHs reporting access to the nearest improved water sources for domestic use, approximately 51% (95% CI [45.3, 55.8]) of households surveyed at end line (53% in Kainuk, 69% in Kasei and 43% in Sook) compared to a baseline level of 0% (0% in Kainuk, Kasei and Sook) reported having an improved water source within approximately 0 to 1 km of their homes. Further, approximately 44% of the surveyed respondents (49% in Kainuk, 69% in Kasei and 28% in Sook) indicated that they take approximately 0 to 30 minutes for a round-trip to collect water from the improved water source including queuing.

The end line evaluation data (Table 12) showed that approximately 69% of all surveyed respondents (78% in Kainuk, 36% in Kasei and 73% in Sook) as compared to 0% at baseline have access to improved water sources mainly comprising of piped water into dwelling (3%), piped water to yard or plot (3%), public tap or standpipe (11%), borehole (52%) and/or protected dug well (1%).

Table 12: Proportion of surveyed farmer households accessing improved water sources

Division	Access improved water sources		Do not access improved water sources	
	Baseline	End line	Baseline	End line
Kainuk	0%	78%	0%	22%
Kasei	0%	36%	0%	64%
Sook	0%	73%	0%	27%
Total	**0%**	**69%**	**0%**	**31%**

Under Target 2, the first indicator provides that populations using improved drinking water source should access it within 0 to 1 km and utilize a total collection time of 30 minutes or less for a round-trip including queuing. End line data (Table 13) shows that target a majority (51%) of households surveyed (53% in Kainuk, 69% in Kasei and 43% in Sook) reported having an improved water source within approximately 0 to 1 km of their homes. However, less than one half (44%) of the surveyed respondents (49% in Kainuk, 69% in Kasei and 28% in Sook) indicated that they take approximately 0 to 30 minutes for a round-trip to collect water from the improved water source including queuing.

[15] The sample was generated from a list of only 570 households

[16] The contribution of this project to enhanced access to improved water sources may be minimal. As earlier noted, other newly constructed boreholes in the region mainly funded by BRC have contributed to access to improved water sources e.g. newly constructed boreholes in Kaptolomwo (Kour borehole) and Nakwamoru (Nakwamoru borehole).

Table 13: Proportion of surveyed farmer households accessing improved water sources by distance and time taken for round trip

Division	Access improved water source							
	Distance to improved water source				Time taken to improved water source and back home			
	0 - 1 KM	1.1 – 2 KM	More than 2 KM	**Total**	0 - 30 minutes	31– 60 minutes	More than 60 minutes	**Total**
Kainuk	53%	34%	13%	**100%**	49%	49%	2%	**100%**
Kasei	69%	6%	25%	**100%**	69%	31%	0%	**100%**
Sook	43%	15%	42%	**100%**	28%	32%	40%	**100%**
Total	**51%**	**26%**	**23%**	**100%**	**44%**	**42%**	**14%**	**100%**

According to the Turkana and West Pokot long rains assessment reports (July 2017), average distances to domestic water points was 11.5 kilometres (this was the average for the four livelihood zones and Kainuk lies in an agro pastoral zone whose distance was 10 kilometres) and 1.7 kilometres for West Pokot (an average for 3 livelihood zones in West Pokot county, with Kasei and Sook lying in pastoral –all species zone whose distance was 4 kilometres). This depicts that the project's investment in drilling borehole in Kamrio contributed to the reduction in distances taken by households to draw water in Kasei division.

Group discussions with sampled respondents drawn from beekeeping, animal and crop production activities indicated that they now have access to and utilize water from improved sources. However, it was noted by nearly all FGD participants that due to sole reliance by all community members on the available improved water sources such as boreholes, the improved water sources are strained and therefore water volume reduce or dry up altogether.

> *"…We mainly get water from a borehole and solar pumped water provided by the Red Cross. But when the water sources dry…volume decreases, we close for some time so as to regenerate. But we also get water from river but the water is very dirty…we get water from the river only if our borehole fails…"*
>
> ***Beekeeping farmer, Kasei FGD***

Analysis of project reports showed that construction of Kamrio borehole in Kositei location in addition to other BRC funded drought response projects in the region mainly Nakwamoru and Kour boreholes improved access to improved water sources by community households in the project locations. In addition, management, operations and maintenance of the newly constructed boreholes together with pre-existing boreholes has been guaranteed through training of established community level water management committees.

b. Indicator 3b: Percentage of beneficiaries (households members and school children) practicing hand washing at critical times

Against the project target of 51% of households members and 90% of school children reporting having knowledge of hand washing at critical times, approximately 47% (95% CI [41.5,53.4]) surveyed HHs (50% in Kainuk, 50% in Kasei and 40% in Sook) and 87% (95% CI [83.5,89.7]) of school children reporting having knowledge of hand washing at critical times. This is compared to a baseline level of 34% of surveyed households (54% in Kainuk, 6% in Kasei and 9% in Sook), and 78% of surveyed school children at baseline who reported having knowledge of hand washing in at least three critical times

While no significant differences are observable at baseline (54%) and end line (50%) in the proportion of surveyed respondents in Kainuk practising hand washing in at least three critical times, significant increments were recorded in Kasei (6% at baseline and 50% at end line) and Sook (9% at baseline and 40% at end line) with regard to the proportion of respondents practising hand washing in at least three critical times. This is shown in Table 14 below.

Table 14: Proportion of surveyed respondents practising hand washing in at least three critical times

Number of hand washing critical times	Kainuk		Kasei		Sook		Total	
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
None of the critical times	8%	28%	61%	23%	53%	51%	29%	34%
1 to 2 critical times	39%	22%	32%	27%	38%	9%	38%	18%
At least 3 critical times	54%	50%	6%	50%	9%	40%	34%	47%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Across surveyed schools, end line data showed that approximately 87% of interviewed school children as compared to 78% at baseline reported washing their hands in at least three critical hand washing times. This is shown in Tables 15 and 16 below.

Table 15: Proportion of school children surveyed at baseline practising hand washing in at least three critical times

School	Critical hand washing times (BASELINE LEVELS)		
	None of the critical times	1 to 2 critical times	At least 3 critical times
Turkwel Gorge	0%	14%	86%
Nakwamoru	3%	35%	63%
Juluk	3%	10%	87%
Lorogon	0%	13%	87%
Riting	2%	31%	67%
Total	1%	20%	78%

Table 16: Proportion of school children surveyed at end line practising hand washing in at least three critical times

School	Critical hand washing times (END LINE LEVELS)		
	None of the critical times	1 to 2 critical times	At least 3 critical times
Kaptir	3%	19%	78%
Lorogon	0%	20%	80%
Kainuk Mix	0%	8%	92%
Lonyangalem	0%	7%	93%
Riting	1%	9%	90%
Sook Gorge	1%	7%	91%
Total	1%	12%	87%

According to group discussions with school children and KIIs with school head teachers, project schools have established health clubs which serve to sensitize school children on water, sanitation and hygiene messages mainly covering hand washing at four critical moments, drinking treated water as a preventive action against diarrheal diseases, general body hygiene, avoiding open defecation, keeping toilets clean, and keeping the school compound/environment clean.

> *"…we have formed health school clubs where members educate other school children on hygiene and sanitation, hand washing with soap, proper use of latrine, general bodily cleanliness; they are involved in cleaning the compound thus ensuring general cleanliness in the environment they operate in…"*
>
> ***KII, Teacher, Lorogon Primary School***

One of the key informants from KRCS indicated that project schools have benefitted from the SHEPP program involving implementing WASH projects including construction of sanitation facilities and WASH education which has played a pivotal role in greatly improving school children's knowledge on sanitation and hygiene.

"…on the school hygiene program, a lot of teaching to the school children have improved their knowledge on sanitation and hygiene…they have benefited with latrines in the school that they are now using…"

KII, official, KRCS.

One of the pupils who participated in the group discussions commended and treasured the latrines built by the project.

"…-the colour of the painting and design of the latrine is lovely. The metallic door is swaggeringly…we clean the latrine every day as it reminds as of the need to be clean"

FGD, School pupil – Kainuk Mixed Primary School

The above evaluation findings are supported by the 2016 quarter 4 progress report and 2017 Quarter 2 progress report which indicate the following activities that could have contributed to enhanced knowledge among school children on hand washing at critical times:

- SHEPP activities have been on-going in 12 schools where established school health clubs are pivotal in passing WASH related messages to the school fraternity including through murals on school buildings mainly hand washing at 4 critical moments, drinking treated water always to prevent diarrheal diseases; avoid open defecation, keeping the toilet clean; general body hygiene; and keeping the school compound tidy. A total of 5,556 (3147 boys and 2,409 girls) school going pupils were reached.
- Training of 10 SHEPP patrons; the patrons provided leadership and guided the school health clubs to undertake SHEPP activities and represented the school management in entrenching good WASH practises in the schools and neighbouring communities.
- Booster training sessions with health clubs on SHEPP
- Provision of Information Education and Communication (IEC) materials (T-Shirts with messages "Clean bodies, Health minds" and "Sanitation is Dignity") to the established school health club members in all the 12 project schools.
- Hygiene promotion event was undertaken in the month of June 2017 in Kainuk where approximately 178 community members were reached with hygiene and sanitation messages
- Construction of 12 model sanitation units in all the 12 project schools
- Production of hygiene promotion IEC materials involving use of murals mainly through painting of sanitation facilities to display hygiene messages in all the 12 project schools i.e. usage of latrine/toilet while defecating, maintaining a clean latrine and hand washing
- Carrying out quarterly hygiene promotion events e.g. at Chebokachim location in West Pokot County on 2nd of December where at least 130 people (43M, 87F) were reached with messages on areas of safe water for drinking, promotion of latrine construction and usage and hand washing at 4 critical moments.
- Monitoring visits to field sites and schools by KRCS and BRC teams contributed to the strengthening of this intervention as school pupils and school management roles in WASH was enhanced.

c. Indicator 3c: Percentage of beneficiaries (household members and school children) accessing sanitation facilities (latrines, toilets)

Against the project target of 33% of HH members and 100% of school children accessing a sanitation facility, approximately 16% (95% CI [15.5,25.3]) of surveyed HHs (19% in Kainuk, 4% in Kasei, 17% in Sook)compared to an equal proportion at baseline (22% in Kainuk, 6% in Kasei, 8% in Sook) reported having access to adequate sanitation facilities. In addition, 100% of school children have access to adequate sanitation facilities.

As shown in Table 17 below, only 16% of all surveyed households comprising of 19% of respondents in Kainuk division, 17% of respondents in Sook division and 4% in Kasei division have access to adequate sanitation facilities[17], mainly a pit latrine with or without a slab. Overall, an equal proportion of surveyed households at baseline reported having access to adequate sanitation facilities.

Table 17: Analysis of proportion of respondents accessing adequate sanitation facility

Category	Administrative division						Total	
	Kainuk		Kasei		Sook			
	Baseline n=140	End line n=139	Baseline n=31	End line n=44	Baseline n=78	End line n=82	Baseline N=249	End line N=265
Access adequate sanitation facility	22%	19%	6%	4%	8%	17%	16%	16%
Do not access adequate sanitation facility	78%	81%	94%	96%	92%	83%	84%	84%

This is corroborated in the latest progress report which showed that 18% of households in the project area have latrines. According to 2017 quarter three progress report, an increase in the number of latrines was realized due to the Community Led Total Sanitation (CLTS) triggering and follow ups. In the project area having a total of 34 villages with 1,308 households, there were a total of 295 latrines at the end of quarter four (2017) as compared to 264 latrines at the end of quarter three (2017). In addition to the conflict situation which hindered routine field monitoring of CLTS progress, a key challenge cited in the slow progress of CLTS triggering was the escalating drought situation in the project area which led to human movements from Kour, Takaiwa, Kakong and the larger Kositei Location.

3.4.2 Output 2: One community borehole, and 12 school sanitation facilities constructed and 34 villages facilitated with hygiene promotion.

a. Indicator 2a: Percentage of beneficiaries (household members and school children) with knowledge of hand washing techniques

Against the project target of 41% of school children having knowledge of hand washing techniques, approximately 41% (95% CI [35.8, 45.5]) of school children as compared to 24% at baseline demonstrated knowledge of all the WHO recommended six-step hand washing techniques[18]. At household level, compared to a baseline level of 10% (6% in Kasei, 14% (95% CI [9.9, 18.1]) in Kainuk, 7% of Sook), approximately 14% of surveyed household respondents at end line (9% in Kasei, 18% in Kainuk, 10% of Sook)] reported having knowledge of hand washing.

End line evaluation data from surveyed school children (Table 18) showed that approximately 41% of school children as compared to 24% at baseline demonstrated knowledge of all the WHO recommended six-step hand washing techniques. Consistent with baseline study data, the end line data still showed near equal level of demonstrated knowledge between girls and boys of the six-step hand

[17] JMP pre-2015 defines adequate sanitation facilities as those that effectively separate excreta from human contact, and ensure that excreta do not re-enter the immediate environment. A sanitation facility is considered as adequate sanitation if the facility is shared among no more than 5 families or 30 persons, whichever is fewer, and if the users know each other. Adequate sanitation facilities include: a pit latrine with a superstructure, and a platform or squatting slab constructed of durable material with a variety of latrine types falling under this category, including composting latrines, pour-flush latrines, and VIPs; a toilet connected to a septic tank; and a toilet connected to a sewer (small bore or conventional).

[18] Step 1: Rub hands palm to palm; Step 2: Rub back of each hand with palm of other hand with fingers interlaced; Step 3: Rub palm to palm with fingers interlaced; Step 4: Rub with back of fingers to opposing palms with fingers interlocked; Step 5: Rub each thumb clasped in opposite hand using a rotational movement; and Step 6: Rub tips of fingers in opposite palm in a circular motion

washing technique, while a lower proportion of younger children aged below 10 years as compared to their older counterparts aged 10 and above recording less knowledge of hand washing techniques.

The enhanced knowledge in hand washing among surveyed school children is mainly attributed established school health clubs that sanitation and hygiene education, increased SHEPP activities implemented by KRCS involving building capacity of school health club patrons/matrons on SHEPP, observation of waste pits, clean latrines, clean compounds and recitation of four critical moments of hand washing, and other WASH trainings implemented in schools by other organizations such as UNICEF through World Vision. The improvement in number is further attributed to buy in by the school management through emphasis on hygiene at school and household level that had a multiplier effect on the behaviour of children as school patrons supported hygiene sessions among the red cross/health club members.

Table 18: Proportion of surveyed school children demonstrating knowledge of all 6-step handwashing

Category	Knowledge of handwashing techniques			
	Not all six steps of handwashing		All six steps of handwashing	
	Baseline	End line	Baseline	End line
Boys	22%	60%	78%	40%
Girls	26%	59%	74%	41%
Total	**24%**	**59%**	**76%**	**41%**
Below 10 years	0%	89%	100%	11%
10 to 12 years	18%	71%	82%	29%
13 to 15 years	31%	57%	69%	43%
More than 15 years	15%	48%	85%	52%
Total	**24%**	**59%**	**76%**	**41%**

A look at household end line data showed that only 14% of all respondents surveyed (9% in Kasei, 18% in Kainuk, 10% of Sook) have knowledge of hand washing as compared to a baseline level of 10% (6% in Kasei, 14% in Kainuk, 7% of Sook).

The little to know change in knowledge of hand washing among community members may be attributed to limited project activities covering education on hand washing. According to the 2017 Quarter 3 Progress Report, only one quarterly promotional campaign was carried out in the market areas of Kainuk. Thus apart from the campaign as a source of knowledge on hand washing knowledge, community members (parents/guardians) mainly depended on their children to enhance their knowledge on hand washing. Indeed this is confirmed by a majority of school heads interviewed in the 12 project schools who indicated that children carry sanitation and hygiene messages from their school-based extracurricular programmes through established health clubs to their homes where they share with their parents/guardians.

> *"…hygiene is taught in our school through an established health club. The knowledge is carried by children to their homes and we believe that community members have benefitted from this knowledge…here in school, there is increased personal hygiene and clean environment and we believe that the same is happening children's homes since they are encouraged to share what they have learnt with their parents…"*
>
> ***Head teacher, project school.***

b. Indicator 2b: Number of functional sanitation facilities at the community level (including schools)

Compared to baseline data (that provided approximate estimates of 93 functional gender-separated latrines, 15 functional but partially gender-separated latrines, and 9 urinal blocks for boys, end line data provides an estimated 113 functional gender-separated latrines for school children, 24 functional gender-separated latrines for school staff, and 2 urinal blocks for boys.

End line data (Table 19) showed that the surveyed schools[19] have a total 56 functional gender-separated latrines for school children, 12 functional gender-separated latrines for school staff, and 1 urinal blocks for boys. Thus using the obtained mean estimates, the projected of number of sanitation facilities in the 12 project schools are as follows: a total 113 functional gender-separated latrines for school children, 24 functional gender-separated latrines for school staff, and 2 urinal blocks for boys.[20] When compared to baseline data (Table 20) that provided approximate estimates of 93 functional gender-separated latrines, 15 functional but partially gender-separated latrines, and 9 urinal blocks for boys, a significant increase of approximately 20 gender-separated sanitation facilities for school children, 9 gender-separated sanitation facilities for school teachers, and a decrement of 7 functional urinal blocks.

On the other hand, the project progress reports documented that a total of 295 latrines were constructed by the communities as a result of CLTS triggering and follow ups. The quarterly increase in the number of households with pit latrines averaged 9% since quarter four of 2016 to quarter four of 2017. The progress was commendable but slowed due to migration of households in search of pasture for their livestock as a result of drought. Consequently, conflicts and cultural beliefs concerning human waste disposal (that encouraged open defecation) among the two communities. To add, poor commitment on the households hindered the greater achievement of the sanitation facilities at community level.

In other regard, even though the project's interventions in construction of sanitation facilities in schools were commended, it provided an interesting challenge in terms of managing menstrual hygiene by girls. A physical examination of the facilities noted that 3 out of 10 latrines used by girls in Kainuk mixed primary school risked filling up earlier due to the utilisation of the facilities as disposal points for sanitary towels; thus there was need for an alternative way of waste disposal especially to schools in urban centres such as Kainuk mixed and Turkwel gorge primary schools. This was confirmed by the head teacher of Kainuk mixed primary school;

> *"You know it's expensive to construct these latrines that is why they are few in most schools in the first place. Also our soils are not good when it rains. But we thank Red Cross because they constructed quality latrines from foundation thus they cannot cave in. however, another challenge is that girls are filling up the latrines with their sanitary towels and soon the toilets may fill up again eroding the investment….*

Table 19: Analysis of number of functional sanitation facilities of project schools at end line

Primary school	**Population of school children**			**Number of sanitation facilities**				
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Staff**	**Special facilities for young children & PWDs**	**Urinal block**
Riting	228	221	449	3	4	3	None	None
Kainuk Mixed	498	243	741	4	8	4	None	None
Kaptir Mixed	314	282	596	9	11	3	None	None
Lonyangalem	64	49	113	3	2	0	None	None
Turkwel Gorge	270	210	480	2	2	2	None	1
Lorogon	146	182	328	4	4	0	None	None
Total	**1520**	**1187**	**2707**	**25**	**31**	**12**	**None**	**1**
Mean				**4.17**	**5.17**	**2.00**	**0.00**	**0.17**
Projected estimate of number of sanitation facilities in the 12 project schools (Number of project schools × mean number of sanitation facilities)				**51**	**62**	**24**	**0**	**2**

Table 20: Analysis of number of functional sanitation facilities of project schools at baseline

Primary school	**Population of school**	**Number of sanitation facilities**

[19] Riting, Kainuk Mixed, Kaptir Mixed, Lonyangalem, Turkwel Gorge and Lorogon primary schools

[20] It is instructive to note that these are only indicative estimates. It is recommended that all project schools are audited to establish accurate number of functional sanitation facilities

	children							
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Staff**	**Special facilities for young children & PWDs**	**Urinal block**
Riting	200	300	500	2	2	1	None	None
Lonyangalem	65	36	101	2	2	None	None	None
Juluk	527	462	989	4	2	2	None	1
Turkwel Gorge	365	215	580	9	7	2	1	2
Total	**1157**	**1013**	**2170**	**17**	**13**	**5**	**1**	**3**
Mean				**4.25**	**3.25**	**1.25**	**0.25**	**0.75**
Projected estimate of number of sanitation facilities in the 12 project schools (Number of project schools × mean number of sanitation facilities)				**51**	**39**	**15**	**3**	**9**

c. Indicator 2c: Number of functional water facilities for domestic use within the project sites

As aforementioned, end line data showed that surveyed households in the project location now have access to improved water sources mainly borehole as compared to baseline study results that showed the households drawn from the three administrative divisions of Kasei, Kainuk and Sook mainly depended on three key sources of water namely: surface water mainly River Turkwel and permanent and seasonal streams draining into it which are available in all the three administrative divisions; boreholes constructed in several locations within their communities and in school; and piped water from Turkwel Gorge.

As shown in Table 21 below, end line data showed that communities in the three administrative divisions of Kainuk, Kasei and Sook have a total of 11 functional boreholes in, two more than that recorded at baseline. Analysis of project progress reports showed that a total of two boreholes in Kainuk (Kainuk borehole for irrigation) and Kositei (Kamurio borehole for domestic and livestock) were newly constructed during the project period. In addition, management, operations and maintenance of the newly constructed boreholes has been guaranteed through training of established community level water management committees. The Kamrio and Kainuk boreholes' water management committees consisting of 16 males and 7 females were trained on how to manage the boreholes including sourcing for repairs and ensuring efficiency in the water use.

The benefits of the newly constructed boreholes cannot be overstated. For example, it was noted that community members of Kamrio now draw water from the system instead of travelling to Turkwel located approximately eight kilometres away. In addition, the water system provides water for livestock that do not graze far from home like shoats and calves[21].

Table 21: End line analysis of number of functional water facilities at community level

Administrative division	**Fully operational boreholes and locations**		**Fully operational piped water system and locations**		**Total functional water facilities**
	Number of boreholes	Location of borehole	Piped water system	Location of piped water system	
Kasei	1	Kaptolomwo location (Kour borehole)	-	-	1
	1	Kositei location (Kamrio borehole)			1
Kainuk	2	Kainuk location	-	-	2
	1	Kaputir location	-	-	1
	1	Nakwamoru sub-location (Nakwamoru borehole)	-	-	1
	1	Juluk sub-location	-	-	1
	1	Lorogon sub-location	-	-	1
Sook	1	Turkwel location	1	Kositei location	1
Total	**9**		**1**		**11**

[21] It is a tradition by pastoralists that they remain at home with some livestock especially shoats and calves.

Table 22: Baseline analysis of number of functional water facilities at community level

Administrative division	Fully operational boreholes and locations		Fully operational piped water system and locations		Total functional water facilities
	Number of boreholes	Location of borehole	Piped water system	Location of piped water system	
Kasei	1	Kaptolomwo location	-	-	1
Kainuk	2	Kainuk location	-	-	2
	1	Kaputir location	-	-	1
	1	Nakwamoru sub-location	-	-	1
	1	Juluk sub-location	-	-	1
	1	Lorogon sub-location	-	-	1
Sook	1	Turkwel location	1	Kositei location	2
Total	**8**		**1**		**9**

At school level, end line data showed that four of the sampled six schools have access to improved water facility either in the form of a borehole or piped water system[22]. Lorogon and Lonyangalem primary schools mainly depended on river Turkwel for their water needs thus posing a number of risks to school children: attack from crocodiles inhabiting river Turkwel; contamination of water since children swim in the river; and use of buckets for bathing to draw water from the river for drinking and cooking exposes children and school staff; and high school dropout rates.

Table 23: End line analysis of number of functional water facilities at school level

Primary school	Fully operational boreholes and locations	Fully operational piped water system and locations	Total functional water facilities
	Number of boreholes	Piped water system	
Riting	-	1	1
Kainuk Mixed	-	1	1
Turkwel Gorge	-	1	1
Lonyangalem	-	-	-
Kaptir Mixed	1	-	1
Lorogon	-	-	-
Total	**1**	**3**	**4**

At school level, only one of the four schools surveyed (Lonyangalem Primary School) did not have access to improved water facility[23] and mainly depended on river Turkwel for its water needs. As a consequence, children carried water from home for drinking, cooking and washing utensils. Due to a lack of clean drinking water, the school has suffered high school dropout rates.

Table 24: Baseline analysis of number of functional water facilities at school level

Primary school	Fully operational boreholes and locations	Fully operational piped water system and locations	Total functional water facilities
	Number of boreholes	Piped water system	
Riting	1	-	1
Lonyangalem	-	-	0
Juluk	1	-	1
Turkwel Gorge	-	1	1
Lorogon	-	-	0
Total	**2**	**1**	**3**

[22] Pre-2015 JMP definition of an improved drinking water source: An improved drinking water source is defined as a source or delivery point that by nature of its construction or through active intervention is protected from outside contamination, in particular from contamination with faecal matter. They include: piped drinking water supply on premises; public taps/stand posts; tube well/borehole; protected dug well; protected spring; rainwater.

[23] Pre-2015 JMP definition of an improved drinking water source: An improved drinking water source is defined as a source or delivery point that by nature of its construction or through active intervention is protected from outside contamination, in particular from contamination with faecal matter. They include: piped drinking water supply on premises; public taps/stand posts; tube well/borehole; protected dug well; protected spring; rainwater.

3.5 Project Outcome 3: Disaster Preparedness and Response

3.5.1 Output 1: KRCS, County government and communities able to anticipate and respond to disasters in Turkana and West Pokot

a. Indicator 1a: Community members demonstrating improved knowledge on disaster management

Against the project target of 39% of community members demonstrating improved knowledge on disaster management, approximately 77% (95% CI [72.1,82.6]) of surveyed community members (75% in Kainuk, 57% in Kasei, 90% in Sook) at end line as compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34%in Sook), reported having knowledge in disaster management.

As shown in Table 25 below, approximately 77% of surveyed household respondents comprising of 75% in Kainuk, 57% in Kasei, 90% in Sook as compared to only 26% of all respondents surveyed at baseline (20% in Kainuk, 33% in Kasei, 34% in Sook) indicated that they have knowledge and understanding of disaster management mainly entailing: *preventing or moderating the adverse effects of the disasters; reducing the adverse effects of disasters that affects you that affects you; and responding to and quickly recovering from any adverse effect of the disasters that affect you in your community*.

Table 25: Comparative analysis baseline and end line data on proportion of respondents reporting having knowledge and understanding of disaster management

Knowledge	Administrative division						Total	
	Kainuk		Kasei		Sook			
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
No knowledge at all	80%	25%	67%	43%	66%	10%	74%	23%
Some knowledge	20%	75%	33%	57%	34%	90%	26%	77%
Total	100%	100%	100%	100%	100%	100%	100%	100%

The enhanced level of knowledge on disaster management could be attributed to establishment of CBDRT teams as resource persons at community level.

Through group discussions with community members and KIIs with officials from KRCS, it was established that community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction (e.g. in Kositei and Kaptolomo locations) on conflict resolutions, food security, first aid and sanitation and hygiene.

For example, it was noted that communities recorded improved response and management to disasters through acts such as conducting peace meetings, conflict resolutions in the face of conflicts and livelihood diversification among pastoralists mainly entailing beekeeping, and providing information to responsible authorities such as County governments to rehabilitate roads and bridges in the aftermath of disasters. Key benefits recorded for the communities included: enhanced knowledge and skills on disaster management mainly covering management and reduction of effects of disasters such as loss of property and lives; sanitation and hygiene in the face of disasters; restoration of peace; livelihood diversification amongst pastoralists; and building of community resilience.

> *"…community members have benefitted a lot from the established CBDRTs which mobilized community members and disseminated key messages to them at community level mainly on disaster management, first aid administration, livelihood diversification, sanitation and hygiene, conflict resolution…community members have also been equipped with first aid kits…thus compared to the last three years, community members' knowledge on disaster management has really increased…"*
>
> ***KII, official, KRCS***

b. Indicator 2a: Number of CMDRR and EWS plans developed and shared with the county through the NDMA structures, influencing county budgets for disaster contingency funds

By the time of conducting this study, one resource mobilisation plan, one draft policy working paper and one county compensation framework had been developed through the involvement of project. Throughout project implementation, the project team engaged in discussions through the County Steering Groups, chiefs and ward administrators (local leadership) in Turkana and West Pokot counties to trigger the respective county to allocate contingency funds at county then sub county levels.

The above technical discussions with stakeholders in the two counties led to the development of emergency preparedness and resource mobilization plan in 2016 to address drought, a draft peace policy working paper for West Pokot County, and compensation framework for peace processes in West Pokot and Turkana counties. However the domestication of the plan and paper in West Pokot County awaited the approval of the West Pokot Disaster Risk Management Policy that was pending before the County Assembly. The enactment of the above policy was scheduled in February 2018 after completion of amendments as had been requested by the County Assembly. Similarly, the Turkana County Policy for Disaster Risk Management was in draft form.

The Kenya Red Cross through the project was a major player in the above policy discussion. Some of the policy actions included; drought management, floods management, food insecurity, raids and conflicts management, human diseases, internal conflicts and displacements (where Kainuk, Lokichar and Nakwamoru and Pokot-Turkana borders were identified as the major conflict corridors in Turkana and West Pokot respectively among others. These policies includes activation of the drought contingency plans, county disaster risk management annual allocation fund, County disaster risk management committees with KRCS being the one of the responsible actors.

Evaluation data from surveyed key informants showed that the above documents had been developed to address disaster preparedness and response.[24]The project progress reports detailed plan, paper and framework developed that have influenced county budgets for disaster contingency funds:

- KRCS has participated in County Food Security Technical Working Group held in Lokichogio on 25th & 26th October, 2016 in a collaborative effort with partners from the NGO sector and County departments of Disaster Management to prepare emergency preparedness and resource mobilization plan to address the effects of drought in the project regions. Through these meetings, the stakeholders and partners were allocated zones to support should the drought situation worsen. Also the partners used the forum to source for resources for drought response.
- KRCS has participated in a forum on 19th December in Kapenguria aimed at finalization of a peace policy draft working paper for West Pokot County to guide peace activities within the County.
- So far, KRCS has collaborated with various partners like Mercy corps, Fin Church Aid and West Pokot and Turkana County governments to draft the compensation framework for peace processes.

3.5.2 Output 2: KRCS, County government and communities in Turkana and West Pokot counties have capacity to prepare and respond to disasters

a. Indicator 2a: Joint planning and coordination between the community, KRCS and the county government in Turkana and West Pokot counties in disaster preparedness and response

Joint planning and coordination between the community, KRCS and the county government in Turkana and West Pokot counties and partner NGOs in disaster preparedness and response has been

[24] Joint planning and coordination between partners is a key intervention in the Kainuk and Kasei Resilience Project and therefore not reported as a baseline measure

undertaken in a number of ways: joint disaster management training to improve capacity of the volunteers and County staff in effectively and efficiently anticipating and responding to disasters; collaborative steering group meetings at county and sub-county level levels mainly in the areas of disaster management including cash transfer; County Food Security Technical Working Group to address the effects of drought through preparation of emergency preparedness and resource mobilization plan; and a forum aimed at finalization of a peace policy draft working paper for West Pokot County to guide peace activities within the County.

Under the Kainuk Kasei Community Resilience Project, end line data from County and KRCS officials and other stakeholder groups such as NGOs reveal evidence of joint planning between KRCS, the national government through National Disaster Management Authority, County governments and NGOs such as World Vision Kenya. Specifically, key informants interviewed indicated that the joint planning and coordination has so far involved key areas of disaster management mainly drought, conflict, livelihood diversification and water, sanitation and hygiene. So far, two key benefits of the joint planning and coordination have been realized namely: joint fund raising; and joint execution of training programs.

An analysis of Project Progress Reports shows a number of joint activities carried out under the joint collaboration between the KRCS, the County governments and the communities:

- A joint disaster management training to improve capacity of the volunteers and County staff in effectively and efficiently anticipating and responding to disasters. The training, facilitated by a KRCS First aid instructor and DM facilitator and officials from National Drought Management Authority, involved 20 volunteers and 3 county government officials from West Pokot and Turkana counties where training content and terms of reference were jointly prepared. This forum played a crucial role in enhancing the relations between KRC and departments of disaster management in the County governments of Turkana and West Pokot.
- KRCS through its branches has participated in various collaborative steering group meetings at county and sub-county levels mainly in the areas of disaster management including cash transfer. Of importance is that KRCS has collaborated with the relevant ministries like Livestock, Agriculture, Water and NDMA in enhancing community resilience through ensuring sustainability of the Kainuk Kasei Community Resilience project.
- KRCS has participated in County Food Security Technical Working Group held in Lokichogio on 25th & 26th October, 2016 in a collaborative effort with other stakeholders to address the effects of drought through preparation of emergency preparedness and resource mobilization plan.
- KRCS has participated in a forum on 19th December in Kapenguria aimed at finalization of a peace policy draft working paper for West Pokot County to guide peace activities within the County. So far, KRCS has collaborated with various partners like Mercy corps, Fin Church Aid and West Pokot and Turkana County governments to undertake various peace activities, including celebration of World Peace day as well as drafting the compensation framework for peace processes. In the 2017 Quarter 3 Project Progress Report, it is documented that two peace dialogues organized by peace committee members around Turkwel gorge corridor were held in Lorogon and Lami Nyeusi in collaboration with Mercy Corps and the two county governments of West Pokot and Turkana to discuss the rising cases of livestock raids especially in Nakwamoru area. In the 2015 Quarter 4 Project Progress Report, KRCS collaborated with the county governments of West Pokot and Turkana, Conservancy, the police and the community to conduct peace activities along the border following raids and attacks during the month of October, 2015. The peace forums are believed to have resulted in the return of the stolen livestock.

b. Indicator 2b: KRCS Kainuk and West Pokot KRCS field staff and volunteers equipped to prepare and respond to disasters

To ensure that KRCS staff and volunteers are adequately equipped to respond to disasters, a number of activities have been undertaken: capacity building provided by RCAT ToTs and officials from NDMA; provision of first aid kits; and as an incentive, KRCS staff and volunteer have participated in team building sessions to motivate them in their role in disaster management.

End line data from KRCS officers shows that KRCS staff and volunteers are adequately equipped to respond to disasters in the project locations. During the baseline survey, a number of gaps were noted with regard to ability of KRCS staff and volunteers to prepare and respond to disasters: lack key equipment such as first aid kits and protective clothing such as gloves; inadequate transport resources; lack of food in the field; and lack of incentives for volunteers for continued motivation. End line data from interviewed shows KRCS staff and volunteers as members of established CBDRTs have mainly benefitted from capacity building provided by RCAT ToT and officials from National Drought Management and equipped with first aid kits, and as an incentive, they have also benefitted from team building sessions to further infuse and ensure spirited continuity in their role in disaster management.

Analysis of project progress reports reveals a number of factors that have contributed to improved status of KRCS staff and volunteers as far as preparing and responding to disasters are is concerned:

- A total of 120 KRCS volunteers and or CBDRT members have been equipped with knowledge to effectively respond to various emergencies. To support their main role in disaster management, the teams underwent training mainly on basic first aid, overview of disaster management, early warning systems, and community mobilization and participation. The training sought to improve their capacity as well as of participating County staff in anticipating and responding to disasters in a more efficient and effective way. Furthermore, NDMA identified Turkwel as one of the sentinel points to provide data on disaster and food security situations; thus the CBDRTs capacities to anticipate , respond and manage disasters and vulnerabilities will be enhanced through support in training and field monitoring by NDMA.
- KRCS staff and volunteers have been equipped with response materials mainly first aid kits (universal and occupational), response bibs for, marked overalls, stationery, torches, stretchers and blankets. As noted in the project progress reports, CBDRT teams have been using the kits to undertake various responses e.g. the Kainuk CBDRT teams have been using the red jackets marked 'Community Disaster Response Kits', first aid kits, and stretchers to help victims of cattle rustling and road banditry. The kits have enabled the CBDRT teams to respond to over 18 scenes and refer approximately 21 casualties to the nearest health facility
- A comprehensive psychosocial and team building was organized for KRCS staff and volunteers from Turkana, West Pokot and Baringo counties at Bogoria SPA Resort in Baringo on 13th – 16th October, 2016. The session aimed at reflecting on the successes, challenges and best practices witnessed over disaster response across all counties and encourage staff and volunteers on coping mechanisms amid several responses, and provide psychosocial counselling to various staffs and volunteers that have been involved in multiple responses.

c. Indicator 2c: Community members report an improvement in knowledge in disaster preparedness and response

Against the project target of 39% of community members reporting an improvement in knowledge in disaster preparedness and response, approximately 85% (95% CI [80.8, 89.1]) of surveyed community members (85% in Kainuk, 73% in Kasei, 93% in Sook) at end line as compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34% in Sook) reported having knowledge in disaster preparedness and response.

Table 26: Comparative analysis baseline and end line data on proportion of respondents reporting having knowledge and understanding of disaster management

Knowledge	Administrative division						Total	
	Kainuk		Kasei		Sook			
	Baseline	End line	Baseline	End line	Baseline	End line	Baseline	End line
No knowledge at all	80%	15%	67%	27%	66%	7%	74%	15%
Some knowledge	20%	85%	33%	73%	34%	93%	26%	85%
Total	100%	100%	100%	100%	100%	100%	100%	100%

D. Outcomes and emerging impact

The positive and negative, primary and secondary long-term effects/changes produced by the project, indirectly or directly, intended or unintended	Rating (4): **Satisfactory**

A number of benefits from this project intended and unintended, short term and long term, have been realized as enumerated below:

- There is a significant improvement in bee farming capacity in all administrative divisions with Kainuk registering an improvement from 39% at baseline level to 60% at end line level, from 23% at baseline to 28% at end line for Kasei, and 18% at baseline to 48% at Sook. The training of 40 farmers (33M, 7F) facilitated by officials from Ministry of livestock development between 26th and 29th September 2017 and continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits to Silenga bee farmers group, Nasuguta government resource centre and CABESI market place in Chepareria in West Pokot during the period between July 10 – 12, 2017 may have contributed to the gains in knowledge in beekeeping and therefore apiary management
- End line data showed that approximately 73% of surveyed pastoralists as compared to 0% at baseline reported having access to and utilizing livestock husbandry services as a result of a number of factors: establishment of two drug stores in Turkwel and Kakong managed by Community Disease Reporters (CDR) have remained operational thus providing the much needed veterinary services and livestock drugs and other equipment; training and exchange visits to Sook and Kakong involving Community Diseases Reporters (CDRs) and County veterinary doctors and covering proper storage, handling and prescription, disease diagnosis and treatment as well as good customer relation, and proper record keeping; training of 40 Community Animal Health Workers (CAHWs) (20 in Turkana and 20 in West Pokot) on animal husbandry and management; and linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice
- Compared to a baseline of 0%, approximately 51% of households surveyed at end line reported having an improved water source within approximately 0 to 1 km of their homes while approximately 44% of the surveyed respondents indicated that they take approximately 0 to 30 minutes for a round-trip to collect water from the improved water source including queuing. Newly constructed boreholes in Kaptolomwo (Kour borehole), Kositei (Kamrio borehole) and Nakwamoru (Nakwamoru borehole) locations were realized and together with guaranteed management, operations and maintenance of the boreholes through training of established community level water management committees has ensured that community households in the project locations have access to sustainable and improved water sources.
- Approximately 87% of interviewed school children at end line as compared to 78% at baseline reported practising hand washing in at least three critical times. On-going SHEPP activities in project schools involving established school health clubs pivotal in passing WASH related messages to the school fraternity (including through murals on school buildings mainly hand washing at 4 critical moments, drinking treated water always to

prevent diarrheal diseases; avoid open defecation, keeping the toilet clean; general body hygiene; and keeping the school compound tidy) may have contributed to the increased knowledge on hand washing among school children

- Compared to a baseline level of 26% (20% in Kainuk, 33% in Kasei, 34% in Sook), approximately 77% of surveyed household respondents (75% in Kainuk, 57% in Kasei, 90% in Sook) at end line reported having knowledge in disaster management. It was established that community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction (e.g. in Kositei and Kaptolomo locations) on conflict resolutions, food security, first aid and sanitation and hygiene
- An increase in the number of latrines was realized due to the Community Led Total Sanitation (CLTS) triggering and follow ups. In the project area having a total of 34 villages with 1,308 households, there were a total of 264 latrines at the end of quarter three (2017) as compared to 295 latrines at the end of quarter four (2017). The conflict situation hindered routine field monitoring of CLTS progress and the escalating drought situation in the project area which led to human movements from Kour, Takaiwa, Kakong and the larger Kositei Location contributed to the slow progress of the CLTS triggering and follow-ups.

E. Accountability to Communities

In implementing the Kainuk Kasei community resilience project, evaluation results show that KRCS adopted a number of strategies to ensure that it is accountable to its stakeholders, mainly the community and organizational partners. KRCS accountability to the community and partners entailed the following:

i. Community participation: As discussed under project efficiency, it was noted that KRCS adopted a partnership-based approach in planning and implementation of the project. This ensured inclusivity and transparency. Specifically, a key element of project implementation was the participation of partners and community members through established farmer, bee, water and disaster committees where discussions on time and budgetary implications of project activities and decisions were discussed and agreed upon. For example the CBDRTs were involved in discussions on utilisation of the skills and knowledge gained in DRM training including response at community level and were tasked by the project teams to develop a proposal on IGA and utilisation of the seed capital for the same.

   KRCS collaborated with county government institutions, NGOs and private sector (suppliers) in the planning and implementation of project activities. In sections of this report, it was demonstrated that through complementarity approaches to implementation of selected activities such as construction or rehabilitation of boreholes and capacity building, KRCS was able to guarantee sustainability of the project activities. For example, KRCS collaborated with various partners such as Mercy corps, Fin Church Aid and West Pokot and Turkana County governments to draft the compensation framework for peace processes. The use of an inclusive approach entailing involvement of local institutions and target groups during the project's design and all planning forums has ensured that the objectives of the project were wholly aligned with the needs, expectations and interests of the target groups and stakeholders

> *"The most effective methodology used to bring about changes in people's lives is mainly the use of participatory approach, working closely with the community in terms of identifying the issues and also discussing on potential solutions or interventions that can be done, and so it is more participatory in nature and then I think also other strategies to work very closely with the county government and of course we are auxiliary to the county government and the national government, so I think the close partnership that we have with the county is also another plus, in terms of ensuring that we are effectively delivering in our projects and strategies……"*
>
> *KRCS official*

ii. Communication, complaints and feedback: Evaluation results showed that KRCS established complaints and feedback mechanisms to ensure that complaints are shared and feedback promptly given. These were: use of community based volunteers; use of community forums and meetings; adoption of open door policy to ensure that community members have a direct access to project management officers; and use of direct phone calls and messaging to project officers.

> *"At one point we had problems with the shade nets which were being destroyed by erosion. We shared this problem with KRCS and they were able to secure funds to for resolving the problem through constructing water drainages around the farms. The feedback mechanism that was in place was effective…."*
>
> *FGD respondent, crop farmer. Kainuk*

iii. Monitoring and evaluation: Through KIIs, it was established that KRCS carried out regular monitoring of project activities including interviewing benefitting community members on the progress of the project, success and challenges. This data was used to improve the Kainuk Kasei project moving forward and plan for future projects. It was further noted that KRCS shared the M&E results with the community for as part of community feedback and brainstorming to ensure lessons learned are used to improve the project.

> *At one point we had problems with the shade nets which were being destroyed by erosion. We shared this problem with KRCS and they were able to secure funds to for resolving the problem through constructing water drainages around the farms. The feedback mechanism that was in place was effective*
>
> *.FGD respondent, crop farmer. Kainuk*

F. Sustainability

The extent to which the project has established and built institutional capacity that ensures the continuation and maintenance of the project's results/outcomes taking into consideration the capacities built for the target groups, government, community and civil society stakeholders as well as for partners	Rating (4): **Satisfactory**

Evaluation results show that from the outset, consideration of sustainability was an intrinsic feature of the project. For example, key activities of the project entailed building capacities of stakeholder groups. Thus from the outset, the project's rationale for adopting this strategy was to build long term capacity of the beneficiaries and stakeholder groups. In addition, the use of existing local institutions through county governments of Turkana and West Pokot, NGOs such as Mercy Corps and use of existing KRCS volunteer was a deliberate strategy to ensure ease of access to required services and enhance utilization as well as minimise related operational costs.

Thus to a large extent, the project has been effective in ensuring its sustainability through a number of key efforts:

- *Partnership between state and non-state actors:* Through collaboration with NDMA, County governments of Turkana and West Pokot, CBOs such as farmer groups and CBDRTs and NGOs such as Mercy Corps, the project has contributed to strengthening cooperative relationships between state and non-state actors at national and county level that will be sustained into the future. As aforementioned, the project identified and involved local structures from the onset mainly County governments, CBOs and NGOs with grass roots presence, school children clubs, schools, and individuals such as chiefs and including them in key decision making and planning forums such as assessing and prioritizing the needs of target groups to influence the project's activity implementation. This has ensured community

ownership and therefore enhancing sustainability of the project's activities at community level.

- *Development of exit plan and holding close-out meeting:* In addition to holding a close-out meeting to discuss key issues including the project's process and outcome effectiveness, budget close-out, lessons learned, and roles and responsibilities turnover, a viable phasing out plan was developed and is currently being implemented.
- *Continued support for the project's activities:* A key aspect of the close-out meeting and the phase out plan is continued support to established and implemented activities under this project. Evidence of further commitment of partners and associates to the sustainability of the project was not established. However, it is expected that established community structures such as CBDRTs and farmer groups will continue to support the project's activities. Successful project outputs such as veterinary drug stores are self-sustainable if properly managed by the trained vendors.
- *Capacity building and hygiene promotion campaigns:* As aforementioned, capacity building involving training and in some cases exchange visits of beneficiaries mainly community members and school children is a long term strategy for viability of protecting gains realized as a result of the project's activities. As earlier stated, already members of established school health clubs are acting as role models in promoting sanitation and hygiene through carrying out sensitization on sanitation and hygiene in their respective communities. Further, KRCS staff and volunteers and County staff have been trained on various components of disaster management thus expected to continue to deliver the relevant expected project results.

Generally, continued harnessing of resources of partners that share common goals with a history of collaboration is a key factor in ensuring sustainability of the initiatives pursued under this project. However, through results from the final evaluation, two factors were identified as key challenges to sustainability of the project's interventions:

- Possible lack of financial commitment by partner county government may hinder continued support and viability of project gains

G. Lessons learned

The final evaluation identified key lessons from this project. These are:

- Documentation and sharing of case studies and learning areas is key in lobbying state and non-stated actors for policy strengthening and funding to ensure maximization of the impact of the explicit and tacit knowledge on the disseminated experiences from this project
- Long term projects as opposed to short term projects as is the case with the Kainuk Kasei Community Resilience Project ensure adequate time for monitoring of project activities and instituting well thought out implementation strategies to ensure sustainability
- Partnering with committed stakeholder groups is key in viability of a project as far as financial commitment is concerned
- Existing KRCS structure at grassroots level through volunteer network ensures viability and continuity of key aspects of the project such as provision of advisory services on disaster management

CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

4.1 Conclusions

Overall, the project was successful in its primary goal of contributing to increased resilience of communities in Kainuk, Kasei and Turkwel divisions of Turkana and West Pokot Counties to the impact of disasters

- 40 crop farmers have realized a number of benefits including: installation of shade nets, irrigation pipes, water tank(storage), solar panel, water channels and a newly drilled borehole to supply the established 20 shade nets with readily available water; bush clearing, levelling, ploughing, harrowing and fencing; formation of a farming group to support management of shade nets and land preparation and nurseries; provision of agricultural inputs including seed; and linking the farmer groups to market centres and opportunities
- The training beekeeping farmers facilitated by officials from Ministry of livestock development and continuous sensitization of bee farmers, management training of apiary focal persons/leaders in group management and farmers' exchange visits may have contributed to the gains in knowledge in beekeeping and therefore apiary management
- The establishment of drug stores in Turkwel and Kakong managed by CDR, training and exchange visits to Sook and Kakong involving CDRs and County veterinary doctors, training of CAHWs on animal husbandry and management and linkage of pastoralists to trained CDRs to offer livestock husbandry and management advice has been pivotal in ensuring huge improvement in access to and utilization of livestock management and husbandry services
- Construction of 2 new boreholes in Kamrio (for domestic and livestock use) and Kainuk (for irrigation of the shade nets) and training of established community level water management committees has ensured that community households in the project locations have access to sustainable and improved water sources with guaranteed management, operations and maintenance of the boreholes; a catalyst to improved livelihoods among the communities.
- On-going SHEPP activities in project schools involving established school health clubs pivotal in passing WASH related messages to the school fraternity and community members may have contributed to the increased knowledge on hand washing among school children and possibly in community settings
- Through enabling realization of increased number of latrines, Community Led Total Sanitation (CLTS) triggering and follow ups by CLTS and KRCS staff has been pivotal in contributing to sanitation in the project area covering 34 villages. This has been carried out against a backdrop of conflict and drought thus hindering routine field monitoring and resulting in slow progress of CLTS triggering and follow-ups.
- Community members have benefitted from the formation of the CBDRTs which have been instrumental in sensitizing community members on disaster risk reduction, conflict resolutions, food security, first aid and sanitation and hygiene thus partly explaining the enhanced knowledge on disaster management

4.2 Recommendations

- There is need to give more attention to community-shared learning mainly through exchange visits via village-to-village visits to afford beneficiary communities the opportunity to learn from each other and exchange ideas on both successful and problematic management of all project domains of food security, WASH and disaster preparedness and response. The success of veterinary drug store management that is linked to livestock management in Turkwell by the Pokot community is a learning point to the Turkana community in Kakong and Kaputir. Similarly, the successes of most bee farmers and apiaries in Nakwamoru, Kapelibok, Lomopus, Kaputie and Nakwamoru that produced honey can be applied by the Pokot community.

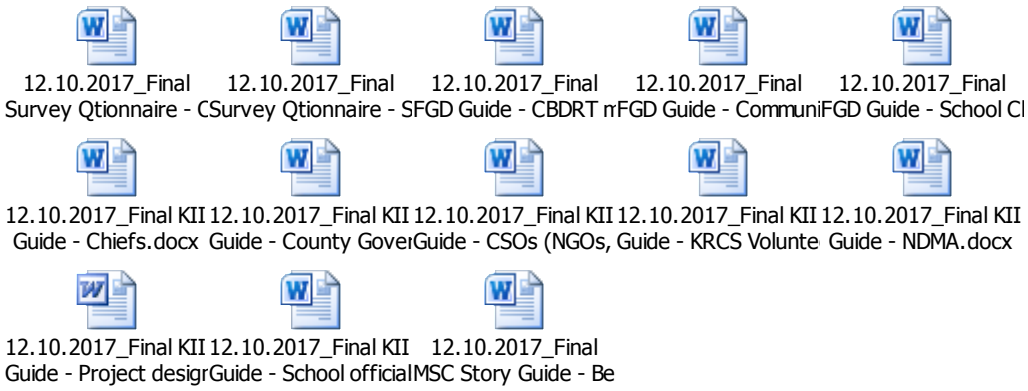
- KRCS should lobby for financial support for locally based extension service training institutions to ensure continuous training of community members as change agents. The training institutions can also be utilized as locations for demonstration of innovative approaches in the areas of food security, WASH and disaster preparedness and response and skill training offered in other useful areas in agri-business, literacy and numeracy skills, organizational development.
- While sanitation hardware mainly latrines may exist in some households, they are not well maintained. It is important that KRCS considers establishment of community management systems as part of future projects to keep sanitation facilities clean and in working condition without which can lead to both health and environmental problems especially amongst the pastoral communities (Turkana and West Pokot in this case). The CLTS triggering and monitoring in the project area should receive more supportive supervision from the county's public health ministries (especially in the settled areas along the rivers banks, shopping centres and water points) and escalated to ensure construction of more latrines in the project area and in addition, routine monitoring of the state and usage of the constructed sanitation facilities. This should be uniquely undertaken jointly with the ministry of livestock and agriculture as migration in such of pastures for livestock was a major hindrance to attaining hygiene and sanitation outcomes in the two counties.
- As WASH in Schools is not considered a priority for most communities and municipalities, the situation in many places is deplorable to the extent that there are even no latrines for students and teachers to use. In other situations, the physical infrastructure may exist, but it is not well maintained. No management system is in place to keep facilities clean every day especially for some schools, and children do not practise proper hygiene, all of which can lead to both health and environmental problems. In other words, there is a need not just for WASH, but for sustainable water, sanitation and hygiene. Consequently, management of menstrual hygiene should form part of the package to ensure durability of sanitation facilities such that interventions include support to proper disposal of sanitary towels used by girls; either use of reusable sanitary towels or construction of incinerators.
- While KRCS has worked mainly with the national and county governments as well as NGOs such as Mercy Corps, it is important to advocate and lobby for support aimed at addressing the transitional context of this project. Specifically, it is important to give more attention to capacity building of intermediate level actors for longer term and sustainable back up to beneficiary communities and schools for supporting the operation and maintenance of gains made.
- Among other things, the project realized successful establishment of CBDRTs and early warning systems, training in disaster risk management, and preparing a community Disaster Risk Management Plan which are measures of success of any community based disaster risk management process. However, to fully benefit from the established structures, it is important that continuous and regular community simulations and exercises are carried out to ensure continuous capacitating of the beneficiary at-risk communities. The anticipated passing of both county's disaster risk management policies by respective county assemblies will open up opportunities for the CBDRTs to tap in the county disaster response funds and kitties (as detailed in the polices) in support of the response to emergencies in the counties. The project team should ensure that the CBDRTs in both counties are informed of the linkage processes and their roles in auctioning of the policies.
- Notwithstanding the fact that the project is nearing completion, it is vital that formal bilateral cooperation agreements/memoranda of understanding are drawn prior to KRCS exiting the project to guarantee partner commitment and therefore project sustainability.
- Documentation and sharing of case studies and learning areas is key in lobbying state and non-stated actors for policy strengthening and funding to ensure maximization of the impact of the explicit and tacit knowledge on the disseminated experiences from this project.

ANNEXURE

A. The rating scale

Very large extent (Excellent) (Rating 5): There is strong evidence that the project fully meets all or almost meets all aspects of the evaluation criterion under consideration. The findings indicate excellent and exemplary achievement/progress/attainment. This is a reference for highly effective practice and an Action Plan for positive learning should be formulated.
Large extent (Satisfactory) (Rating 4): There is strong evidence that the project mostly meets the aspects of the evaluation criterion under consideration. The situation is considered satisfactory, but there is room for some improvements. There is need for a management response to address the issues which are not met. An Action Plan for adjustments should be formulated to address any issues. Evaluation findings are potentially a reference for effective practice.
Moderate extent (attention) (Rating 3): There is strong evidence that the project only partially meets the aspects of the evaluation criterion under consideration. There are issues which need to be addressed and improvements are necessary under this criterion. Adaptation or redesign may be required and a clear Action Plan needs to be formulated.
Small extent (Caution) (Rating 2): There is strong evidence that the project does not meet the main aspects of the evaluation criterion under review. There are significant issues which need to be addressed under this criterion. Adaptation or redesign is required and a strong and clear Action Plan needs to be formulated. Evaluation findings are a reference for learning from failure.
Very small extent (Problematic) (Rating 1): There is strong evidence that the project does not meet the evaluation criterion under consideration and is performing very poorly. There are serious deficiencies in the project under this criterion. There is need for a strong and clear management response to address these issues. Evaluation findings are definitely a reference for learning from failure

B. Tools



C. Most Significant Change (MSC) stories