The Health and Livelihood Status of the East and Central Pokot Districts and East Marakwet District, Kenya: A Baseline Survey Report

Submitted to the Red Cross Societies of Kenya and Canada

By

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ACTED	Agency for Technical Cooperation and Development	ITN	Insecticide Treated (bed) Net
APFS	Agro-Pastoral Field School	KDHS	Kenya Demographic Health Survey
BCC	Behavioural Change Communication	MNCH	Maternal and Newborn and Child Health
CHEW	Community Health Extension Worker	MoH	Ministries of Health (MoPH & MoMS)
CHW	Community Health Worker	MoMS	Ministry of Medical Service
CHC	Community Health Committee	MoPHS	Ministry of Public Health and Sanitation
DHMT	District Health Management Team	NGO	Non Governmental Organization
FP	Family Planning	PIP	Project Implementation Plan
GoK	Government of Kenya	PMT	Project Management Team
KRCS	Kenyan Red Cross Society	PRA	Participatory Rural Appraisals
HCMC	Health Centre Management Committee	RHO	Regional Health Officer
HFC	Health Facility Committee	VICOBA	Village Community Bank
iCCM	integrated Community Case Management	VPC	Village Planning Committees
IEC	Information, Education Communication	VDP	Village Planning Plan

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1. Executive Summary

The objective of the study reported here was to carry out a household survey in the Kenyan districts of East and Central Pokot as well as East Marakwet. This survey will constitute the baseline for an evaluation of two intervention projects aimed at increasing maternal and child health, promoting food security and drought recovery, and enhancing livelihood resiliency. The evaluation study is planned to be a quasi-experimental design with baseline and end-line cross-sectional surveys in both of the intervention groups of villages ("Recovery" and "MNCH[1]/Livelihood") and in the control group of villages (i.e., three comparator groups). This report covers only the baseline survey.

A two-stage sampling procedure was used with stratified random sampling of villages and systematic sampling of households within the villages. A total of 689 households were visited; 154 in the control villages; 130 in the "Recovery" intervention group of villages, and 405 in the "MNCH/Livelihood" villages. After adjusting for the cluster sampling design effect, this sample size provides 80% power to detect a 50% effect size with an alpha of 0.05.

Given that the activities of both intervention groups commenced several months prior to this baseline survey, the most valid indicators of the composite baseline profile are the point estimates of the control group. These are provided in the table of this executive summary and are described by way of text as well. A comparison of the intervention point estimates with those of the control group is also provided in this summary table. As explained in the table's footnote, the presence of a superscript following the point estimate indicates that the intervention group differs from the control group and in which direction.

As expected, the control and intervention groups are generally comparable in these baseline data. Of the 48 key indicators summarized, only four showed a statistically significant difference. Compared to the control group, the "Recovery" households more frequently reported visits from the Community Health Worker, more frequently got their mosquito bed-net(s) from a public health worker, and the mothers more likely to deliver in the hospital with the assistance of a physician, nurse or midwife. While these differences may reflect an immediate intervention effect, the analytical implications of such differences are discussed in the report.

The indicators tabulated below provide a summary baseline profile of households in the Pokot and the East Marakwet Districts of Kenya, and specifically the women aged 15 to 49 years with children less than five years of age in these households. Their index of wealth is very low, with half living on less than $165 US a year. They are pastoralists (shepherds) and agro-pastoralists (farming shepherds) who are experiencing drought and other disasters for which they are ill-prepared. Three quarters of the adults and nearly half of the children went without eating for a day or more in the past six months because food was not available or because they could not afford to buy food. Approximately 60% are drinking water from unprotected sources, and very few (10%) treat their water before drinking it. Over three quarters of the households have no sanitary facility and the members defecate in a bush or field.

Half of the women have no education. Less than a fifth of the women had four or more prenatal visits during their pregnancies. However, when they did have such visits most saw a physician, nurse or midwife. Only 29% of the women got two or more tetanus injections during their pregnancy, and far fewer (5.4%) got two or more anti-malarial doses during their pregnancy. Few women delivered with the

[1] Maternal, Newborn and Child Health

assistance of a physician, nurse or midwife (13.4%), and fewer delivered in a hospital (9.4%). Less than a tenth (7.4%) had their health checked or their baby's health checked (12.1%) within 48 hours of delivery, and about 10% exclusively breast-fed for six months.

Up to a third of the children less five years of age had diarrhea in the two weeks prior to the survey, and a third of such children were given oral rehydration solutions and zinc. About 20% of the children had an acute respiratory infection (e.g., pneumonia) in the past two weeks; and of those that did have such an infection, over 85% are given antibiotics. About a third of the children had a fever in the past two weeks, and two thirds of these children are treated with anti-malarials. Approximately 80% of children aged 12 to 23 months had three doses of PENTA, but as few as 64% of such aged children have had a measles vaccination. Based on focus group discussions, the reasons for some of these observations are explored.

Summary Indicator Values at Baseline, November 2012
East and Central Pokot and East Marakwet, KENYA

Indicator	Point Estimate in Control Group*
Household Finances	
1. Wealth index (Maximum sore is 14)	1.8
2. Shillings earned from farming last season (13,744 KSH = 163 USD)	13744
3. % not earning additional income (other than farming)	55.2
Household Agronomics	
4. % households with someone trained in modern farming techniques	5.2
5. % of households with someone who is a member of a farmer's group	5.8
6. % of households that experienced a drought in the past 12 months	51.9
7. % of households who claim they are prepared for a drought	6.5
Household Food Insecurity	
8. % of households where ***any adult*** stopped eating for a day or more in the past 6 months because of not enough food or could not afford to buy food	73.4
9. % of households where ***any child*** stopped eating for a day or more in the past 6 months because of not enough food or could not afford to buy food	44.8
Household Water and Sanitation	
10. % of households with access to an improved water source (piped, well or borehole)	40.9
11. % of households that treat their drinking water in any way	10.6
12. % HHs that treat their drinking water with bleach/chlorine	4.9
13. Average time (in minutes) to collect drinking water	59.0
14. % of households where adult woman usually collects the water	84.6
15. % of households with access to an improved sanitation facility (pit latrine/flush toilet)	22.7
16. % of household that have no access to a sanitation facility; and use bush or field	77.3
Household Hand Washing Practices	
17. % of households wherein the presence of water for hand-washing was observed	40.3
18. % of households where members usually use soap or detergent when washing hands	74.0
19. % of households where members usually wash their hands at all critical times (after using latrine, after cleaning baby's bottom, before eating and before cooking).	0.0
Households Mosquito Net Use	
20. % of households having an insecticide treated mosquito bed-net(s) in the house	57.8

Summary Indicator Values at Baseline, November 2012 East and Central Pokot and East Marakwet, KENYA	
Indicator	**Point Estimate in Control Group***
21. % of households where source of net is a public health official	32.5$^{<R}$
CHW Visits and Health Information Sessions	
22. % of households visited by a CHW in past year	3.9$^{<R}$
23. % CHWs female	0.0
24. % satisfied with CHW visit	100.0
25. % of households attending a health info session in the past 6 months	2.6
26. % female head of the household attended session	25.0
Description of sample women aged 15 to 49 years and have a child under 5 years of age	
27. % with no education	58.9
28. % with unmet need for contraception	39.1
Prenatal Care	
29. % who had 4+ prenatal check-ups	18.1
30. % who saw a physician/nurse/midwife before birth	69.1
31. % who received 2+ tetanus injections during pregnancy	28.9
32. % who took iron during pregnancy	47.7
33. % who took 2+ doses antimalarial drugs during pregnancy	5.4
Delivery Assistance and Location	
34. % whose birth was assisted by physician/nurse/midwife	13.4$^{<R}$
35. % delivered in public or private hospital	9.4$^{<R}$
Postnatal Care	
36. % of women health checked <48hrs (provider not specified)	7.4
37. % of newborns' health checked <48hrs (provider not specified)	12.1
Nutrition and Breastfeeding	
38. % of mothers receiving Vitamin A within first 2 months after delivery	46.3
39. % of children received Vitamin A dose in past 6 months	57.0
40. % exclusively breastfed for 6 months	10.7
Diseases and Vaccinations	
41. % of mothers with children <5 reporting a child with diarrhoea in past 2 weeks	32.9
42. Of such children, % treated with ORS and zinc	32.7
43. % of children with acute respiratory infection (ARI) in past 2 weeks	20.1
44. Of children with ARI, % treated with antibiotics	86.7
45. % of mothers with children <5 reporting a child with fever in the past 2 weeks	31.5
46. Of children with fever, % treated with any anti-malarial	68.8
47. % of children aged 12 - 23 months with three doses of PENTA	79.2
48. % of children aged 12 - 23 months with measles vaccine	64.2

*Superscripts indicate whether or not the point estimate of the control group is statistically significantly ($p<0.05$) lower or higher than that of either intervention group: $^{<R}$ means lower than that of the Recovery group; $^{>R}$ higher than that of the Recovery group; $^{<ML}$ lower than that of the MNCH/Livelihood group; $^{;>ML}$ higher than that of the MNCH/Livelihood group. Absence of superscript means $p> 0.05$

2. Background and Rationale

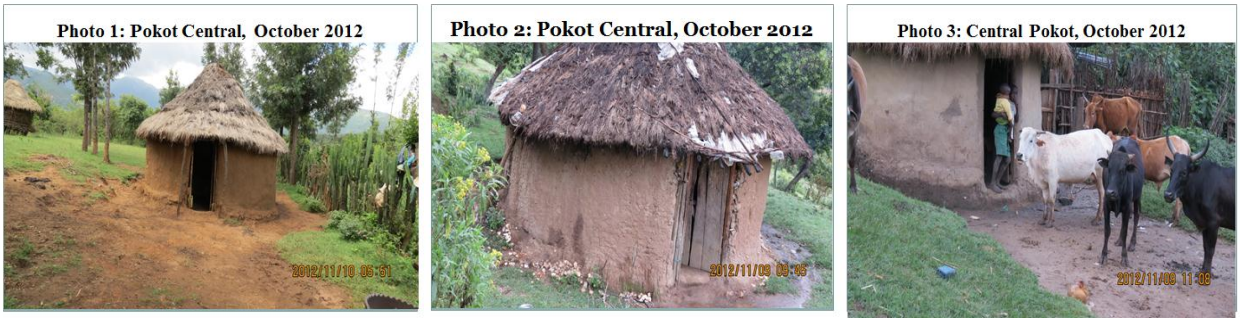
The maternal and neonatal health trend in Kenya is a replica of other sub-Saharan African countries. The maternal mortality ratio (MMR) is estimated to be 488 women per 100,000 live births [Wangalwa et al, 2012], and has not significantly changed over the last decade. Maternal deaths represent about 15% of all deaths of women aged 15-49 years. The high maternal and newborn mortality in sub-Saharan Africa is related, in large part, to unsafe maternal and newborn health practices and environments (Bryce et al., 2008). Puerperal infections remain a major cause of maternal mortality, partly due to poorly observed rules of cleanliness and an unhygienic delivery environment. Most newborn deaths occur during the first week of life as a result of sepsis, birth asphyxia, birth injuries, complications of prematurity and low birth weight, and birth defects (Bryce et al., 2008).

Wangalwa et al. (2012), in a recently published report on their evaluation of Kenya's community health strategy for delivering community-based maternal and newborn health care, make the point that continuum of care throughout pregnancy, childbirth and postnatal period is key in improving maternal and newborn health. Therefore, efforts should focus on building capacities at individual, family, and community levels to ensure appropriate self-care, prevention, and care-seeking behaviour (Kerber et al., 2007). In limited resource settings, community-level interventions are potentially effective ways to address the problem at its roots, as decisions to seek and access health care are strongly influenced by the socio-cultural environment (Elder et al., 1999).

The Kenya Red Cross Society (KRCS) seeks to reduce maternal, newborn and child morbidity and mortality through the augmentation of preventative and care-seeking behaviours among the targeted population, as well as through increased community-level access to basic treatments for childhood illnesses: malaria, diarrhea, pneumonia. In line with the latest research, KRCS (supported by the Canadian Red Cross) will assist the Ministries of Health (MoH) to roll out Kenya's newly developed integrated Community Case Management (iCCM) approach using Community Health Workers (CHWs) as part of its community health intervention strategy.

The leading cause of childhood death is diarrhea, and the leading cause of diarrhea is contaminated water (Watt, 2012). Access to clean water is a prerequisite for the reduction of under five year old child morbidity and mortality rates. Water is inextricably linked to sanitation (Schuster-Wallace et al., 2008); they must be addressed in concert to provide significant reductions in morbidity and mortality. The effects of improper sanitation include contamination of drinking water as well as fecal pollution of the household and community environment. Surface water flows over open defecation sites can subsequently enter the poorly designed/maintained dwellings downhill. Cholera and dysentery are devastating diarrheal diseases associated with such contamination. Cattle manure around the household and chicken droppings inside the household can have E. coli and salmonella, respectively; both cause diarrhea (Photos 1 – 3). The absence of foot-ware among the children (Cover Photo) increases the risk of helminth infections, which also cause diarrhea (Raingold and Gordon, 2012). In addition to these challenges western Kenya, along the Ugandan border north of Eldoret (see map

below) has been experiencing significant drought conditions. Such conditions threaten food security, resulting in under-nutrition including zinc deficiency which also causes diarrhea. Diarrhea in turn causes under-nutrition, thus creating a vicious cycle (K West et al. 2012).



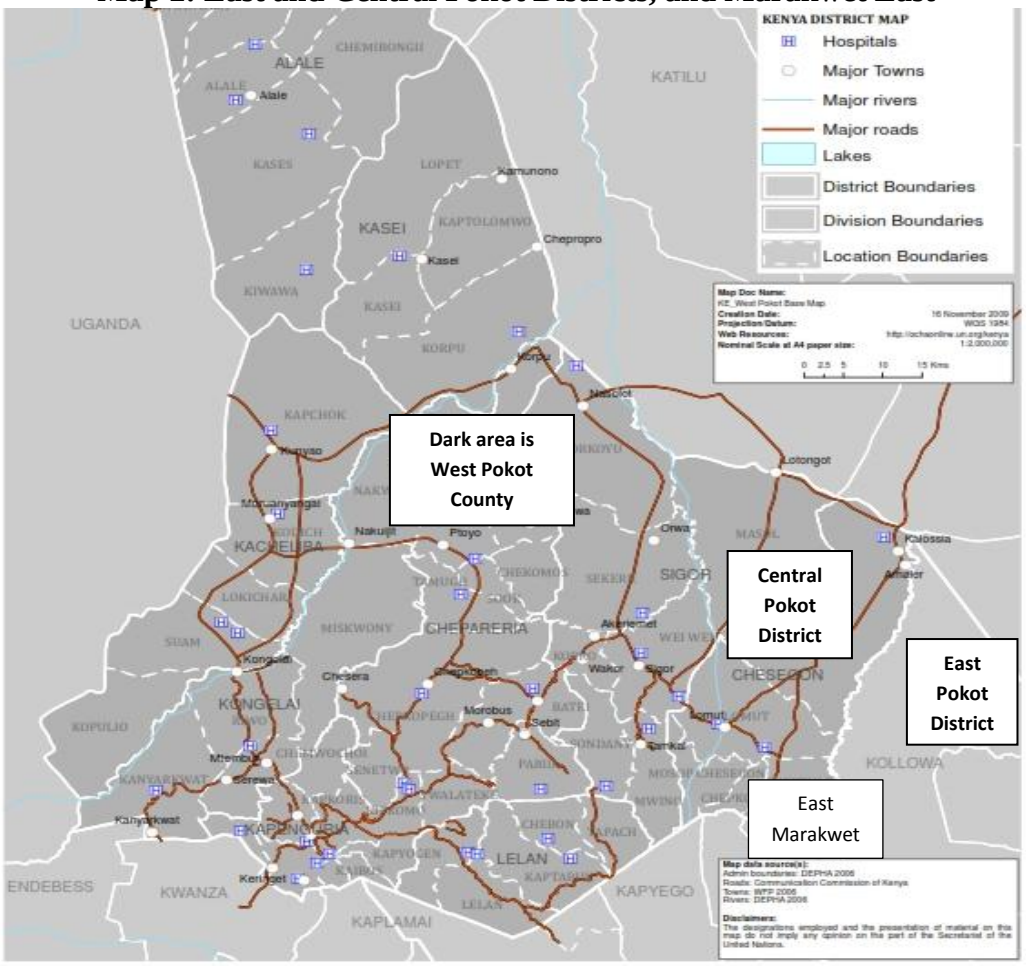
Central and East Pokot are classified as arid and are characterized by harsh semi-arid climatic conditions, remoteness and poor road infrastructure (Zangger and E Mull, 2011). The climatic conditions in the area are harsh and hostile with temperature ranging between 28-40^{0}C and unreliable average rainfall of 250mm per annum. The area is highly marginalized with poorly developed infrastructural networks. Basic services like education, health and water are hard to access, resulting to high poverty levels. Generally the people of East and Central Pokot and East Marakwet are pastoralists and their livelihoods depend predominantly on their livestock and adopt migratory lifestyles in search of water and pastures. Due to dependence on their livestock for meat and milk, the inhabitants of these districts are constantly at risk and food insecure.

According to the Government of Kenya 2.2 million people were affected by the drought and required emergency food assistance in 2012; that is about 5.5% of the population[2]. Pastoralist communities living in East and Central Pokot and East Marakwet (see Maps 1 and 2) have been markedly affected by the drought that has ravaged much of the Horn of Africa[3]. In the Pokot and Marakwet districts pastoralism, the primary economic activity is under increasing pressure from climatic shocks. Frequent prolonged dry seasons have forced these residents to move to the neighbouring communities often leading to resource-based conflicts. According to the Office of the Coordination of Humanitarian Affairs (OCHA) 515 people have been killed between January 2012 and February 2013).

[2]http://www.worldbank.org/en/country/kenya/overview
[3] Integrated Emergency Drought Programme of East Pokot District, KRCS p.6

Map 1: Box Approximating Pokot Area

Map 2: East and Central Pokot Districts, and Marakwet East



Localized clashes have been attributed to livestock theft and competition over limited resources. The project that is the subject of the evaluation report here aims to reduce conflict related to resource access by using a water source and land maintained and shared by both parties involved

in the conflict. The sharing of water and land has been agreed upon and is supported by local authorities and affected communities.

3. Intervention Projects

Two integrated projects are being implemented with one overarching goal: to improve the overall health and disaster resiliency of pastoralists and agro-pastoralists in the districts of Pokot Central and East, and East Marakwert in Kenya. The intervention projects are a combined partnership of the Canadian Red Cross Society (CRCS), Kenyan Red Cross Society (KRCS), and Agency for Technical Cooperation and Development (ACTED). The projects are implemented by the KRCS and ACTED in collaboration with the national and district Ministries of Health (MoH), the national and district Ministry of Agriculture, evaluated by Canadian Epidemiology Services, and funded by Canadian International Development Agency (CIDA) and the Canadian public.

The "MNCH/Livelihoods" Project

The MNCH project targets 11 communities in Central Pokot District, where the capital is Sigor. This project began in July 2012 and will last three years. It seeks to reduce maternal, newborn and child morbidity and mortality via the augmentation of preventative and care-seeking behaviours, and increased community-level access to basic treatments for childhood illnesses; i.e., malaria, diarrhoea, pneumonia. This is a community-based approach, through which households and villages take an active role in health and health-related development issues. Its goal is to enhance community access to health care by providing community-led health care services for all socio-economic groups at household and village levels. This will be accomplished by building the capacity of MoH-employed Community Health Extension Workers (CHEWs) and volunteer Community Health Workers (CHWs) to provide community level services and strengthening health facility-community linkages (Wangalwa et al., 2012).The project will support district-level MoH structures by providing training to CHEWs, CHWs and Community Health Committees (CHCs). In addition, project staff will deliver a comprehensive Behavior Change and Communication (BCC) program aimed at increasing basic health knowledge and preventative and early care-seeking behaviours.

CHWs will be chosen by their community through the Community Health Committees (CHCs), and will act as a community mobilizers and motivators for positive change. CHWs will report to the CHC through their CHEW supervisor. CHWs will be required to undergo induction training as KRCS volunteers; this will provide them with the necessary skills to undertake community assessments, which will support the development of the BCC strategy. Subsequent to this they will be trained on the MoH CHW curriculum, including diagnoses (via case definitions), treatment and referral for common childhood illnesses. As of September 2012 CHWs will deliver integrated community case management (iCCM) services.

It is recognised that the effectiveness of these health promotion activities can be lost subsequent to a natural or man-made disaster (e.g., drought, inter-communal conflict). Traditional livelihood systems in much of Pokot Central face significant challenges and need to be adapted to manage

the increasing risk of drought and other disasters. Hence, the MNCH project has been linked to livelihoods and disaster resiliency activities as offered by ACTED in the same 11 Pokot Central communities.

ACTED, together with the KRCS, will assist households and villages in these 11 Central Pokot communities through a series of activities aimed at empowering proactive community-level planning and diversification of resources. Village Planning Committees (VPCs), Agro-pastoral Field Schools (APFS) and Village Community Banks will be established. ACTED and APFS facilitators will support APFSs through active hands-on learning specifically focused on herd management, movement, and animal health. Through Village Community Banks and Agro-Pastoral Field Schools, villagers will be assisted in diversifying and adapting or adopting economic and food security activities that would make them more resilient to disasters.

ACTED will provide extensive capacity building to VPC members on themes such as participatory rural appraisals (PRAs), project cycle management, project design, and budgeting. The aim of the PRAs is to provide the VPCs with the tools and capacity to initiate a participatory development planning process.

Villagers, through these VPCs, can prepare village development plans (VDPs) in the form of grant applications. The implementation of grant-supported projects will be taught. The tools for defining development problems and for identifying and costing solutions to these problems will be taught, as will strategies for addressing these solutions with local government authorities. ACTED will support the VPC in sharing their plans with and lobbying the appropriate Ministry (e.g., road construction with the Ministry of Roads).

The "Recovery Project"

The Recovery Project is being implemented over 2 years (October 2012 – October 2014) in three communities: Nyangaita in Pokot Central district, Tot in Marakwet East district, and Kolowa in East Pokot district. It excludes much of Pokot Central, where ACTED is implementing livelihood activities through the MNCH project described above. This Recovery project will be implemented by the KRCS and funded by CRCS, with the primary goal of promoting the recovery of communities from the effects of the 2011 drought conditions and building resilience in these communities to resist other likely disasters. Project objectives include the reduction of water borne disease occurrence, the promotion of sanitation practices, enhanced food security, and the increased resilience[4] to common livelihood and health risks in the area.

To diversify communities' livelihoods and increase their resilience to future droughts, KRCS is constructing a 9-km pipeline which will irrigate 500 acres of newly-ploughed land. This land will be farmed by 1000 vulnerable people from the Pokot and Marakwet towns of Kolowa and Tot (respectively) who are traditionally pastoralists and overly dependent on livestock as their sole livelihood. The new farmers will be taught good farming practices and provided with the

4 IFRC - The ability of individuals, communities, organisations, or countries exposed to disasters and crises and underlying vulnerabilities to: anticipate, reduce the impact of, cope with, and recover from the effects of adversity without compromising their long-term prospects

tools and seeds required to make their ½ acre of land productive. This pipeline will be managed and maintained by community committees, which KRCS will train and monitor.

To increase access to safe water, KRCS will also construct additional water points in the Pokot Central village of Nyangaita, and all three villages will benefit from education on proper water storage and treatment. To improve sanitation practices in an effort to reduce water-borne diseases, KRCS will conduct training on the construction of simple latrines, and provide materials for the most vulnerable people to build their own latrines.

Health promotion activities of this project include community health training sessions for community health workers and volunteers; public health education campaigns; school-based hygiene education; and household visits by trained volunteers to deliver health education and services.

4. Evaluation Study Objective in 2012

The objective of the study reported here was to carry out a household survey in East and West Pokot as well as in Pokot Central. This survey will constitute a baseline for the assessment of the community effectiveness of the "MNCH/Livelihoods" Project and the "Recovery" Project. An abbreviated list of the critical questionnaire-based quantitative indicators against which the effectiveness of both projects will be measured is provided below.

Indicators for reproductive health and family planning

i. Proportion of women aged 15-49 years who are married or are in union and who have met their needs for family planning (i.e., do not want any more children or want to wait at least two years before having a baby and are using contraceptives); and
ii. Unmet need for contraception.

Indicators for maternal, neonatal and child health coverage

iii. Percentage of women aged 15–49 years with a live birth in the past five years who received antenatal care by a skilled health provider at least four times during pregnancy;
iv. Percentage of pregnant women who received two or more doses of intermittent preventative treatment (IPT) during their pregnancy;
v. Percentage of births (live or still) within the past five years attended by skilled health care provider;
vi. Percentage of mothers and babies who received postnatal care visit within two days of childbirth;
vii. Percentage of children under five who started breastfeeding within one hour of birth;
viii. Percentage of children under five who were exclusively breastfed for their first six months;
ix. Percentage of children under five with suspected pneumonia who had antibiotic treatment;

x. Percentage of children aged 12-23 months who received three doses of combined DTP vaccine;
xi. Indicators for health service provision and utilization;
xii. Percentage of the target population observing referral protocols or any community referral systems (e.g., referred from Community Health Center (CHC) to District Hospitals (DH) etc. with follow ups);
xiii. Percentage of the target population, contacting community health workers (CHW) for their advice in the past months.

Indicators for water and sanitation access and practices

xiv. Percentage of households that know key hygiene promotion messages;
xv. Percentage of households practicing the four critical times of hand washing;
xvi. Percentage of households that have access to adequate sanitation; and
xvii. Percentage reduction in the household incidence of water- and sanitation-related diseases.

Indicators for Food Security

xviii. Percentage of children under five whose height-for-age is less than two standard deviations below the median of WHO's child growth standards;
xix. Percentage of households that have additional income from farming; and
xx. Percentage of households with members of farmer's groups who can identify risks to food security and apply adaptive responses.

5. Study Design Features

The evaluation study is intended to be a quasi-experimental design with baseline cross-sectional surveys in both of the intervention groups of villages (Recovery and MNCH/Livelihood) and in the control group of villages (i.e., three comparator groups). This study only covers the baseline survey. The allocation of villages to comparator groups was not random, therefore adjustment for potential confounders or effect modifiers will need to be carried out after the end-line surveys are completed. The activities of other NGOs in the same geographical areas may modify the effects of the interventions evaluated. Perceived "social capital" or "readiness for intervention" may also be effect modifiers. Any such covariates can be coded as present or not and incorporated into the final multivariate analyses.

The design anticipates a simple analysis of point and interval estimates of prevalence indicators across comparator groups at baseline and end-line. The difference in the indicators from baseline to end-line, by comparator groups, could be analyzed with adjustment for the baseline value and for covariates using logistic regression models.

Since each projects' activities vary across villages, intervention villages were grouped according the most prominent intervention activities. There is, therefore a group of "Recovery" villages and

a group of "MNCH/Livelihood" villages. Control Villages were those which were socio-economically comparable to intervention villages, were within feasible distance, and did/will not benefit from CRCS-funded project activities.

Given that this study is a component of an impact evaluation, and therefore focuses on the estimation of casual effects, the data were not weighted. Weighting in this context could reduce precision of the regression coefficients (Solon, Haider and Wooldridge, 2013), particularly when the study villages were randomly selected (see below), heteroskedasticity can be corrected with log transformation, and heterogeneity of the intervention effects can be deemed unlikely (e.g., the protective effect of potable water does not vary substantially by target population subgroups).

6. Target Populations

The target populations for this study included all women aged 15 to 49 years in each of the East Pokot and Central Pokot Districts as well as the East Marakwet District of Kenya. Also included in the target population are the children of these women who are less than five years of age, and the households of these women. Given these parameters, the target population consists of 27,013 beneficiaries (11,868 under-fives; 12,906 women of childbearing age) from among two divisions of Pokot Central District: Sigor and Chesegon (Canadian Red Cross Society, 2012). The 27,013 beneficiaries are only for the MNCH/Livelihoods project.

The target population for the Recovery project is spread across three communities (in three different districts), and totals 7,778 direct beneficiaries and an additional 18,442 indirect beneficiaries. The target population of one community (Nyangaita) in Central Pokot is 2,126 beneficiaries consisting of 382 households will be targeted. The population is made up of 1,122 women and 1,004 men[5]. The indirect beneficiaries affected by the project will be 5,880 people made up of 1,119 households comprising of 3,131 women and 2,749 men[6].

In East Pokot and East Marakwet, the project targets two communities called Tot and Kollowa, which have a total of 5,652 beneficiaries consisting of 776 households will be targeted. The population is made up of 2,698 women and 2,954 men. The indirect beneficiaries affected by the project in East Pokot will be 12,562people made up of 1,890 households 6,328 men and 6,234women.

[5] Kenya household census 2009
[6] Kenya household census 2009

7. Sample Selection and Size

The sample design must support the study design of the impact evaluation project. A quasi-experimental design is anticipated for the evaluation project, with baseline cross-sectional surveys in both intervention groups and the control group. The statistical analysis of such a study will involve point estimation of indicators across both intervention groups and the control group of villages at baseline, and an examination of the change from baseline to end-line in the indicators by these comparator groups.

The focus of the present evaluation is to conduct a baseline sample survey. A two-stage sampling procedure was used, stratified according to intervention/control and crossed by administrative/geographical district. In the first stage, a number of primary sampling units (PSUs), or clusters (villages), were randomly and independently selected from the sampling frame of each Division with a probability of selection proportional to population size. The sampling frame for this first stage of sampling included a complete list of villages and their respective population sizes within each district (provided by the Canadian or Kenyan Red Cross Societies). In the second stage systematic sampling of a defined number of households per village was used. Starting at the point of drop-off in the approximate center of the village, a pair of interviewers visited the nearest households until they completed interviews with the set number of households.

A household questionnaire was administered to the head of the household and a women and children questionnaire will be administered to all females aged 15 to 49 years who live in the household and who had given birth in the last five years. Each mother responded for her children.

Therefore all eligible members of a systematic sample of households within a stratified random sample of villages were selected. This permitted analysis at both the household level and at the level of eligible household members. Given the denominators of the indicators listed above, the household was the unit of analysis for the water, sanitation and food security measures, and the eligible household members were the units of analysis for the MNCH and service utilization measures.

Assuming some key water, sanitation and food security indicators have a baseline prevalence of 50% in these populations[7], and assuming we wish to have at least 80% power to identify a 25 percentage point change in either direction at follow-up with a 95% level of confidence then the standard sample size formula for comparing two independent proportions – in this case at baseline and end-line and between each intervention and the control group – produces approximately 65 villages in each of the three comparison groups.

[7] For example, in a 2004 report of the Water and Sanitation Project it is was pointed out that while approximately 80% of the Kenyan population had access to sanitation facilities the Kenyan Ministry of Health put the national coverage of adequate sanitation as below 50%.

The Fleiss formula (below) was used for this sample size calculation, where n_1 and n_2 are the estimated sample sizes in both comparison groups (i.e., baseline and end-line in each comparison group or between each intervention and the control at end-line), and p_1 and p_2 are the coverage levels of the indicator (e.g., adequate sanitation) at baseline and end-line, respectively. The difference between p_1 and p_2 in the denominator is the effect size, set here to be 25 percentage points. $Z_{1-a/2}$ and Z_{1-b} are the Z scores given an α of 0.05 and a β of 0.20 (i.e., 80% power).

$$n_1 = n_2 = \frac{\left(Z_{1-\frac{\alpha}{2}}\sqrt{2\bar{p}(1-\bar{p})} + Z_{1-\beta}\sqrt{p_1(1-p_1)+p_2(1-p_2)}\right)^2}{(p_1-p_2)^2}$$

The two-tailed z-test will be used because we cannot be certain of the direction of the intervention effect. The most conservative assumptions for p_1 and p_2 were used.

The villages were clusters of households from which eligible households were selected, and the households were clusters of individuals from which eligible respondents were selected. It is necessary to adjust for this sampling design in the sample size calculations. To this end, the standard error in the sample size calculation was inflated by 1.5, requiring 100 households per comparison group. Assuming a 95% response rate and 10% missing or incomplete questionnaires, a minimum of 120 households are needed per comparison group. With three such groups in the study, a minimum of 360 households are required.

This is the size of the sample of households needed to assess baseline-to-end-line changes in the household-based indicators of water, sanitation and food security. However, the corresponding sample size requirement for many of the MNCH and service utilization indicators are based on the number of women aged 15-49 and who have given birth in the last five years. Such individuals constitute a smaller population base, as not all households will have such an individual. There was, therefore, a need to calculate the number of additional households to be selected in order to obtain enough eligible women, particularly within the MNCH/Livelihood intervention group.

The Kenyan DHS surveys showed that the percentage of women age 15-49 who have given birth within the last five years was approximately 50% of all households. Further, in order to include an adequate number of households in the sample frame, one must also take the anticipated response rate into account. The Kenya DHS experience from previous household surveys shows that the total response rate (household response rate multiplied by woman response rate) is approximately 95%. Given the practical challenges of engaging control villages, the formula for calculating unequal samples sizes (Snedecor and Cochrane, 1989) that preserved the statistical power noted above was used. The total size for the MNCH/Livelihood and the control groups – after applying the cluster design effect as well as the population proportion represented by such women and the anticipated response rate – was 500 households. The ratio for unequal sample

sizes was set at 2.5 to 1; that is, 150 households in the control group and 350 households in the MNCH/Livelihood group. In summary the minimum number of households required was 150 in the control group, 120 in the Recovery group, and 350 in the MNCH/Livelihood group for a minimum total of 620 households. To ensure achievement of this minimum sample size the goal was set to visit 72 villages across the three comparator groups and interview 10 households per village.

8. Preparation of the Questionnaires

Rather than developing new questionnaires, the Key Indicator Survey was used for maternal and child health, water and sanitation, and health services utilization developed by MEASURE DHS[8]. Food security scales, validated in Uganda by Alcaraz and Zeller (2007), were used for the food security indicators in Kenya. Questions were also developed to capture data for many additional indicators drawn from the log-frames of ACTED and KRCS. The resulting questionnaires (one for household level information and one for eligible women) were assessed for content and construct validity in Kenya by reviewing the questionnaires with advisors in the country and volunteer interviewers from the target communities. In addition the revised questionnaires were pre-tested twice in the field.

Questions were added to the questionnaires about the level of engagement household members had in the activities of each intervention. When such information is rolled up to the village level during end-line analyses an ecological dose-response effect may be seen whereby those villages that were most engaged in the intervention showed the greatest improvement in relevant outcomes/indicators. Such an observation can greatly increase confidence that the changes observed from baseline to end-line are attributable to the interventions.

9. Field Team

Household questionnaires took approximately 20 minutes to complete and the women and children questionnaires took approximately 30 minutes to complete. Interviewers worked in pairs and each pair completed approximately 10 households (i.e., one village) per day. Eleven pairs conducted all interviews during the second week of November 2012. Four pairs of interviewers, one field supervisor and a driver constituted each of the three field teams. KRCS staff coordinated all field activities.

The number of volunteers recruited to conduct interviews was 10-15% higher than the number needed for fieldwork to allow for attrition and dismissal of candidates who proved to be inadequate. Candidates were all presentable, able to walk long distances, and able to establish

[8] www.youtube.com/user/M,EASURE/DHS

good rapport with the people they needed to interview. Minimal qualifications for all field staff included English literacy in written communication, fluency in English and in at least one other local language, and at least a secondary school education. Field supervisors were selected from the field staff who had these qualifications plus the equivalent of at least one post-secondary degree, computer literacy, and a leadership demeanor.

10. Training

The interviewers' training workshop covered the following curriculum. This five-day workshop was conducted[9] during the first week of November 2012.

Day 1:
- Description of baseline survey and importance of sample surveys in estimating outcome indicators
- Role of interviewers; code of conduct etc. (See slide deck on "Tips for Successful Interviews", Appendix 19)
- Introduction to questionnaires and instructions

Day 2:
- Content of Household Questionnaire (HHQ)
- Fieldwork procedures and records

Day 3:
- Discussion of Woman and Child Questionnaire (WCQ).
- Practice interviewing with questionnaires based on household scenarios.

Day 4:
- Lessons learned from household scenarios
- Introduction to mobile phone technology
- Review questionnaires through mobile phone
- Pilot testing in local households, followed by discussion

Day 5:
- Second pilot test and discussion
- Feedback on the data collection/recording procedures
- Feedback on Workshop in general

This workshop was effective in content validation of the questionnaire since many participants were familiar with the villages to be interviewed. The workshop was well received; 86% of 22 respondents were either satisfied or very satisfied with content and facilitation.

[9] This workshop was substantially facilitated by Alan Rugendo and staff of the Kenyan Red Cross Society.

11. Mobile Phone-Base Data Entry

Both paper-based and mobile phone-based questionnaires were used for data collection. EpiSurveyor was the phone-based data collection system employed. Data capture forms were designed in a computer and downloaded via the Internet to the phones. Collected data was then uploaded to the database in CRC's EpiSurveyor account by the Field Supervisor each evening. The data for all respondents were captured by both approaches, however challenges were encountered and lessons were learned by the Survey Consultant with respect to phone-based data capture approach. All results in this report are based on the paper surveys, and not the data collected by mobile phones.

Photo 4: Pokot Central, October 2012

Photo 5: Pokot Central, October 2012

Lesson's Learned

Knowledge Area	Challenge Experienced	Lessons Learned
Installing the software	• Sixteen (16) phones were used; 11were used in a previous project and 5 were purchased locally. Previously used phones had EpiSurveyor installation that was unresponsive. The solution was to format the factory settings and reinstall the software. • This discovery and applied solution occurred in the remote field location.	1. For all previously used phones, reinstall the software in the country where data collection is taking place (to ensure compatibility with new phones). 2. Installation of the software should be done in advance of the training of data collectors, and tested by trainers. 3. Install the software in an area where the internet connections are reliable.
Writing and editing the questionnaire into the software	• It was difficult to amend the EpiSurvey data-capture forms after they were downloaded to the phones.	4. Be prepared to make amendments to the data-capture forms during training, pre-testing and even during the early stages of the formal data collection period.
Training of survey consultants in different aspects of using mobile phone for data collection	• The initial draft of the forms was created and downloaded in Nairobi by an EpiSurvey Technician retained by the Survey Consultant. This Technician was not initially deployed in the field, nor for a long enough period of time.	5. Ensure that an EpiSurvey Technician, or someone with equivalent skills, is deployed in the field throughout the training, pre-testing and data collection period.
Training of surveyors in data collection	• Episurveyor is displayed better on phones with larger screens (have only touch-screen ability). However the phones with ONLY touch-screen	6. Use large-screen phones. 7. Ensure individuals with less experience have the time to be comfortable with

Knowledge Area	Challenge Experienced	Lessons Learned
	ability (no keypad) are more sensitive to errors when used by individuals less familiar with SMART phones.	them.
Data collection using mobile phone by surveyors	• The data collectors were more comfortable working in pairs to collect data (regardless of the method used). • Local activities can influence the presence of eligible potential respondent in the house at the tie of visit by the survey team.	8. Data collectors should travel in pairs. 9. Field Supervisors should take note of local conditions (distances between villages, local market days, etc.) when mapping data collection.
Data management	• The household identification number was not consistently coded in the phone-based dataset. • There was more consistency on the paper-based data set, and record linkage enables imputation of identification numbers in the phone-based data set	10. Ensure that each questionnaire is well coded (linked to a particular village, HH, and interviewer) 11. Ensure sufficient training on identification coding
Logistics Issues related to use of mobile phone for data collection	• It is difficult to keep phones charged in the field • It is difficult to 'send' completed forms to the server in areas without a mobile phone network.	12. Ensure memory cards in phones are sufficient. 13. Ensure all phones have sufficient air time so that the forms can be uploaded to the server from the field.

Due to the challenges experienced with the phone-based approach the decision was made to create the analytical dataset for this project based on the paper questionnaires. However, with the above-listed lessons learned, the Canadian Epidemiology Services will utilize the phone-based approach going forward.

12. Quality Control Mechanisms

In a survey such as this one, the three main areas where data quality can be affected are during the survey design, during data collection, and during data entry. Canadian Epidemiology Services addressed data quality at each of these three stages.

Rather than developing a brand new survey, the Key Indicator Surveys for maternal and child health, and water and sanitation, developed by MEASURE DHS, was used. Food security scales, validated in Uganda by Alcaraz and Zeller (2007), were used for the food security indicators in Kenya. Questions were also developed to capture data for many additional indicators drawn from the log-frames of ACTED and KRCS. The survey was validated for use in Kenya by reviewing the survey procedures with CRCS research counterparts in that country, and by twice pre-testing it with interviewers. In addition, the questionnaires had built-in logic checks to ensure that respondents provided consistent and accurate information.

To ensure quality during data collection, a five-day training took place prior to commencing the formal fieldwork, and two days of pre-testing and reflection where the interviewers were supervised and monitored by the training team. During training and pre-testing the survey was constantly updated and amended to further ensure that it is relevant and appropriate for use in Kenya.

Once the fieldwork began, the interviewers were monitored and supervised by field supervisors. Each interviewer was assigned a unique ID number, which was recorded on all questionnaires they administered. This enabled the field supervisors to easily identify and follow up with any interviewer if there was a concern with the results of a particular questionnaire.

Microsoft Access data entry forms were used for database creation. Since entering data directly into a data set is prone to errors, MS Access creates data entry forms ("input masks") that look like the questionnaires, with the same questions, formats and response options. It included drop-down instruction boxes to standardize data entry by multiple data clerks. It controls data entry by specifying the range of valid responses and alerts the clerk to out-of-range entries. Finally, MS Access automates the logic of skip patterns, which are particularly prone to human error.

13. Data Analysis

The survey procedures in SAS 9.2 were used, which allow for the incorporation of sampling design in the variance estimation. Domain analysis was used for sub-group analyses in order to examine the responses to nested questions. This method incorporates the variability from domains defined by random variables into the variance estimation.

The point estimates and their 95% confidence intervals - together with other measures of spread that may of interest (e.g., the range of the three point estimate) - were calculated for each comparison group. The "rule of three" was used when calculating the upper limit of the confidence interval when the numerator is zero.

14. Results

On arrival at selected households, and on introduction of themselves and the study, the interviewers explained that households were eligible to participate if they had a woman between the age of 15 to 49 years and who had given birth within the past five years. Among the eligible households that were contacted – excluding absent households – all (100%) agreed to participate. The number of participating households per village in each comparator group is provided in Table 1.

As outlined earlier in the report, the minimum number of households required was 150 in the control group, 120 in the Recovery group, and 350 in the MNCH/Livelihood group for a minimum total of 620 households. The corresponding number of households that actually participated was 154, 130 and 405, for a total of 689 participating households. Across the 57 villages selected, the average number of participating households per village was 12.

Table 2 provides the age- and sex- distribution of the members of the participating households. When reading this table and all that follow it is important to keep the evaluation context of this baseline survey in mind. The reader is encouraged to examine the indicator values across the comparator groups. In this case it is the percentage of the total sample population that is critical, and these are presented in the greyed columns. Thus, in the control group females less than five years of age constitute 29.0% of the total control group population of females. The corresponding percentage in the Recovery and the MNCH/Livelihoods are similar at 30.2 and 27.1. Indeed, the comparator groups are comparable in each age and sex groups. Given the age-sensitivity of the indicators to be compared across these three groups it is appropriate that they are similar on age distribution. In each comparator group the sample is almost entirely less than 50 years of age, which is to be expected given the eligibility criteria of this study.

The total household membership in this sample is 4,039 males and females. Therefore the average household size in this sample is 5.9, and the average number of household members per village is 70.4 (12*5.9).

By way of information, this section of the report focuses on the results of the baseline survey. To facilitate interpretation of these quantitative data relevant observations will be reported from the focus group discussions conducted by an independent Nairobi-based consulting firm (EcoSARD). For convenience, the EcoSARD report is provided as an appendix of the present report.

Table 1: Villages and Households (HHs) by Comparator Groups Across East and Central Pokot and East Marakwet, 2012

Control Group		Recovery Intervention Group		MNCH/Livelihood Intervention Group			
Villages	# of HHs	Villages	# of HHs	Villages	# of HHs	Villages	# of HHs
Chekontolo	10	Kapedo	10	Kopro	10	Katumwonoi	10
Kakolol	10	Korotsin	8	Karam	10	Kaipamayos	12
Pekon	10	Kopeyon	10	Kamoi	10	Kapcherorok	21
Kaposes	12	Chepturu	10	Cheptara	10	Pkondo	10
Arur	10	Chewara	10	Yoyot	10	Sawil	9
Simbol	10	Tamkal	13	Kachesuum	10	Kapkatet (C)	18
Supetoi	10	Sagat	10	Kasegon	10	Kachemungu	20
Songwot	10	Kapsirien	10	Chemuro	10	Chepemo	20
Mtol	9	Shaban	10	Akiriamet A	20	Racheprom	20
Kitoyo	4	Kabarsumba	9	Kwarkwarian	10	Kapkogh	19
Tora	9	Kapsogom	10	Nasolot	10	Kacherobei	10
Asar	10	Kiwwawa	10	Kesirya	10	Tamakaru	3
Ngisirai	10	Nyangaita	10	Ptikon	10	Kaponipon	11
Topoliangale	10			Longon	10	Temow	10
Lkong	10			Motong	20	Pkutung	2
Chekoghin	10			Sopol	20	Chemultokotyo	20
Total	**154**	**Total**	**130**	**Total**			**405**

Household Finances

Table 3 lists the composite items of the wealth index used in this study. Construction of this index followed the approach used by MEASURE DHS[10]. The items used reflect durable assets, sources of drinking water, and sanitation facilities. The selection of indicator variables is relatively straightforward. Household assets and utility services are to be included, including country-specific items. The reason for using a broad criterion rather than a few selected items is that the greater the number of indicator variables, the better the distribution of households with fewer households being concentrated on certain index scores. Generally, any item that will reflect economic status is used. Table 4 provides the mean wealth index for the control and the intervention groups.

Table 4 reflects the format adopted for each of tables 5 through 21. Those tables are placed at the back of the report while corresponding figures are provided up front. The intent is to depict the highlights of each table without overwhelming the reader with a large volume of numbers. Table 4 is placed here in order to introduce the reader to the general table format, once, for all tables.

The comprehensive list of relevant indicators is provided in the first column, followed by four columns that are repeated three times, once for each comparator group. Provided under the general rubric for each group is the N value. This is the denominator of any mean or percentage that is calculated. The n value in the first column of each group is the numerator of the mean or percentage. (Note that while Table 4 has a lot of mean-based indicators, most tables present largely percentage-based indicators.) The third and four columns in each group provide the lower and upper 95% confidence limits, respectively, of the mean or percentage. The number in the second column (the point estimate) is a mean or a percentage/proportion depending upon the indicator descriptive of column one.

The 95% CL is a fundamental statistic for comparing the intervention groups against the control group. We took only one sample of villages and households, but if we took 20 such samples, and if we knew the actual population mean or proportion, we would find that 19 times out 20 the true value is somewhere between the upper and lower limited, most likely near the point estimate. When the 95% CL of two point estimates overlaps the difference between the two point estimates is not statistically significant. In other words, the difference observed could be due to chance; i.e., the sample selected just happened to be this way. The overlap is much easier to discern in the graphic form. For the wealth index shown in Figure 1 the CLs substantially over lap and therefore there is no statistically significant between the three groups on this indicator. Where there are statistically significant differences the row is highlighted in yellow.

[10] http://www.measuredhs.com/pubs/pdf/CR6/CR6.pdf

Table 2: Age and Sex Distribution of Household Members Across East and Central Pokot and East Marakwet, 2012

Age (yrs)	Sex	Control Group		Recovery Group		MNCH/Livelihood Group	
		n	%	n	%	n	%
< 5	Female	139	29.0	108	30.2	329	27.1
	Male	132	30.8	113	29.9	332	28.5
5-14	Female	153	31.9	101	28.2	402	33.1
	Male	127	29.7	126	33.3	419	36.0
15-49	Female	179	37.4	149	41.6	467	38.5
	Male	154	36.0	123	32.5	369	31.7
50+	Female	7	1.5	0	0.0	15	1.2
	Male	13	3.1	16	4.2	42	3.6
Total*	Female	497	100.0	358	100.00	1214	100.00
	Male	428	100.0	378	100.00	1164	100.00

*Note: Information on gender was missing for 5 observations in the Recovery group (0.5%) and 45 observations in the MNCH/Livelihood Group (0.2%)

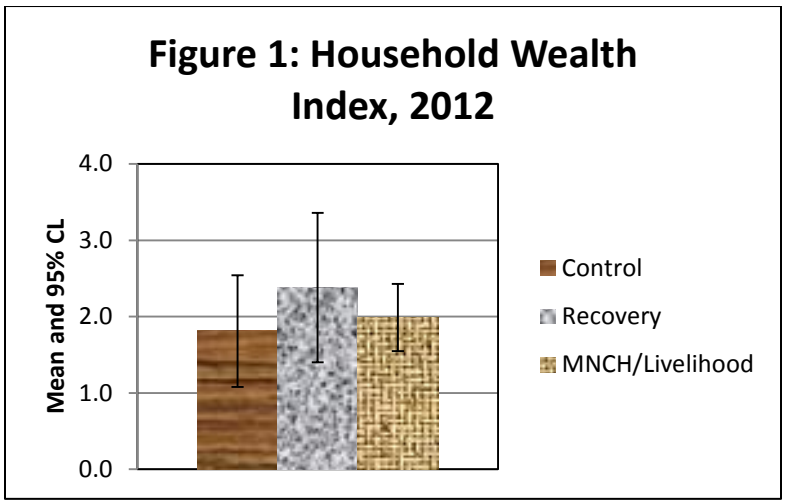
Table 3: Wealth Index Composition

Indicator	Variable	Response Options
Ownership of durable household assets	Electricity	0 = No; 1 = Yes
	Radio	0 = No; 1 = Yes
	Television	0 = No; 1 = Yes
	Cell phone	0 = No; 1 = Yes
	Mattress	0 = No; 1 = Yes
	Bicycle	0 = No; 1 = Yes
	Car/ truck	0 = No; 1 = Yes
	Motorcycle	0 = No; 1 = Yes
Source of drinking water	Water source	0 = Unprotected spring, surface water or any unprotected source; 1 = Dug well, tube well, borehole or protected spring; 2 = Piped water
Access to Sanitation facilities	Toilet	0 = No facility / bush / field; 1 = Ventilated or traditional pit toilet; 2 = Flush toilet
Wealth index range: 0 to 14		

Table4: Household Financial Indicators for Control and Intervention Groups, 2012

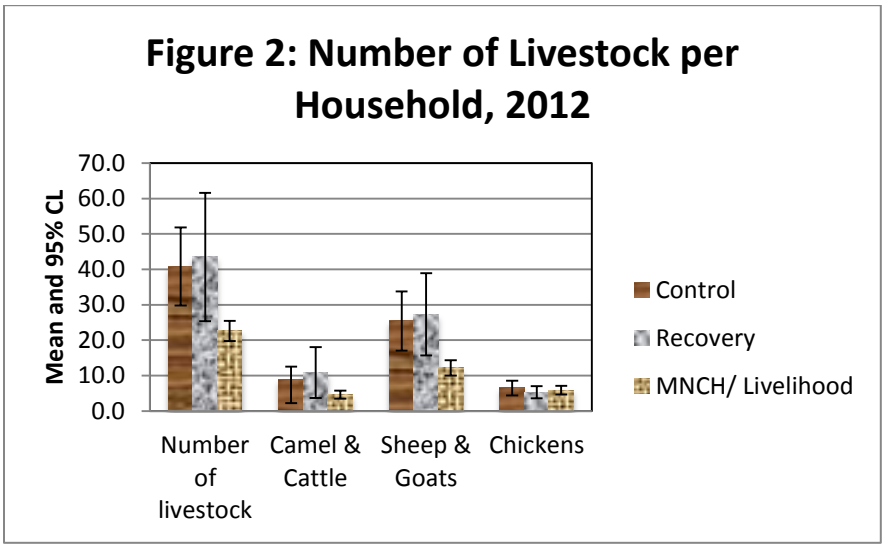
INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	Mean or %	95% CL		n	Mean or %	95% CL		n	Mean or %	95% CL	
Wealth index	154	1.8	1.1	2.5	130	2.4	1.4	3.4	405	2.0	1.6	2.4
Number of livestock	154	40.8	29.8	51.8	43	43.5	25.4	61.6	405	22.6!!	19.8	25.5
Camel & Cattle	154	8.9	2.3	12.5	130	10.9	3.7	18.0	405	4.6	3.5	5.8
Sheep & Goats	154	25.4	17.0	33.8	130	27.3	15.7	38.9	405	12.1	10.0	14.3
Chickens	154	6.5	4.4	8.6	130	5.3	3.6	7.0	404	5.9	4.7	7.1
Shillings earned from farming last season	137	13744.0	8057.9	19430.4	130	18170.0	10386.8	25954.1	405	7317.6	4487.5	10147.6
% not earning additional income	85	55.2	35.0	75.4	62	47.7	27.7	67.7	197	48.6	36.1	61.2
% earning additional income from labour	16	10.4	3.8	25.4	25	19.2	9.7	34.7	66	16.3	11.2	23.1
% earning additional income from formal employment	6	3.9	1.2	12.0	7	5.4	2.6	10.8	13	3.2	1.6	6.4
% usually using VSLA * or community bank for savings	0	0.0	0.0	1.9	0	0.0	0.0	2.3	2	0.5	0.1	2.9
% that received a financial loan last year from any source	12	7.8	3.5	16.3	13	10.0	4.1	22.4	19	4.7	2.7	7.9
% that spent it on buying food or accessing health care	2	16.7	3.1	55.4	5	38.5	0.0	83.3	2	10.5	2.9	31.6

*Village Saving and Loan Association.
!! Statistically significantly different than the control group



All three study groups had a very low wealth index, with the means ranging from 1.8 to 2.4 on an index with a highest score of 14.0 (Table 3). The mean number of livestock per household in the MNCH/Livelihood group of villages was significantly lower than that of the control group (Figure 2), while the households in the Recovery villages had the largest number of livestock, albeit not statistically significantly higher. This observation is consistent with the knowledge that the Recovery group included a pastoralist Pokot community as well as many villages within East Marakwet who have been successfully farming for decades.

The mean number of shillings per household earned from farming in the Control villages was a little over 13,744; equivalent to 163 U.S. dollars annually (Figure 3). In each study group approximately half indicated that they had no other income than farming. Thus, the economic status of the households in each of the study groups is very low; the relevance of this observation being that low economic status has been long thought to be associated with poor health status (Rutstein, Shea, and Johnson. 2004). Very few households of either study group – 10% or less – received a loan from any source in the past 12 months (Table 4 and Figure 5).



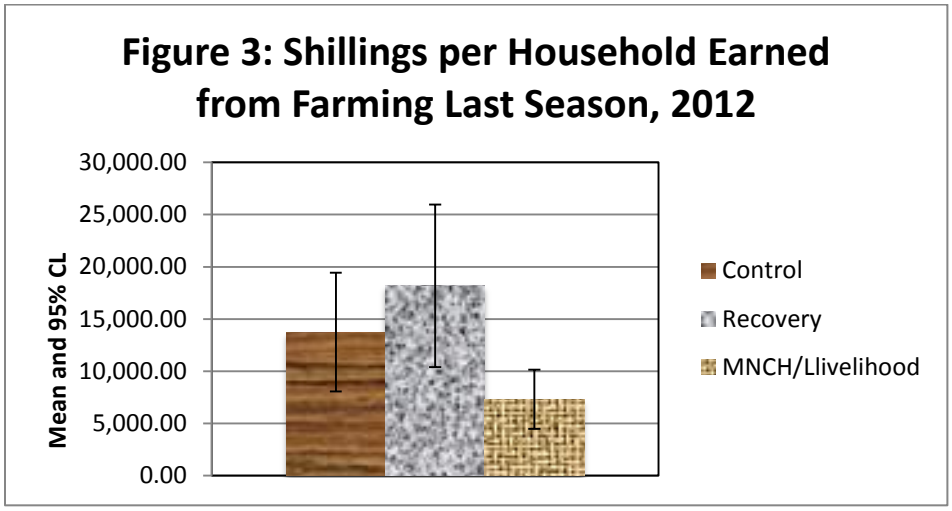


Figure 3: Shillings per Household Earned from Farming Last Season, 2012
30,000.00
25,000.00
20,000.00
15,000.00
10,000.00
5,000.00
0.00
Mean and 95% CL
Control
Recovery
MNCH/Llivelihood

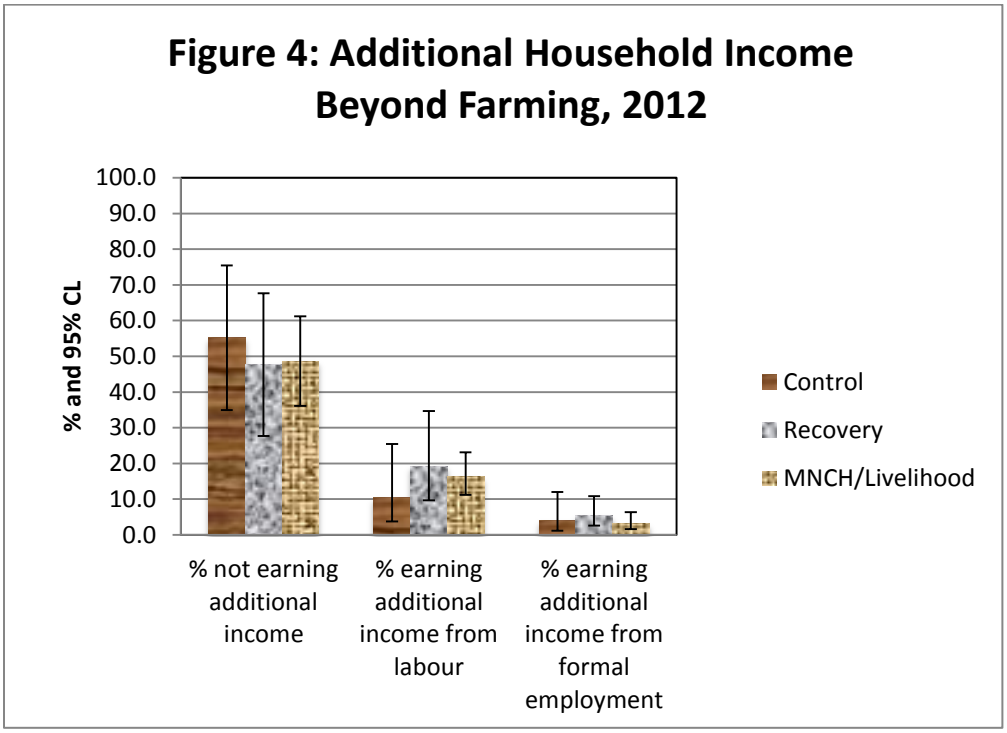
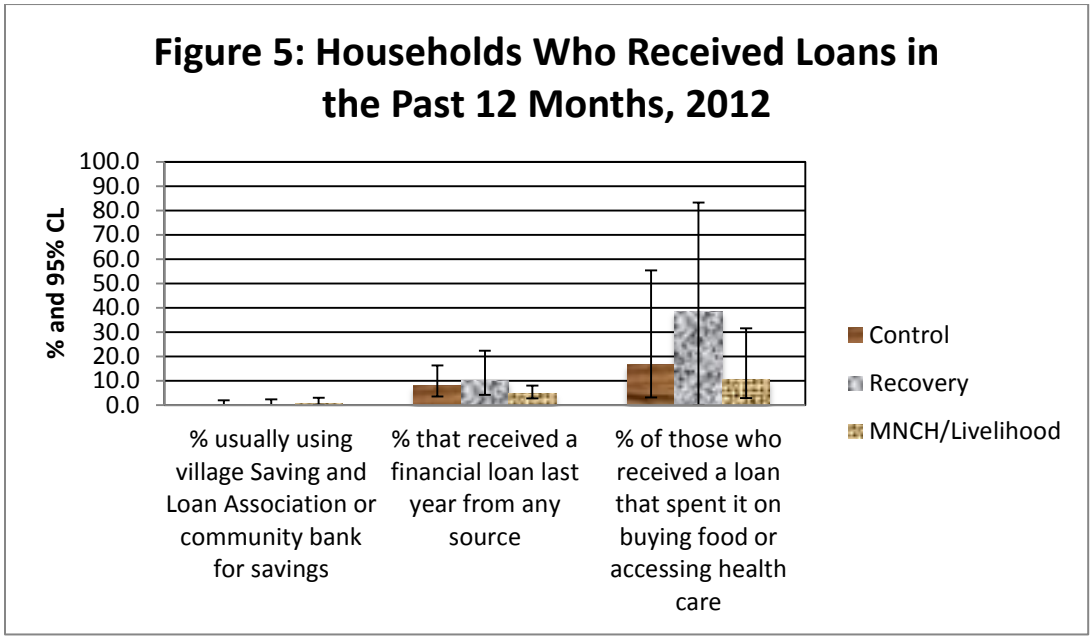


Figure 4: Additional Household Income Beyond Farming, 2012
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% and 95% CL
% not earning additional income
% earning additional income from labour
% earning additional income from formal employment
Control
Recovery
MNCH/Livelihood

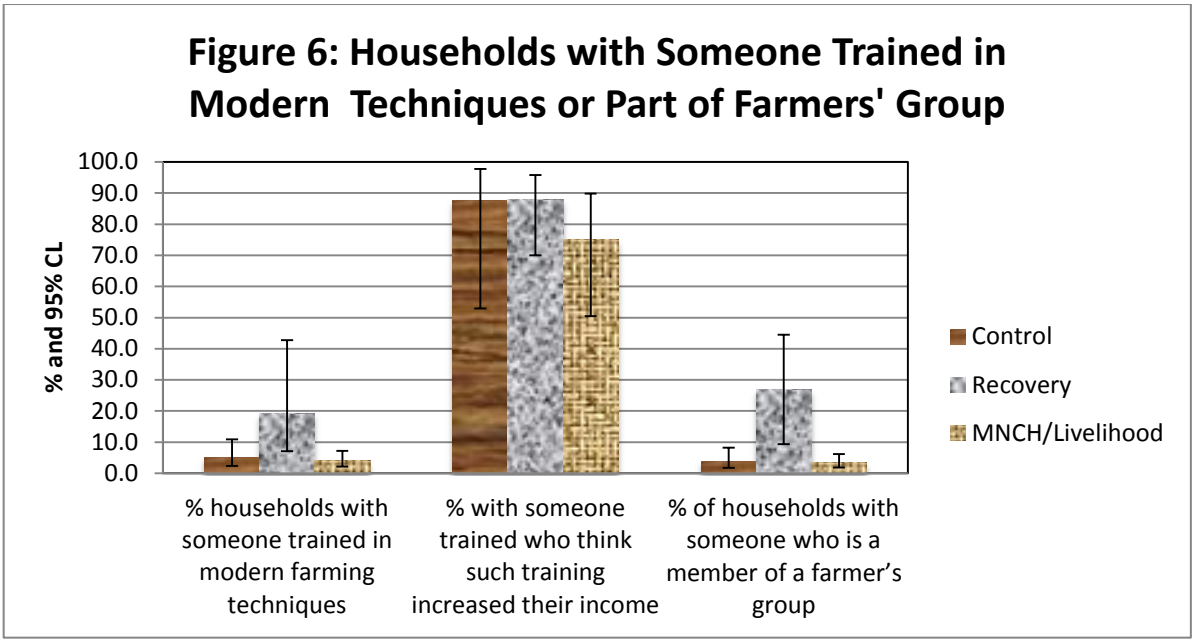


Household Agronomical Indicators

Approximately 5% of the households in the control villages had someone who was trained in modern farming techniques (Figure 6). The corresponding proportion in the Recovery villages was nearly 20%. These differences were very close to being statistically significant. The majority (up to 88%) of those "trained" households felt that the training was effective in increasing their income. The households of the Recovery villages also had nearly significantly more members of a farming group (Figure 6).

In the focus group discussions involving farmers and non-farmers in East Pokot it was noted that their existed no farmers' group prior to the current project and therefore all farmers' group in the project location are attributable to the KRCS project. It was reported that the farmers' groups were formed between May and June 2012 whereas training of the farmers' groups happened between September and November 2012.

These observations on household engagement in training and membership suggest that they are sensitive process indicators of involvement in intervention activities aimed at increasing resiliency and drought recovery. The activities of the Recovery intervention were initiated shortly before the baseline survey was conducted. With these observed differences from the control group after a short period of intervention, one would expect substantial differences after two years of intervention activities. Given that the intervention activities got underway several months prior to this baseline survey, the most valid indicators of the baseline profile are the point estimates of the control group.



Household Disaster Preparedness

Figure 7 indicates that livestock disease outbreaks and drought are the most prevalent disasters experienced by the households of all three groups of villages. The experience in neither intervention group was significantly different than that of the control group of villages, which is as expected at baseline. Given the disaster recovery and resilience objects of the Recovery intervention activities described earlier in this report, this observation reflects a good degree of diagnostic accuracy on the part of program planners. Such accuracy is an important component of an intervention program's community effectiveness (Wang et al, 2012).

Figures 8 through 11 indicate that most households in all three study groups are "not at all prepared" for any of the following disasters: livestock disease, drought, flooding and cattle rustling. As the Recovery and Livelihoods projects unfold over the next two/three years one can expect to see a shift towards higher levels of preparedness. Assuming that the follow-up survey would be conducted in the same villages, one would expect those villages with the most involvement in project activities would show the most improvement in disaster preparedness. This is referred to as an ecological dose response effect and is regarded as sufficient evidence for up-scaling the interventions deployed (Victora et al, 2012).

Figure 7: Households Experiencing Disaster in the Past 12 Months, 2012

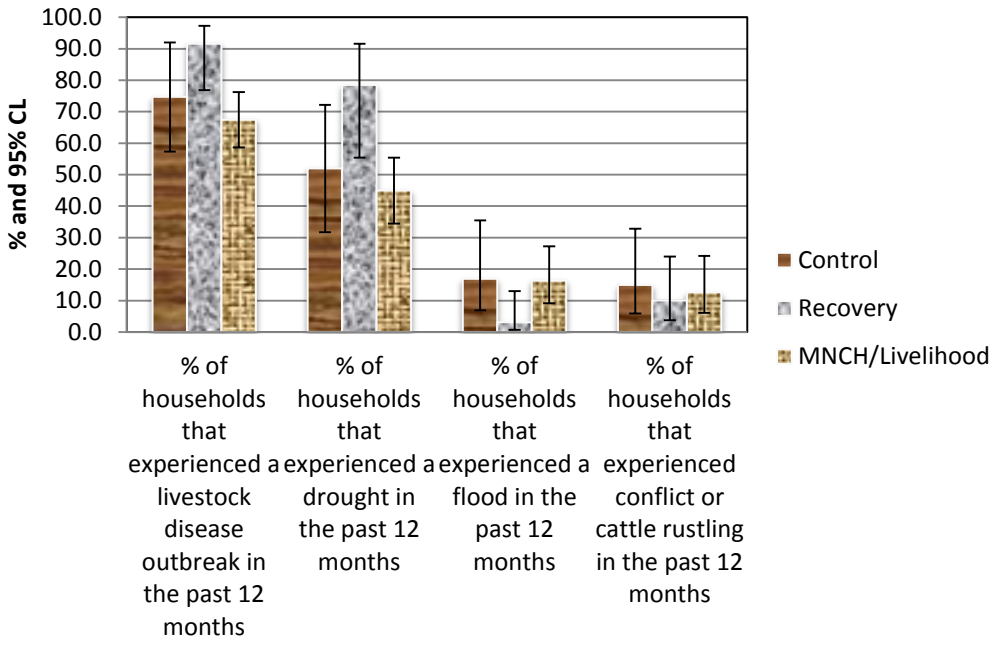


Figure 8: Household Preparedness for Livestock Outbreak

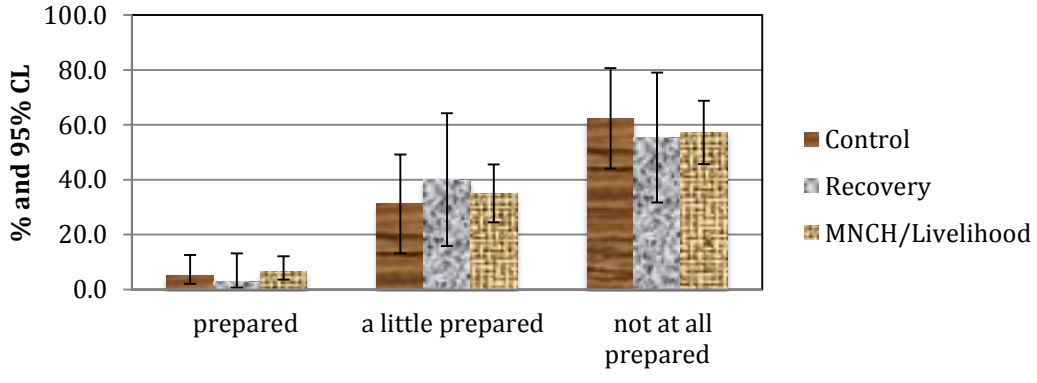


Figure 9: Household Preparedness for Drought, 2012

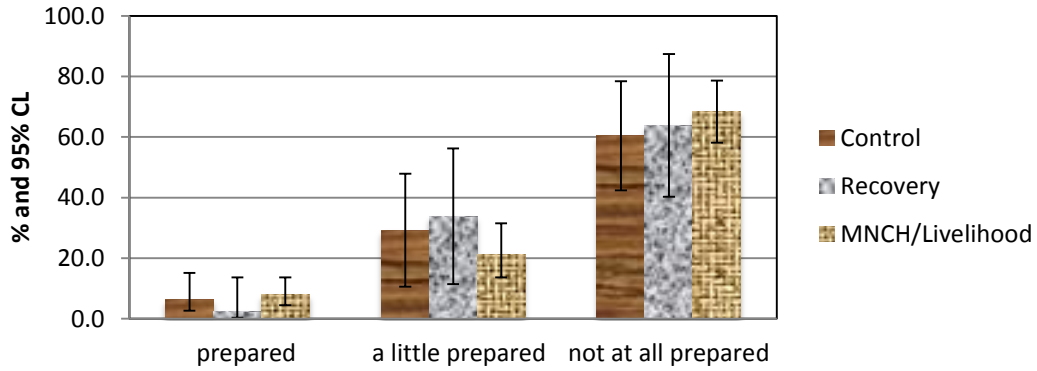
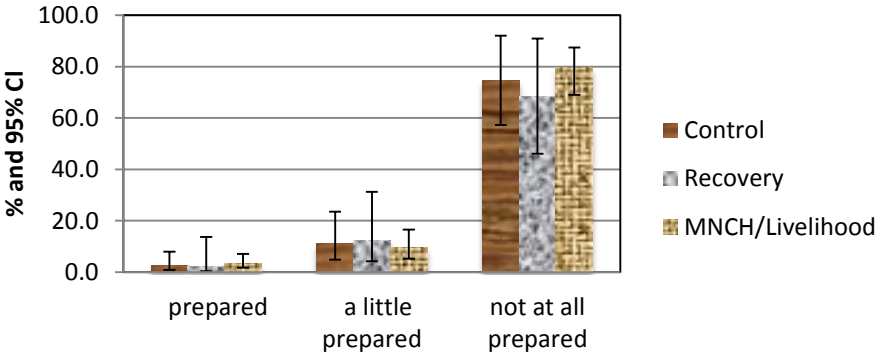
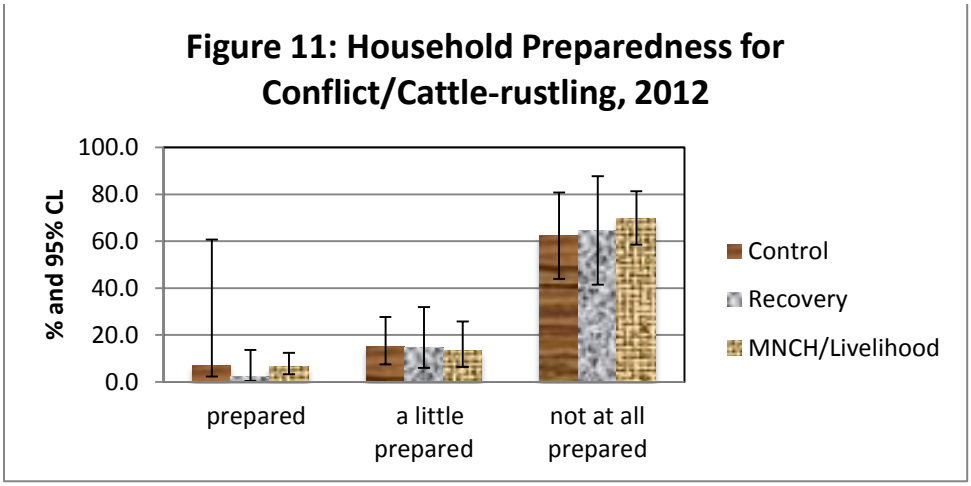


Figure 10: Household Preparedness for Flood, 2012





Household Food Insecurity

Compromised food intake leads to under-nutrition and micronutrient deficiency associated with increased morbidity and mortality from infectious disease. WHO defines the concept of food security as including both physical and economic access to food that meets people's dietary needs as well as their food preferences (West et al, 2012). Food security is built on three pillars:

- Food availability: sufficient quantities of food available on a consistent basis.
- Food access: having sufficient resources to obtain appropriate foods for a nutritious diet.
- Food use: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.

The food insecurity indicators used in this evaluation are provided as the x-axis in the bar chart of Figure 12. These statements are abbreviations of the questionnaire items. In the questionnaire the four statements end with the following point: an adult or child in the household stopped eating for a day or more (during the past 6 months) because there was not enough food available or because they did not have enough money to buy food.

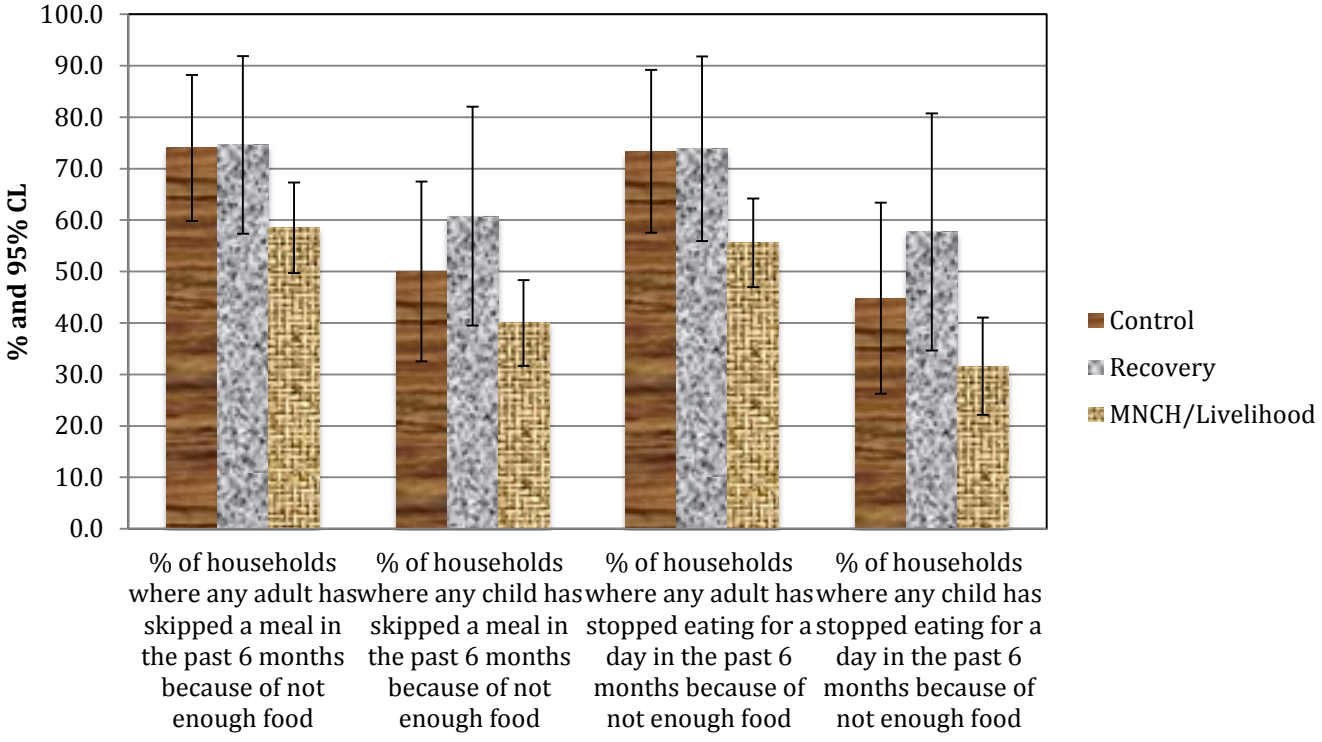
The values of these indicators in both intervention groups do not differ statistically significantly from the control group at baseline (Figure12), as expected. As the intervention period evolves, however, the prevalence of these food insecurity indicators should go down in the intervention groups vis-à-vis the control group.

Reflecting food insecurity, Figure 12 shows that in the six months prior to this survey 73.3% of the households had at least one adult go without food for a day or more because there was not enough food available or because they did not have enough money to buy food. Similarly, 44.8% of households had at least one child who went without food for at least one day in the past six months.

In the focus groups it was reported that during lean times, households sell livestock in-order to get food or look for casual jobs to get income that may be used to purchase food. In East Pokot/Marakwet, both men and women reported having two meals per day whereas children may have three depending on availability of food. Farming was cited as the principal way through which households access food although it could not sufficiently meet their needs.

> *".....We hardly get enough to sustain us given that the rains are never enough...."Male Focus Group participant in Tot community.*

Figure 12: Household Food Insecurity in the Past Six Months, 2012

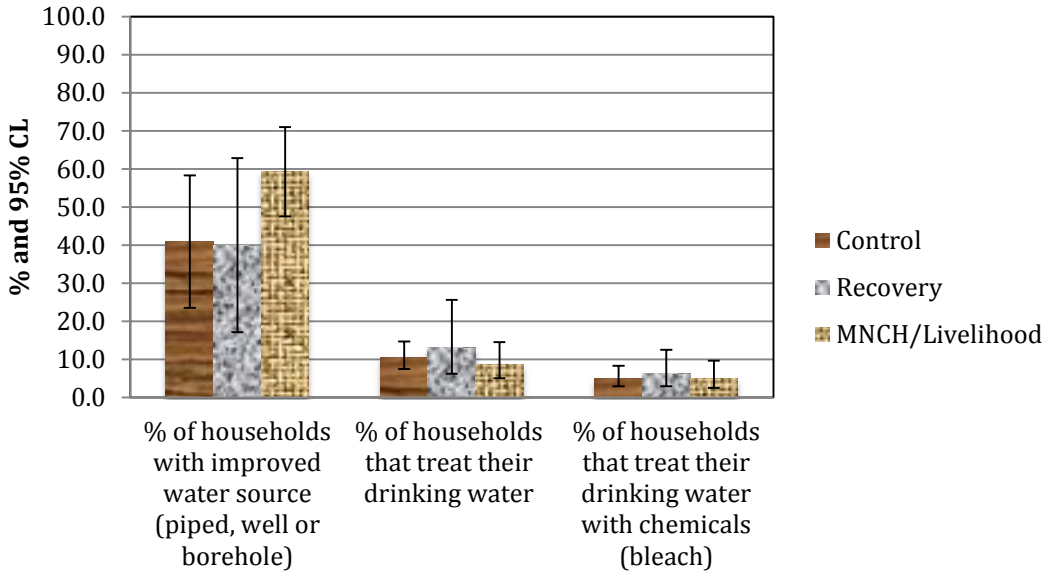


Household Water and Sanitation Indicators

At baseline neither of the two intervention groups differed statistically significantly from the control group of households on any of the water and sanitation indicators (Figures 13 – 16). Approximately 40% of the households in the target population get their drinking water from piped sources, dug wells or boreholes (Figure 13). Such sources are regarded as improved sources relative to surface water or other unprotected sources. Regardless of the source, only 10% treat their water before drinking it; and less than 5% treat with chlorine (bleach). It takes up to an hour to get to the drinking water source, collect it and return home (Figure 14). In 86% of households it is an adult female who collects the drinking water (Figure 15).

Less than one quarter (23%) of the households have access to improved sanitation facilities, which refer to latrines or flush toilets. The other three quarters (77%) have no such facilities and defecate in a bush or field (Figure 16). Over 35% of household respondents indicated that their drinking water source was near their defecation area (Figure 15).

Figure 13: Household Drinking Water Source and Quality, 2012



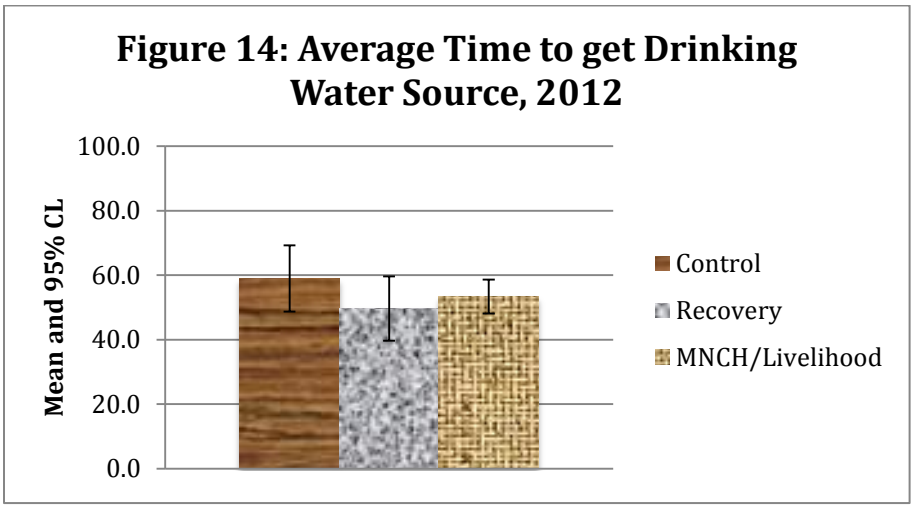


Figure 14: Average Time to get Drinking Water Source, 2012
Mean and 95% CL
100.0
80.0
60.0
40.0
20.0
0.0
Control
Recovery
MNCH/Livelihood

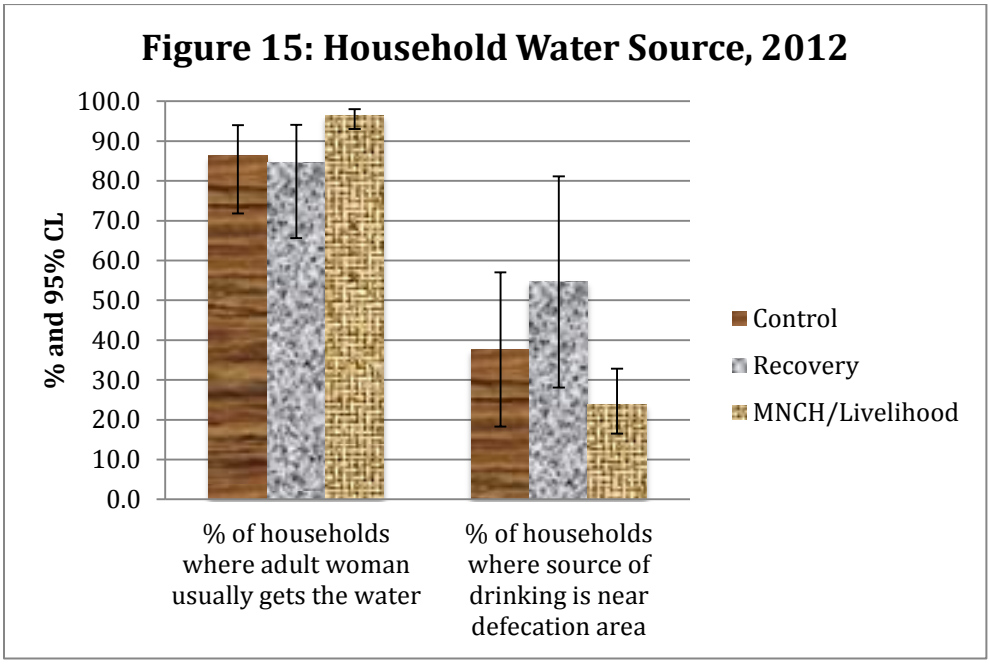
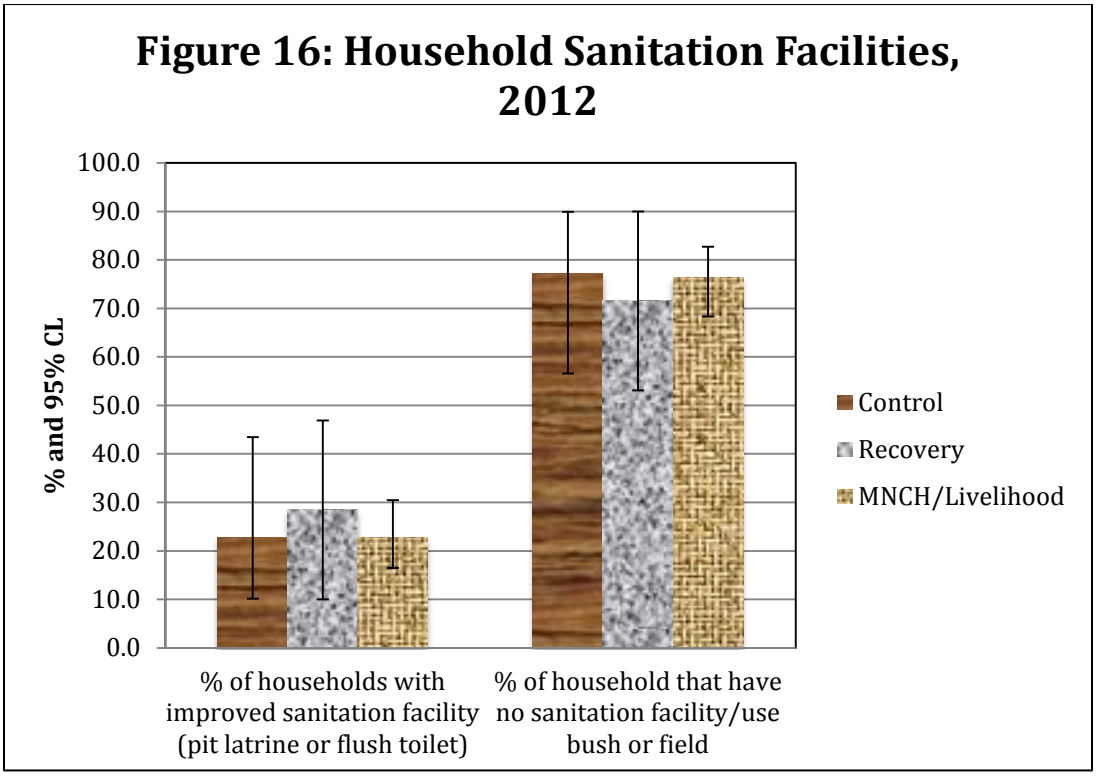


Figure 15: Household Water Source, 2012
% and 95% CL
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% of households where adult woman usually gets the water
% of households where source of drinking is near defecation area
Control
Recovery
MNCH/Livelihood



Household Hand Washing Practices

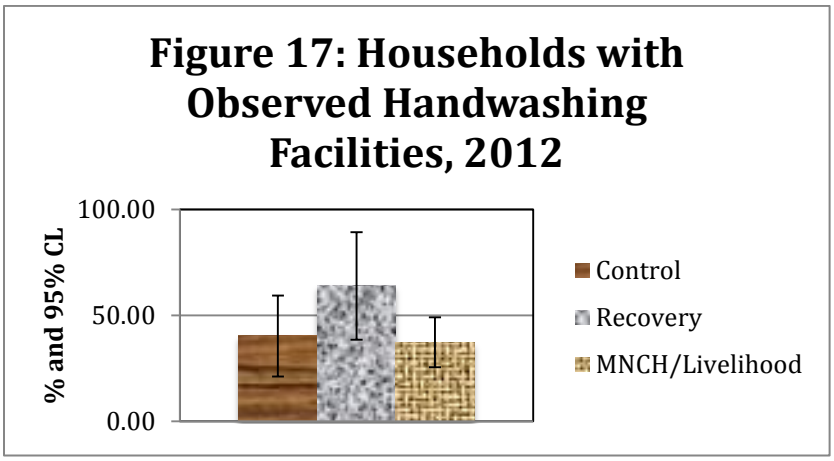
Hygiene refers to behaviors that can improve cleanliness and lead to good health, such as frequent hand washing, face washing, and bathing with soap and water. In many areas of the world, practicing personal hygiene etiquette is difficult due to lack of clean water and soap. Thus observing the presence of hand washing-facilities (even a water container with a wash basin) is an important indicator of hand hygiene, and interviewers recorded such an observation. Neither of the two intervention groups differed statistically significantly from the control group at baseline. In 40% of the control group households the interviewers were able to see a hand washing facility (Figure 17). Use of soap or detergent when hand washing was the usual practice for three quarters of household members (Figure 18).

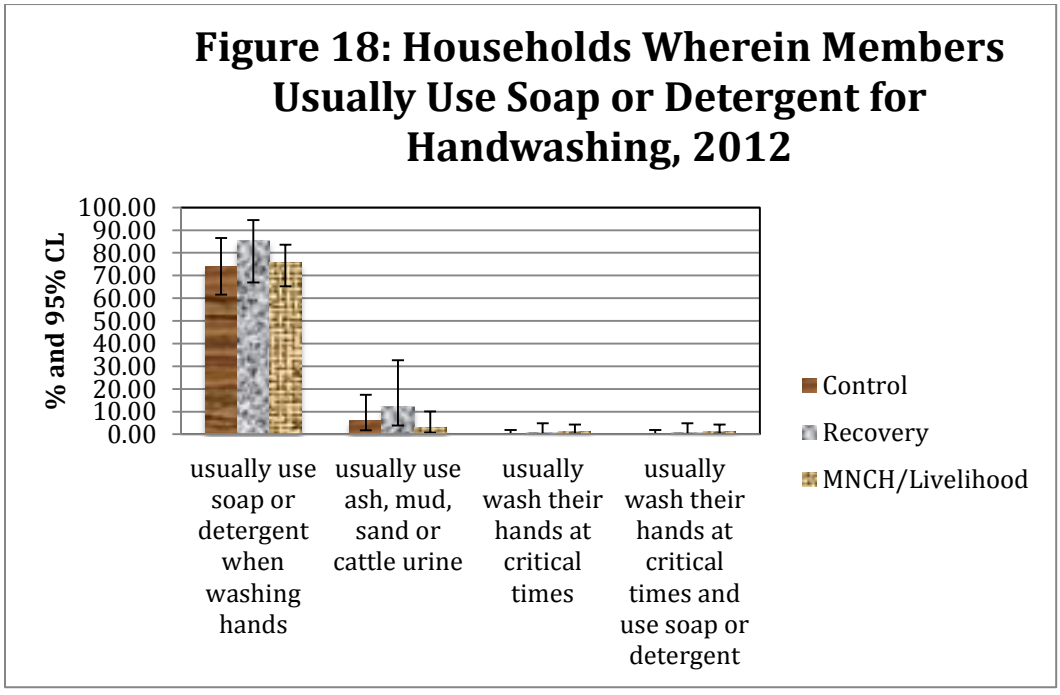
Diarrheal diseases such as cholera and dysentery can be spread by the fecal-oral route if the hands are not washed appropriately at the following four key times:

1. After using the latrine,
2. After cleaning a baby's bottom
3. Before eating. and
4. Before cooking.

Such was usual practice in only 1.0% of households across the three study groups (Figure 18). The reasons for this small proportion were apparent in the EcoSARD focus groups discussions

(see Appendix 4). In separate male and female focus groups, participants were asked to list different times they washed their hands. The men identified the following times: when they wake up in the morning, before eating, and after touching dirty things. When probed as to whether or not they washed their hands after defecation, they indicated that was not the case as they defecate far away in the bush and proceed on for other duties. Women listed the following: when they wake up in the morning as the first priority, before food preparation, and after defecation. Both groups reported non-existence of designated areas for hand washing and indicated that household members used a container to fetch water and wash their hands anywhere in the compound.





Households Mosquito Net Use

The use of insecticide-treated mosquito bed-nets is a widely accepted component of malaria prevention practices. The presence of such nets was obvious to interviewers who entered the house (Photo 6). Approximately 58% of households reported net-use (Figure 19).

The sources of the bed-nets are shown in Figure 20. Those nets sourced from a private business owner are less likely to insecticide-treated. In contrast, nets procured from public health officials are more likely to be treated. Such officials were the most common source of nets in the Pokot/Marakwet study groups; with 33% of control households procuring theirs nets from that source. Indeed, the proportion of bed-nets sourced from public health officials was larger in both intervention groups that the control group, and statistically significantly so in the Recovery intervention group (Figure 20).

Photo 6: Mosquito Nets, Central Pokot, 2012

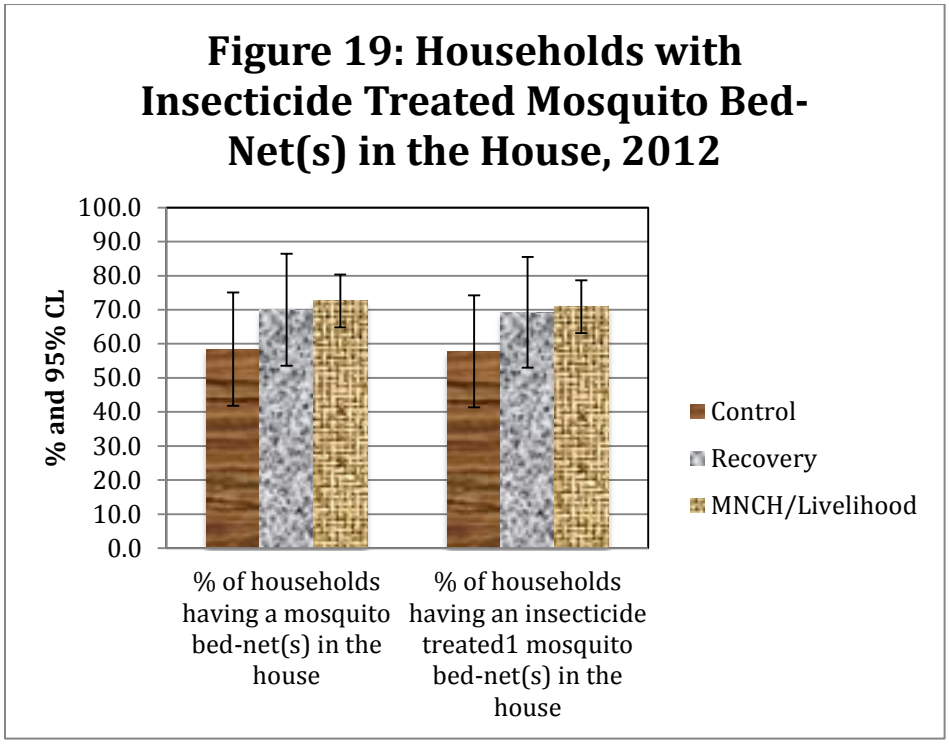


Figure 19: Households with Insecticide Treated Mosquito Bed-Net(s) in the House, 2012
% and 95% CL
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% of households having a mosquito bed-net(s) in the house
% of households having an insecticide treated1 mosquito bed-net(s) in the house
Control
Recovery
MNCH/Livelihood

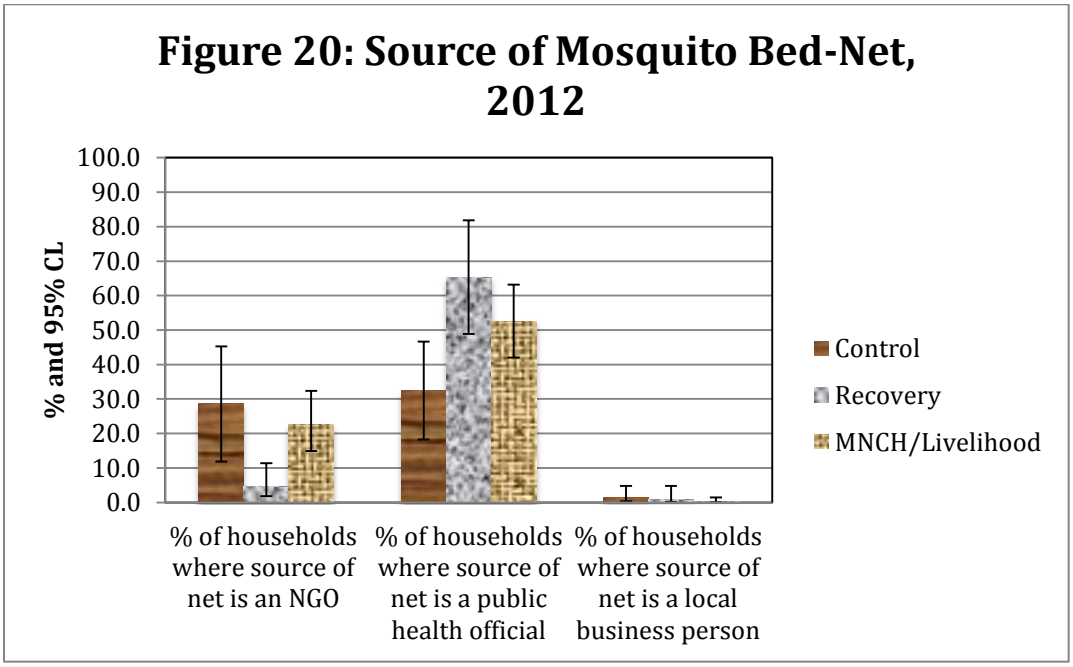


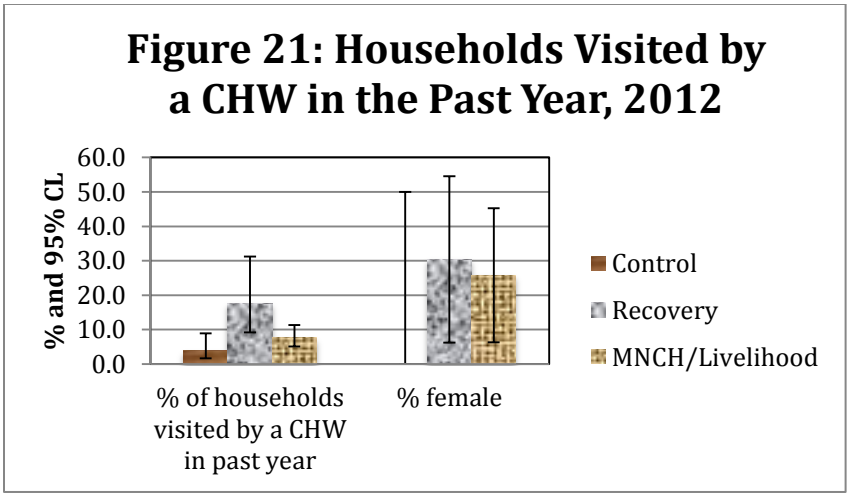
Figure 20: Source of Mosquito Bed-Net, 2012
% and 95% CL
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% of households where source of net is an NGO
% of households where source of net is a public health official
% of households where source of net is a local business person
Control
Recovery
MNCH/Livelihood

CHW Visits and Health Information Sessions

One of the key innovations of the Kenya Essential Package of Health (KEPH) as per the National Health Strategic Plan has been the recognition and introduction of Level One services that are aimed at empowering Kenyan households and communities to take charge of improving their own health. Towards this, Community Health Workers (CHWs) are a pivotal part of the Level One services whose role include visiting households, determining members' health condition, providing them appropriate advices, promoting home care and compliance with treatment, giving first aid treatment and referring them to health facility if need be among other roles.

Focus group participants acknowledged knowing the existence and role of CHWs in the community though their numbers were few. Notable advice sought by the community from the CHWs was advice on treatment and linkage to a health facility for treatment. However, CHWs reported lacking the requisite tools/materials and support to effectively conduct their roles in the community which made them become inactive. The CHWs also reported that for them to be effective in their roles as well as being change agents, they have to first themselves adopt healthy practices before recommending them to the general community and therefore they need to be supported and or facilitated in transforming their practices (e.g., constructing latrine in the own households).

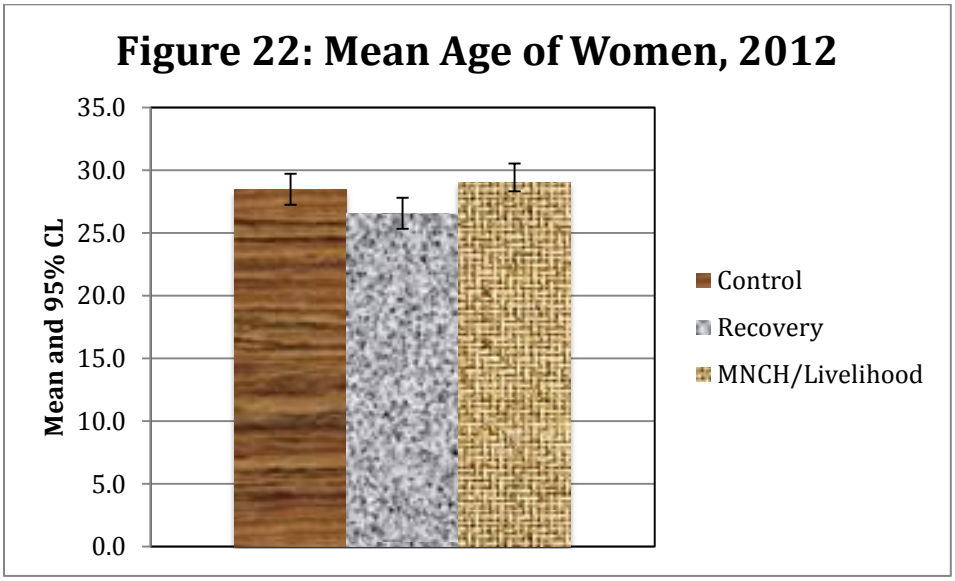
A possible explanation for the statistically significant differential between the control group and the Recovery intervention group on sourcing of bed-nets is that some of the Recovery activities were underway at the time of the baseline survey. These activities, even if they were not additional CHW visits, may have been seen as encouraging support and prevented complete inactivity in some villages. Consistent with this view are the survey data presented in Figure 21 which indicates that the proportion of households in the Recovery intervention group that had a CHW visit in the past year (18%) was statistically significantly larger than that of the control group (4%). These baseline data suggest that the chosen monitoring and evaluation indicators are sensitive to the intervention activities.



Attributes of Sampled Women

The target populations for this study include all women aged 15 to 49 years in each of the East Pokot and Central Pokot Districts as well as the East Marakwet District of Kenya. Also included in the target population are the children of these women who are less than five years of age, and the households of these women.

The mean age of the sample of women across the three study groups was 28 years (Figure 22). The proportion that had no education was 59%, and the proportion who were married or in union ranged was approximately 95% (Figure 23). About 15% were currently pregnant, and the proportion who had unmet need for contraception was about 40% (Figure 24). Unmet need for contraception is the scenario wherein a woman in child-bearing years and in union does not want any more children or wishes to delay the next pregnancy but is not currently on contraception. None of these indicators in the intervention groups differed statistically significantly from the control group.



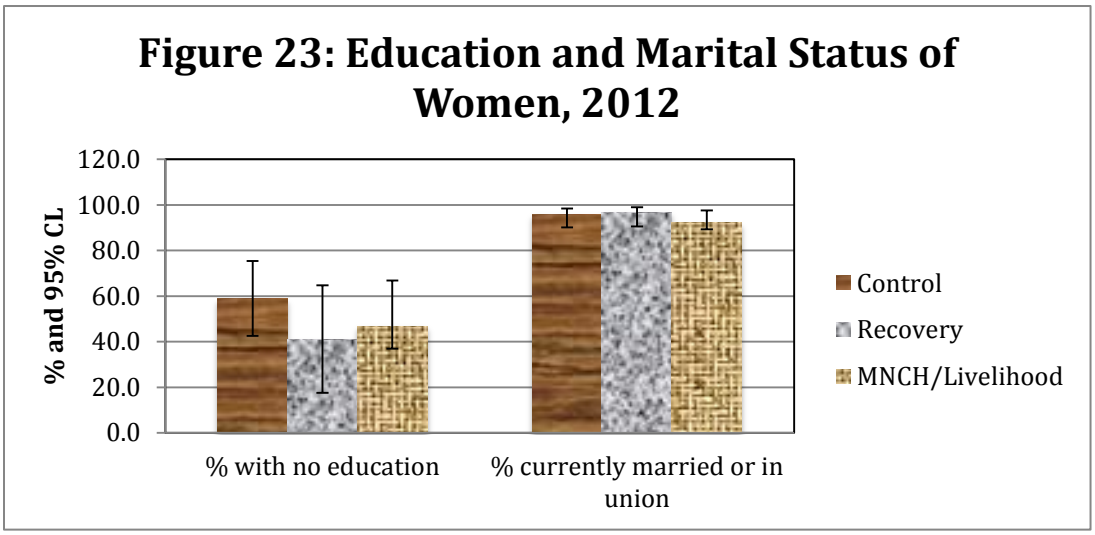


Figure 23: Education and Marital Status of Women, 2012
120.0
100.0
80.0
60.0
40.0
20.0
0.0
% and 95% CL
% with no education
% currently married or in union
Control
Recovery
MNCH/Livelihood

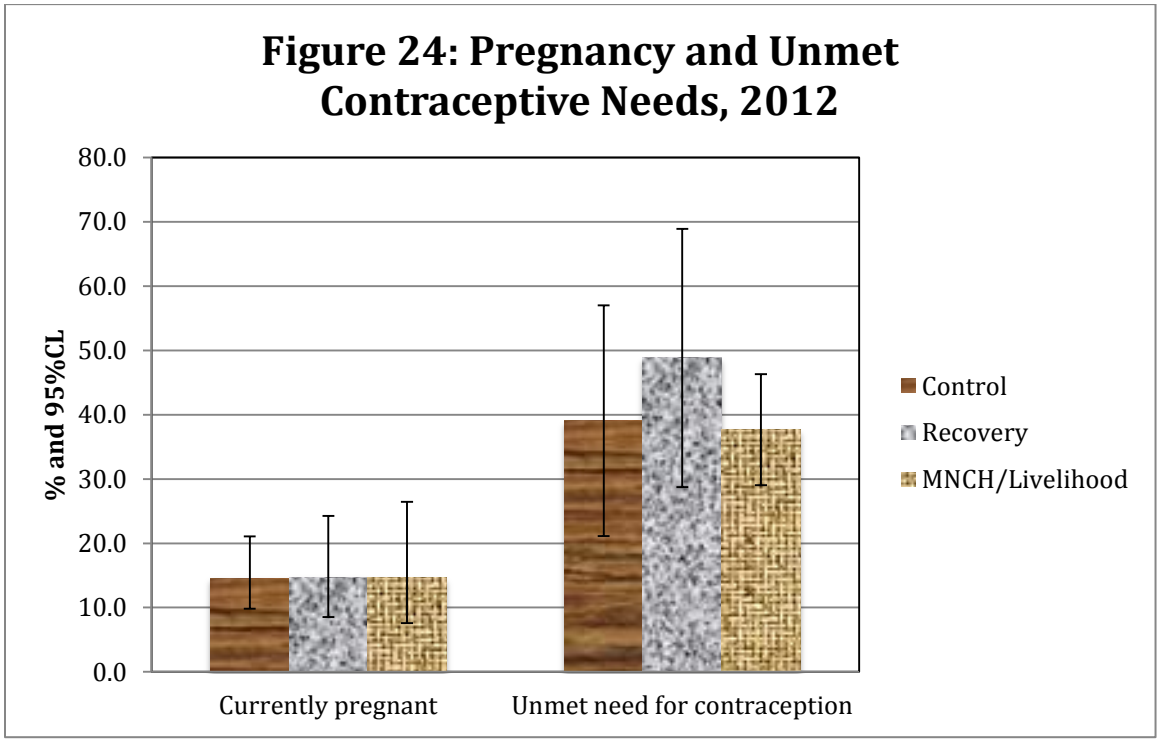


Figure 24: Pregnancy and Unmet Contraceptive Needs, 2012
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% and 95%CL
Currently pregnant
Unmet need for contraception
Control
Recovery
MNCH/Livelihood

Prenatal Care

The major objective of prenatal monitoring and care is to identify and treat problems such as hypertension, anemia and infection. It is during a prenatal care visit that screening for complications occurs and advice is given on a range of issues, including place of delivery and referral of mothers. WHO recommends that under normal (uncomplicated) circumstances a woman should have at least four prenatal care visits[11]. Early detection of problems in pregnancy leads to more timely referrals in the case of women in high-risk categories or with complications; this is particularly true in the Pokot/Marakwet area where physical barriers pose a challenge to health care delivery (Photo 7).

At baseline about 75% of pregnant women in the target population had at least one prenatal visit; but only 18% had four or more prenatal check-ups; 69% and 82% had their prenatal check-up(s) done by a skilled provider – a physician, nurse or midwife (Figure 25). None of these prenatal visit parameters differed statistically significantly across the three study groups, nor did these groups differ statistically significantly on any of the parameters of prenatal care (Figure 26). Specifically on prenatal care, 29% got the recommended two or more tetanus injections during pregnancy; 48% took iron during pregnancy; and 5.4% got the recommended two or more antimalarial doses during pregnancy (Figure 26).

Photo 7: Pokot Central, October 2012

[11] http://apps.who.int/medicinedocs/documents/s17116e/s17116e.pdf

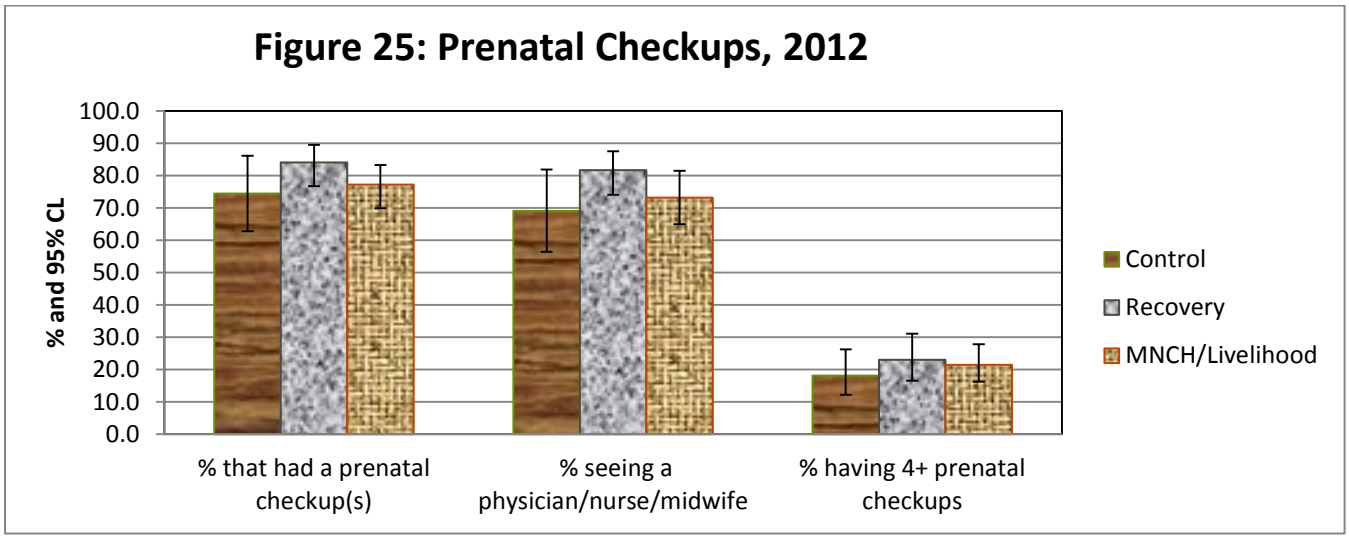


Figure 25: Prenatal Checkups, 2012
% and 95% CL
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% that had a prenatal checkup(s)
% seeing a physician/nurse/midwife
% having 4+ prenatal checkups
Control
Recovery
MNCH/Livelihood

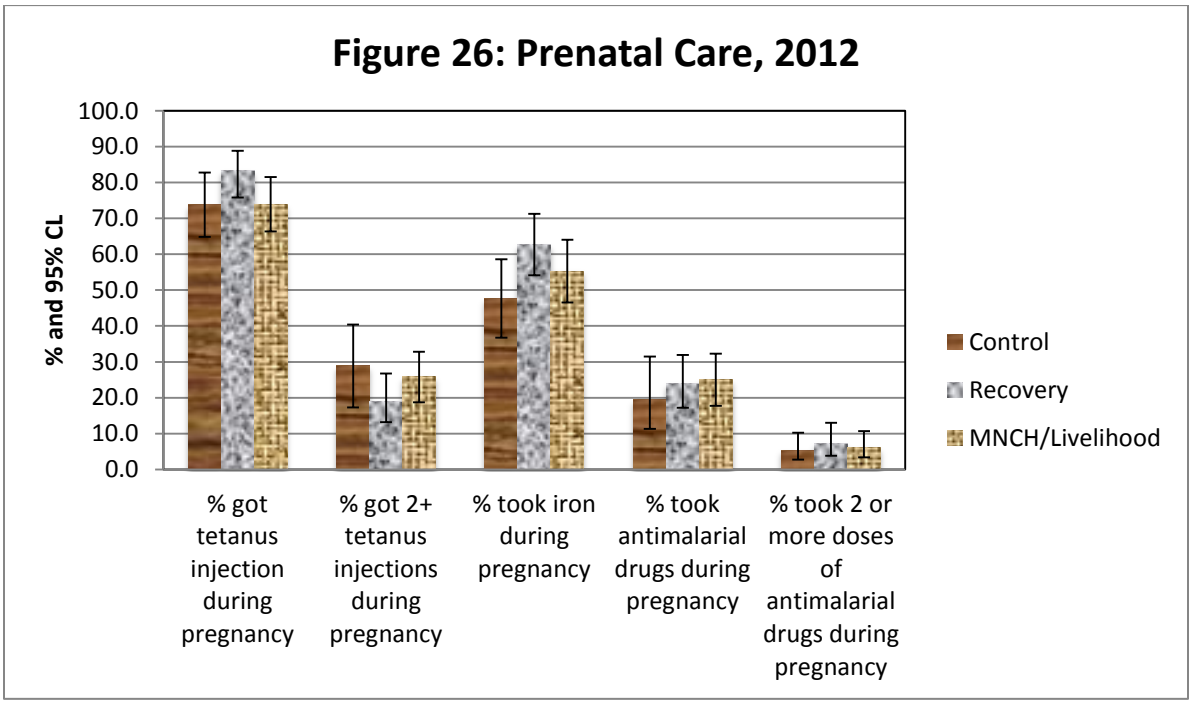
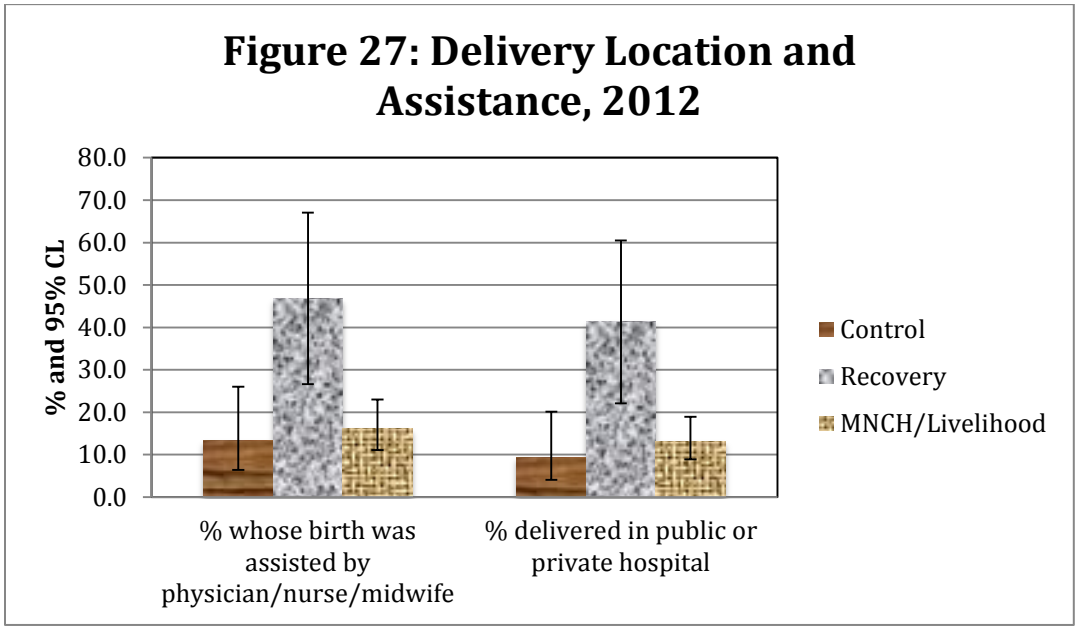


Figure 26: Prenatal Care, 2012
% and 95% CL
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% got tetanus injection during pregnancy
% got 2+ tetanus injections during pregnancy
% took iron during pregnancy
% took antimalarial drugs during pregnancy
% took 2 or more doses of antimalarial drugs during pregnancy
Control
Recovery
MNCH/Livelihood

Delivery Location and Assistance

In contrast to the prenatal care, the minority of child births occurred in a hospital (9.4%) and a minority is assisted by a physician, nurse or midwife (13.4%) (Figure 27). For both of these parameters the percentages in the Recovery group of villages is statistically significantly larger than the percentages of the control group.

Increasing the proportion of babies that are delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. In addition to place of birth, assistance during childbirth is an important variable that influences the birth outcome and the health of the mother and the infant. The skills and performance of the birth attendant determine whether or not he or she can manage complications and observe hygienic practices[12].

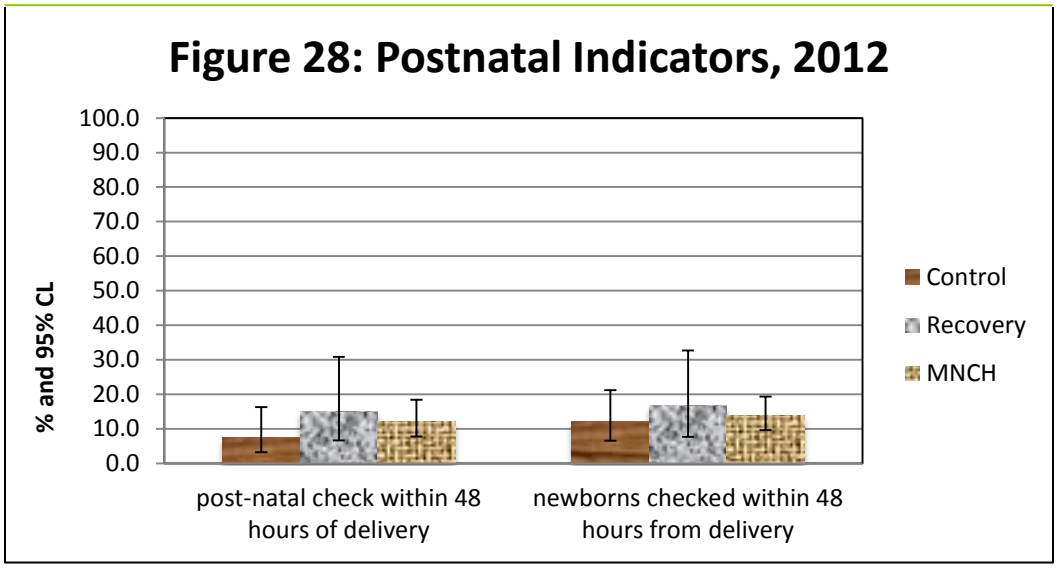


[12] http://apps.who.int/medicinedocs/documents/s17116e/s17116e.pdf

Postnatal Care

A large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, postnatal care is important for both the mother and the child to treat complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. It is recommended that all women receive a check on their health within two days of delivery[13].

In the Pokot/Marakwet area at baseline the percentage women checked within 48 hours of delivery was about 7% (Figure 29). The corresponding number for the newborns was about 12%. The difference between the intervention groups and control group were not statistically significant.



[13] http://apps.who.int/medicinedocs/documents/s17116e/s17116e.pdf

Nutrition & Breastfeeding

There is a cycle between under-nutrition and infectious disease (West et al, 2012). Under-nutrition leads to a reduction in cell-mediated and antibody response to pathogens as well as an impaired complement system and decreased lysozyme levels. This increases the risk of infectious disease. Infectious disease in turn causes loss of appetite and reduced food intake, which causes mal-absorption of nutrients, metabolic loss and under-nutrition.

Vitamin A is an essential micronutrient for the immune system and severe vitamin A deficiency (VAD) can increase the severity of infections such as measles and diarrhoeal diseases in children. In the Demography and Health Survey the vitamin A indicator is the percent of children receiving a vitamin A dose in the past six months[14]. This percentage in the Pokot/Marakwet study area at baseline was 57%. The percent of mothers who received a vitamin A supplement within the first two months of pregnancy is another indicator and the point estimate for this was about 46% (Figure 29). Neither of these indicators of vitamin A supplementation is statistically significantly different across the study groups.

Early initiation of breastfeeding is encouraged for a number of reasons. Mothers benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps the contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also fosters bonding between mother and child.[15]

UNICEF and WHO recommend that children be exclusively breastfed during the first 6 months of life. Exclusive breastfeeding is recommended because breast milk is uncontaminated and contains all the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to disease. Early supplementation is discouraged for several reasons. First, it exposes infants to pathogens and increases their risk of infection, especially diarrheal disease. Second, it decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production. Third, in low-resource settings, supplementary food is often nutritionally inferior.

About 70% of new mothers in the Pokot/Marakwet study area initiate breastfeeding immediately, and between about 10% remain exclusively breastfeeding at six months. These differences across study groups do not differ statistically significantly at baseline (Figure 30).

[14] http://apps.who.int/medicinedocs/documents/s17116e/s17116e.pdf
[15] http://apps.who.int/medicinedocs/documents/s17116e/s17116e.pdf

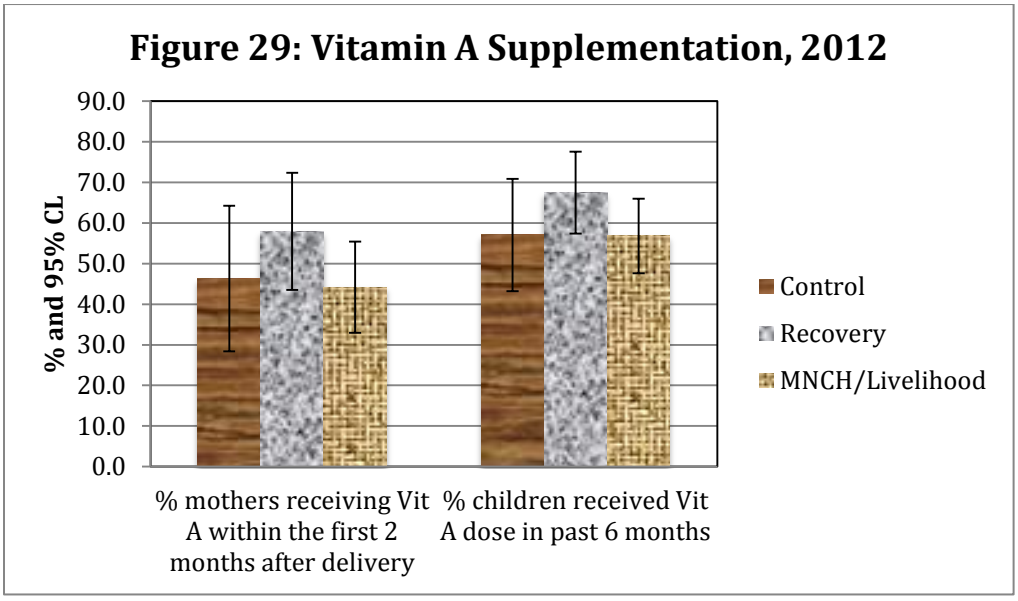


Figure 29: Vitamin A Supplementation, 2012
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
% and 95% CL
% mothers receiving Vit A within the first 2 months after delivery
% children received Vit A dose in past 6 months
Control
Recovery
MNCH/Livelihood

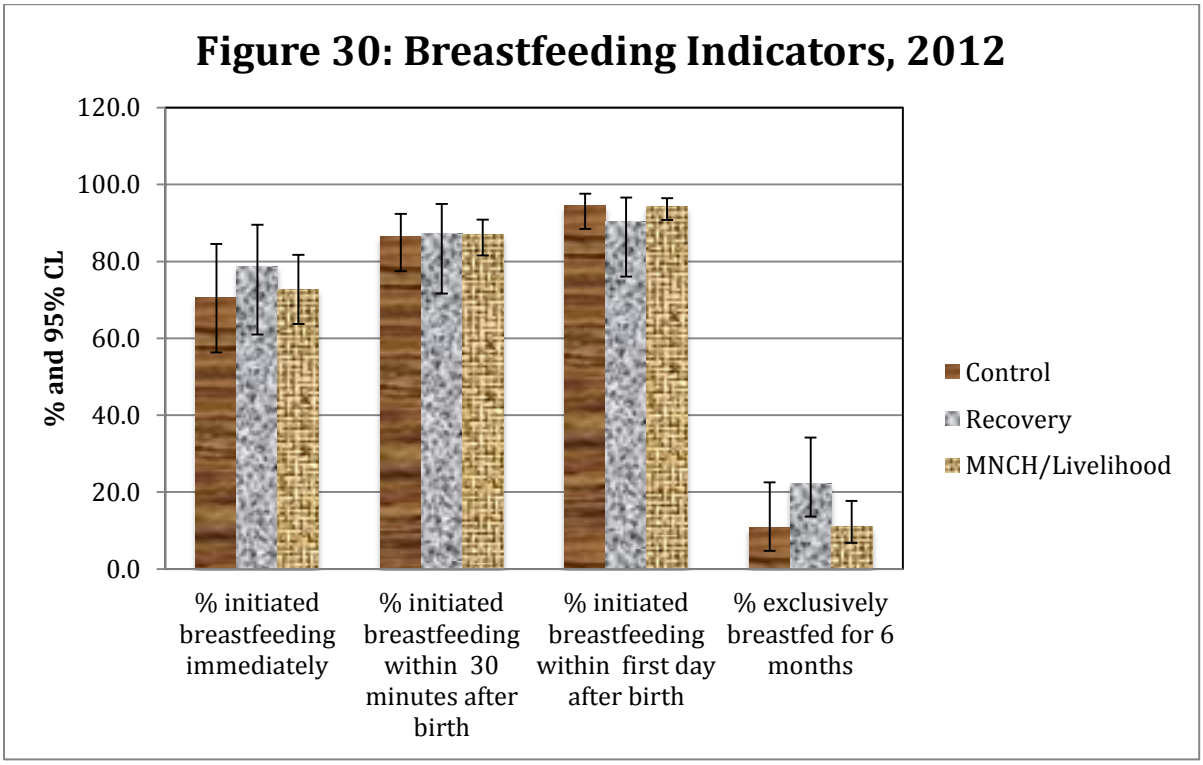


Figure 30: Breastfeeding Indicators, 2012
120.0
100.0
80.0
60.0
40.0
20.0
0.0
% and 95% CL
% initiated breastfeeding immediately
% initiated breastfeeding within 30 minutes after birth
% initiated breastfeeding within first day after birth
% exclusively breastfed for 6 months
Control
Recovery
MNCH/Livelihood

Photo 8: Pokot Central, 2012

Disease and Vaccinations

Diarrheal disease accounts for 20% to 25% of all deaths among those persons less than five years of age. These are viral, bacterial and parasitic infections of the gastrointestinal tract that are generally manifest by diarrhea, either alone or in combination with fever, vomiting and abdominal pain. Cholera and shigellosis are common specific diarrheal diseases. They are transmitted by consumption of contaminated water and food, the fecal /oral route, and mechanical transfer by flies. Interventions include breast feeding, hand washing, personal hygiene, protecting sources of drinking water, improving sanitation, reducing fly populations and oral rehydration with zinc (Reingold and Gordon, 2012).

In the Pokot/Marakwet study area, at baseline, 32.9% of mothers reported child diarrhea during the two weeks prior to the survey (Figure 31). Of those children with reported diarrhea, 32.7% were treated with ORS and zinc (Table 18). According to focus group discussions, a majority of mothers resorted to use of herbs as a first priority and/or consulting an herbalist. Some undertook home treatment with oral rehydration therapy by use of locally obtained ingredients; for example, water mixed with sugar and a pinch of salt. Seeking advice from facility staff for treatment was regarded as a last resort based on the severity of the condition with the duration of seeking treatment.

The incidence reported by mothers in the MNCH/Livelihoods intervention group of villages (16.4%) was very close to being statistically significantly lower than that of mothers in the control group of villages (32.9%). Attributing a lower rate of occurrence to the intervention will have to wait until follow-up rates can be regressed against study group with adjustment for baseline rate and covariates.

Acute respiratory infections (ARI) of the lower tract include bronchiolitis, influenza and pneumonia. They are caused by bacterial and viral infections, singly or in combination, and are transmitted by respiratory

route. In low- to middle-income countries they are typically one of the leading causes of death among infants and children less than five years of age. Risk factors include indoor air pollution (from cooking, heating, smoking), not breast feeding and malnutrition (vitamin A deficiency). Interventions include ensuring healthy air quality, vaccines, and triaging according to a case definition with referral by community health workers (Reingold and Gordon, 2012).

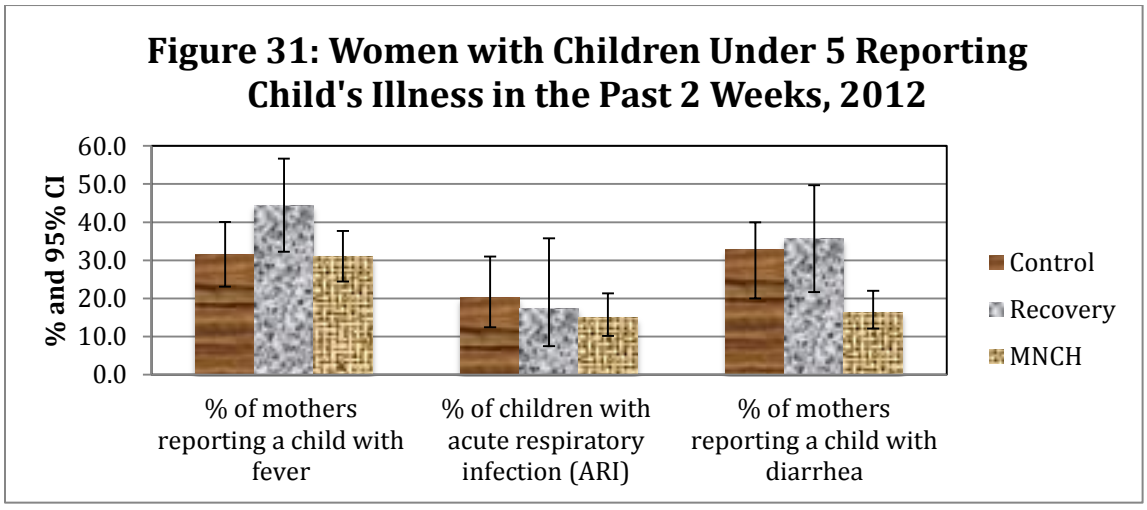
The point estimate for reported ARI across the Pokot/Marakwet study area at baseline was 20.1% (Figure 31). Among those children with reported ARI, 86.7% were on antibiotics (Table 19).

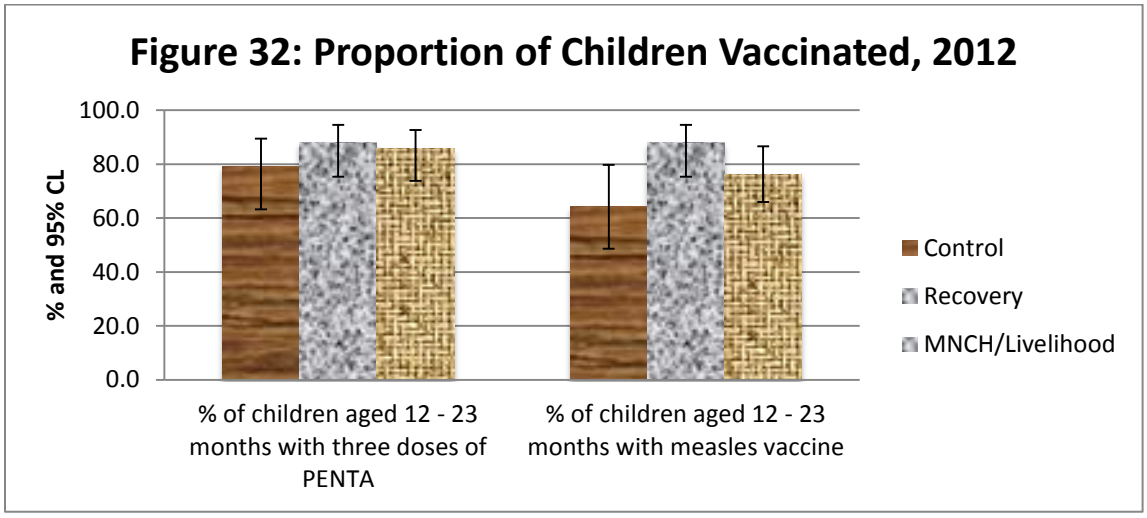
Malaria is found around the world, but more than 80% of cases occur in tropical Africa (Reinhold and Gordon, 2012). It causes chills, fever, sweating, anemia, delirium and coma. The causal agent is a protozoa, for which the Anopheles mosquito is the reservoir. Humans, the hosts, gradually develop immunity, but until then children and pregnant women have the highest rates of malaria. Interventions include disease management with treatment, epidemic detection and control, and disease prevention with protective measures (e.g., vector control and insecticide treated nets).

At baseline child fever in the past two weeks was reported by 31.5 of young mothers in the Pokot/Marakwet study area (Figure 31). Of those children with reported fever in the past two weeks, 68.8% were on antimalarial agents (Table 20). The study groups did not differ significantly on the reported rate of occurrence of fever or ARI.

Vaccine-Preventable Diseases of public health importance include poliomyelitis, diphtheria, pertussis, tetanus, and haemophilus influenza B. Immunization against these five diseases is the target of the PENTA vaccine. Measles vaccination is a high priority, particularly among populations displaced due to complex emergencies (Toole and Waldman, 2012).

The percentage of children between 12 and 23 months of age that received three doses of PENTA vaccine at baseline was 79.2% (Figure 32). The corresponding number for measles vaccine was 642% (Figure 32). For both vaccines the prevalence was not statistically significantly different across study groups.





> *We always take our children for vaccination though distance and cost of transport is a major hindrance to sticking to the schedule".* ***Female focus group participant in Nyangaite community.***

14. Discussion

In order to understand the social, cultural and systematic factors which may underlay the statistical observations documented in this report an independent qualitative study was undertaken. This qualitative study was conducted by Alan Kamau of EcoSARD Consultants (Nairobi). The observations reported by Kamau, based on focus group and key informant interviews, are very illuminating and are discussed here.

The reasons the absence of latrines included the following: lack of knowledge regarding their importance, high cost of materials, and the lack of local skills. In East Marakwet and Central Pokot community members also cited the rocky nature of the ground as a hindrance to having a latrine. In the *Masol and Nyangaita* communities of Pokot Central, they cited cultural beliefs where, in this patriarchal context, young children are led to believe that "men do not defecate" and therefore they cannot be seen to be going to defecate. In addition, young children are given

the view that men and children faecal matter cannot mix. It will be important for intervention program managers to keep these cultural views in mind as they promote the construction of latrines.

The reasons given for not attaining the four prenatal visits included distance from a health facility and inadequate knowledge on the importance of the visits. The reasons for not delivering at a health facility, but at home, are numerous and are as follows:

- *User fees levied by health facilities*- this ranged from Ksh 900 to 1,600 which a majority of the women cannot afford;
- *Distance to health facilities*- was cited as a factor contributing to most women opting to deliver at homes; this was compounded by lack of dependable means of transport either due to lack of money or means of transport;
- *The natural delivery event occurs so fast*- and due to the distance they are from the health facilities they cannot make it even if they wished to;
- *Healthcare provider attitude/perceptions*- if a male health care provider known to the women is in-charge of conducting the delivery, the women will not visit that facility for delivery and would rather opt to deliver at home; similarly harshness of healthcare providers to women delivering at the health facility especially if the women had not attended ANC clinics as deterrent to hospital delivery.;
- *Choosing to deliver under the supervision of Traditional Birth Attendant (TBA);*
- *Influence of mother in law and older women in the community*: - older women in the community as well as mothers-in-law determine the choice of the person to assist in delivery and recommend particular T.B.As;
- *Blessings bestowed by T.B.A to the infant*: - belief that particular T.B.As bestow blessings to infants and therefore contributing to the prosperity of the infant in the future as well as avoidance of "dreaded conditions such as madness"; and
- *Convenience in settling delivery costs to T.B.As*:- whereas at the health facility women are supposed to pay cash for delivery before discharge, the T.B.A.s are flexible and payment may take the form of manual labour and provision of a goat at a later date.
- The main reasons for delivering at a health facility included advice from the husband and apparent labor risks.

> *"When labor starts it lasts only for few minutes to one hour and this cannot allow me to go to the health facility as the distance is long".* ***Female focus group participant in Central Pokot***

> *"The distance to the nearest facility is Sigor which is about 19 Kilometre and this makes it difficult to seek medical attention in addition to lack of money to pay for the transport''.*
> ***Female focus group participant at Masol.***

The reasons for few mothers electing to exclusively breastfeed for six months included the view that it was not practical. Women have to provide for the family as well as engage in other productive tasks which involves venturing out of the household and leaving the infant behind. Another key reason cited was the poor nutritional status of the mothers made it difficult for the mother to have adequate breast milk for the infant.

> *"We have to provide for our families and therefore we have to go engage in productive tasks within and outside our homes. This may be as early as two weeks after delivery".* ***Female FGD participant in Masolcommunity.***

Most children miss out on the polio vaccination given at birth due to the fact that a majority of deliveries occur at home. However most mothers go to the clinic after home delivery during which visit the infant is vaccinated. Compliance with subsequent vaccinations is usual. A number of children miss out on vaccinations largely due to distance to a health facility compounded by lack or no means of transport. It is also noted that lack of knowledge contributes to mothers not taking their children for vaccination.

In addition to these outcome indicators such as vaccination coverage the baseline portion of this evaluation has included process indicators that reflect, for example, CHW activity (e.g., number of visits to households, household member attendance at community health information sessions, and level of satisfaction with CHWs). Statistical models that regress end-line outcome measures, such measles vaccination, against these process indicators while adjusting for baseline levels and covariates can enable assessment of a gradient effect (e.g, the more household visits by the CHWs, and the more they satisfy household members with vaccination information, the greater the measles vaccination coverage). Such gradient analyses can strengthen attribution of changes in outcomes to intervention activities.

15. Recommendations

1. Share the data with project managers and staff, highlighting different indicators, showing how they are measured and how we can assess the effectiveness of the intervention activities.

2. Use mobile phones for data capture in future.
    - Ensure all the lessons learned reported in this document are incorporated into the field work of the retained survey consultant.

3. It is recommended that at endline the same villages be surveyed as in this baseline survey and the same procedure be used for selecting the households. This will permit record linkage at the village level and, thereby, calculation of changes in the outcome indicators for each village before and after the interventions. A chi-square test could be used to assess the statistical significance of the difference before and after the intervention. A change variable for each outcome indicator will be calculated by subtracting the baseline indicator value from the endline indicator value for each village. A positive change variable will therefore reflect an increase in the outcome after the intervention, and a negative value will reflect a decrease. The association between the villages' level of engagement in the intervention programs and their outcome changes will be tested for statistical significance using linear regression analyses.

4. See Kamau's section of Recommendations in the attached report (Appendix 4, p.76)

16. TABLES

Table 5: Household Agronomical Indicators for Control and Intervention Groups, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% households with someone trained in modern farming techniques	8	5.2	2.4	10.9	25	19.2	7.1	42.7	16	4.0	2.1	7.2
% thinking such training increased their income	7	87.5	52.9	97.8	22	88.0	70.0	95.8	12	75.0	50.5	89.8
% of households with someone who is a member of a farmer's group	145	5.8	2.5	13.0	35	26.9	9.3	44.5	14	3.5	1.9	6.2
% households experienced a livestock disease outbreak in the past 12 months	115	74.7	57.3	92.0	119	91.5	76.8	97.3	273	67.4	58.6	76.2
% of households that experienced a drought in the past 12 months	80	51.9	31.7	72.2	102	78.5	55.4	91.5	182	44.9	34.4	55.4
% of households that experienced a flood in the past 12 months	26	16.9	7.0	35.5	4	3.1	0.7	13.0	66	16.3	9.2	27.3
% of households that experienced conflict or cattle	23	14.9	5.9	32.8	13	10.0	3.8	24.0	51	12.6	6.1	24.2

rustling in the past 12 months												

Table 6: Household Disaster Preparedness for Control and Intervention Groups, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
How prepared for livestock outbreak?	152				128.0				400.0			
• Prepared	8	5.2	2.1	12.5	4.0	3.1	0.7	13.1	27.0	6.7	3.6	12.1
• A little prepared	48	31.2	13.1	49.2	52.0	40.0	15.8	64.2	141.0	34.8	24.4	45.5
• Not at all prepared	96	62.3	44.0	80.6	72.0	55.4	31.7	79.0	232.0	57.3	45.7	68.8
How prepared for a drought?	148				130.0				395.0			
• Prepared	10	6.5	2.6	15.1	3.0	2.3	0.4	13.7	32.0	7.9	4.4	13.7
• A little prepared	45	29.2	10.6	47.9	44.0	33.8	11.4	56.3	86.0	21.2	13.6	31.6
• Not at all prepared	93	60.4	42.3	78.4	83.0	63.9	40.3	87.4	277.0	68.4	58.1	78.7
How prepared for a flood?	136				108.0				375.0			
• Prepared	4	2.6	0.8	7.9	3.0	2.3	0.4	13.7	14.0	3.5	1.7	7.0
• A little prepared	17	11.0	4.8	23.5	16.0	12.3	4.2	31.2	38.0	9.4	5.1	16.5
• Not at all prepared	115	74.7	57.3	92.1	89.0	68.5	46.0	90.9	323.0	79.8	69.1	87.4
How prepared for a conflict/cattle-rustling?	130				106.0				363.0			
• Prepared	11	7.1	2.2	60.7	3.0	2.3	0.4	13.7	26.0	6.4	3.2	12.4
• A little prepared	23	14.9	7.5	27.7	19.0	14.6	5.9	31.9	54.0	13.3	6.4	25.8
• Not at all prepared	96	62.3	43.9	80.8	84.0	64.6	41.5	87.7	283.0	69.9	58.5	81.3

Table 7: Household Food Insecurity for Control and Intervention Groups, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of households where any adult has skipped a meal in the past 6 months because of not enough food	114	74.0	59.9	88.2	97	74.6	57.3	91.9	237	58.5	49.7	67.3
% of households where any child has skipped a meal in the past 6 months because of not enough food	77	50.0	32.5	67.5	79	60.8	39.5	82.0	162	40.0	31.6	48.4
% of households where any adult has stopped eating for a day in the past 6 months because of not enough food	113	73.4	57.5	89.2	96	73.9	55.9	91.8	225	55.6	46.9	64.2
% of households where any child has stopped eating for a day in the past 6 months because of not enough food	69	44.8	26.3	63.4	75	57.7	34.6	80.8	128	31.6	22.2	41.1

Table 8: Household Water and Sanitation Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of households with improved water source (piped, well or borehole)	63	40.9	23.5	58.3	52	40.0	17.1	62.9	165	59.3	47.5	71.0
% of households that treat their drinking water	30	10.6	7.5	14.7	17	13.1	6.2	25.6	35	8.6	5.0	14.5
% HHs that treat their drinking water with bleach/chlorine	14	4.9	2.9	8.3	8	6.2	2.9	12.5	20	4.9	2.5	9.6
Average time (in minutes) to get drinking water	151	59.0	48.7	69.3	127	49.7	39.7	59.7	404	53.3	48.1	58.6
% of households where adult woman usually gets the water	133	86.4	71.8	94.0	110	84.6	65.6	94.1	390	96.3	93.0	98.1
% of households with improved sanitation facility (pit latrine or flush toilet)	35	22.7	10.1	43.4	37	28.5	10.0	46.9	92	22.7	16.5	30.4
% of household that have no sanitation facility/use bush or field	119	77.3	56.6	89.9	93	71.5	53.1	90.0	309	76.3	68.4	82.7

Table 9: Household Hand Washing Practices for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of households wherein the presence of water for hand-washing was observed	62	40.3	21.1	59.4	83	63.8	38.5	89.2	151	37.3	25.5	49.1
% of households where members usually use soap or detergent when washing hands	114	74.0	61.5	86.5	111	85.4	66.9	94.4	306	75.6	65.2	83.6
% of households where member usually use ash, mud, sand or cattle urine	9	5.8	1.8	17.4	16	12.3	3.9	32.6	12	3.0	0.8	10.1
% of households where members usually wash their hands at critical times (after using latrine, after cleaning baby's bottom, before eating and before cooking).	0	0.0	0.0	1.9	1	0.8	0.1	4.9	5	1.2	0.3	4.3
% of households where members usually wash their hands at critical times and use soap or detergent when they do	0	0.0	0.0	1.9	1	0.8	0.1	4.9	5	1.2	0.3	4.3

Table 10: Households Mosquito Net Use for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of households having a mosquito bed-net(s) in the house	90	58.4	41.8	75.1	91	70.0	53.6	86.4	294	72.6	64.8	80.4
% of households where source of net is an NGO	44	28.6	11.9	45.3	6	4.6	1.8	11.4	91	22.5	14.9	32.4
% of households where source of net is a public health official	50	32.5	18.2	46.7	85	65.4!!	48.9	81.9	213	52.6	42.0	63.2
% of households where source of net is a local business person	2	1.3	0.3	4.7	1	0.8	0.1	4.8	1	0.2	0.0	1.4
% of households having an insecticide treated mosquito bed-net(s) in the house	89	57.8	41.4	74.2	90	69.2	53.0	85.5	287	70.9	63.1	78.6
!! Statistically significantly different than the control group												

Table 11: CHW Visits and Health Information Sessions for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=154 HHs				RECOVERY N=130 HHs				MNCH/LIVELIHOOD N=405 HHs			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of households visited by a CHW in past year	6	3.9	1.6	8.9	23	17.7	9.2	31.2	31	7.7	5.1	11.3
% CHWs female	0	0.0	0.0	50.0	7	30.4	6.3	54.6	8	25.8	6.4	45.3
TYPE OF INFORMATION PROVIDED												
% general health information	5	83.3	43.6	97.0	20	87.0	67.9	95.5	28	90.3	74.5	96.8
% information on hand hygiene	0	0.0	0.0	50.0	12	52.2	13.8	90.5	8	25.8	6.9	44.7
% information on contraception	0	0.0	0.0	50.0	0	0.0	0.0	13.0	2	6.5	1.8	20.9
% information on antenatal care	0	0.0	0.0	50.0	1	4.3	0.6	24.2	0	0.0	0.0	9.7
% provided ORS packets for treatment of diarrhea	0	0.0	0.0	50.0	1	4.3	0.6	24.2	1	3.2	0.6	16.2
% satisfied with CHW	6	100.0	50.0	100.0	19	82.6	58.8	94.1	28	90.3	75.1	96.7
% HHs attending a health info session in the past 6 months	4	2.6	0.8	8.0	16	12.3	6.4	22.2	24	5.9	3.4	10.0
% male head of the household attended session	2	50.0	11.1	88.9	7	43.8	12.7	74.8	10	41.7	21.9	61.4
% female head of the household attended session	1	25.0	4.6	69.9	9	56.3	25.2	87.3	13	54.2	32.3	76.1

Table 12: Age, Education and Marital Status for Women in Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129 Women*				MNCH/LIVELIHOODS N=400 Women*			
	n	§/%	95% CL		n	%	95% CL		n	%	95% CL	
Mean age	147	28.5	27.3	29.7	129	26.6	25.3	27.8	398	29.1	28.3	29.8
% with no education	89	58.9	42.5	75.4	53	41.1	17.5	64.7	33	46.9	36.9	56.9
% currently married or in union	145	96.0	90.1	98.5	125	96.9	90.6	99.0	370	92.3	89.2	94.5

*Women aged 15 to 49 years and have a child under 5 years of age
§Mean/average

Table 13: Pregnancy and Unmet Contraceptive Needs for Women in Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129 Women				MNCH /LIVELIHOOD N=400 Women			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
Currently pregnant	22	14.6	9.8	21.1	19	14.7	8.5	24.2	16	14.7	7.6	26.5
Unmet need for contraception	59	39.1	21.1	57.0	63	48.8	28.8	68.9	151	37.7	29.0	46.3

Table 14: Prenatal Care Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129 Women				MNCH/LIVELIHOOD N=400 Women			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% that had a prenatal checkup(s)	111	74.5	62.8	86.1	106	84.1	76.8	89.5	306	77.3	69.9	83.3
% seeing a physician/nurse/midwife	103	69.1	56.4	81.9	103	81.7	74.1	87.5	290	73.2	64.9	81.5
% having 4+ prenatal checkups	27	18.1	12.1	26.2	29	23.0	16.5	31.1	85	21.5	16.2	27.8
% got 2+ tetanus injections during pregnancy	43	28.9	17.3	40.4	24	19.0	13.1	26.8	102	25.8	18.7	32.8
% took iron during pregnancy	71	47.7	36.7	58.6	79	62.7	54.1	71.3	219	55.3	46.5	64.1
% took antimalarial drugs during pregnancy	29	19.5	11.3	31.4	30	23.8	17.2	32.0	99	25.0	17.7	32.3
% took 2+ doses antimalarial drugs during pregnancy	8	5.4	2.7	10.2	9	7.1	3.8	13.0	24	6.1	3.4	10.7

*Aged 15-49 years with a birth in the past five years

Table 15: Delivery Assistance and Location Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129				MNCH/LIVELIHOOD N=400			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% whose birth was assisted by physician/nurse/midwife	20	13.4	6.4	26.1	59	46.8!!	26.6	67.0	64	16.2	11.1	23.0
% delivered in public or private hospital	14	9.4	4.1	20.1	52	41.3!!	22.1	60.5	52	13.1	8.9	18.9

*Aged 15-49 years with a birth in the past five years.

!! Statistically significantly different than the control group

Table 16: Postnatal Care Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129 Women				MNCHL/IVELIHOOD N=400 Women			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of women had health checked after delivery	23	15.4	8.7	25.9	33	26.2	11.8	40.6	90	16.5	11.4	23.2
Of those checked, % checked by physician/nurse/midwife	15	65.2	24.6	100.0	25	75.8	46.2	91.9	60	66.7	48.4	85.0
% having baby's health checked by MD/RN/MW	15	10.1	6.2	15.9	25	19.8	9.5	36.8	60	11.0	7.9	15.2
% women health checked <48hrs (provider not specified)	11	7.4	3.2	16.3	19	15.1	6.6	30.8	66	12.1	7.8	18.4
% newborn's health checked <48hrs (provider not specified)	18	12.1	6.6	21.2	21	16.7	7.6	32.7	75	13.8	9.6	19.3

*Aged 15-49 years with a birth in the past five years

Table 17: Nutrition and Breastfeeding Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129				MNCH/LIVELIHOOD N=400			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% mothers receiving Vit A within first 2 mths > delivery	69	46.3	28.4	64.3	73	57.9	43.5	72.3	175	44.2	33.0	55.4
% children received Vit A dose in past 6 months	85	57.0	43.2	70.9	85	67.5	57.4	77.6	225	56.8	47.7	66.0
% initiated breastfeeding immediately	105	70.5	56.4	84.6	99	78.6	61.0	89.6	288	72.7	63.8	81.7
% initiated breastfeeding within 30 minutes after birth	129	86.6	77.5	92.4	110	87.3	71.6	94.9	344	86.9	81.5	90.8
% initiated breastfeeding within first day after birth	141	94.6	88.5	97.6	114	90.5	76.0	96.6	373	94.2	90.7	96.4
% exclusively breastfed for 6 months	16	10.7	4.7	22.5	28	22.2	13.6	34.2	44	11.1	6.8	17.7

*Aged 15-49 years with a child under five years

Table 18: Women Reporting Child's Diarrhea in the Past 2 Weeks for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129				MNCHLIVELIHOOD N=400			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of mothers with children under 5 reporting a child with diarrhea in past 2 weeks	49	32.9	20.0	40.0	45	35.7	21.7	49.7	65	16.4	12.1	22.0
Of those who reported diarrhea in the past 2 weeks												
% sought advice or treatment	35	71.4	52.2	90.6	40	88.9	75.8	95.3	58	89.2	79.4	94.7
% seeking advice/treatment by the next days	17	34.7	14.7	54.7	25	55.6	34.4	76.7	41	63.1	48.4	77.8
% sought advice from gov / priv / mis hosp or pharmacy	30	61.2	40.6	81.8	40	88.9	75.8	95.3	57	87.7	74.6	94.5
% treated with ORS	23	46.9	29.5	64.4	37	82.2	68.7	90.7	46	70.8	57.4	84.2
% treated with zinc	19	38.8	21.8	55.8	20	44.4	20.8	68.1	20	30.8	15.1	46.5
% treated with ORS and zinc	16	32.7	13.0	52.3	19	42.2	18.4	66.0	17	26.2	12.1	40.2
% treated with ORS or IV fluids	25	51.0	34.1	67.9	37	82.2!!	68.7	90.7	47	72.3	59.2	85.4
% treated with injection with antibiotics	2	4.1	1.1	13.7	1	2.2	0.3	12.8	2	3.1	0.8	10.8

*Aged 15-49 years with a birth in the past five years.

!! Statistically significantly different than the control group

Table 19: Women Reporting Child's ARI in the Past 2 Weeks for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129 Women				MNCH/LIVELIHOOD N=400 Women			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of children with acute respiratory infection (ARI) in past 2 weeks	30	20.1	12.4	31.0	22	17.5	7.4	35.8	59	14.9	10.2	21.3
Of children with ARI, % treated by appropriate health care provider	12	40.0	18.9	61.1	16	72.7	56.6	88.9	29	49.2	31.2	67.1
Of children with ARI, % treated with antibiotics	26	86.7	70.3	94.7	19	86.4	66.7	95.3	55	93.2	77.7	98.2

*Aged 15-49 years with a birth in the past five years

Table 20: Women Reporting Child's Fever in the Past 2 Weeks for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129				MNCH/LIVELIHOOD N=400			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of mothers with children under 5 reporting a child with fever in the past 2 weeks	47	31.5	23.0	40.0	56	44.4	32.2	56.7	123	31.1	24.4	37.7
Of those who reported fever in the past 2 weeks												
% sought advice or treatment	36	76.6	61.3	87.1	50	89.3	78.5	95.0	96	78.0	65.4	87.0
% seeking advice/treatment by the next day	21	44.7	25.0	64.4	34	60.7	41.7	79.7	67	54.5	42.8	66.1
% sought advice within 2 days from go/pr/mi hosp or pharm	16	34.0	14.0	54.1	34	60.7	41.7	79.7	55	44.7	32.3	57.1
% treated with any anti-malarial	11	68.8	46.6	90.9	22	64.7	48.4	81.0	31	56.4	33.7	79.0
% treated with ACT	2	12.5	3.1	38.6	0	0.0	0.0	8.8	3	5.4	1.8	15.0

*Aged 15-49 years with a birth in the past five years

Table 21: Immunization Indicators for Control and Intervention Villages, 2012

INDICATOR	CONTROL N=151 Women*				RECOVERY N=129				MNCH/LIVELIHOOD N=400			
	n	%	95% CL		n	%	95% CL		n	%	95% CL	
% of children[α] aged 12 - 23 months with three doses of PENTA	42	79.2	63.2	89.5	44	88.0	75.3	94.6	137	85.6	73.8	92.6
% of children aged 12 - 23 months with measles vaccine	34	64.2	48.6	79.7	44	88.0	75.3	94.6	122	76.3	65.9	86.6

*Aged 15-49 years with a birth in the past five years

[α] Oldest child between 12 – 24 months

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17. APPENDIX A: KENYAN HOUSEHOLD QUESTIONNAIRE

SECTION 1: INTRODUCE YOURSELF AND READ THE CONSENT STATEMENT.

The consent statement is to be read to the household respondent and entered into the bottom of this page form after the household interview has been completed. A household is a person or group of persons who usually live and eat together. Any adult member of the household can serve as the respondent for this section.

"Hello my name is _____. I am a volunteer with the Kenyan Red Cross Society. I would like to speak with any adult member of your household about your family's household. Then I would like to speak with all women between the ages of 15 and 49 who usually live in this household. Could I start with you?"

IF NO: identify household respondent and repeat introduction.

IF YES:

"The interview will take about 30 minutes. All the information we obtain will remain strictly confidential and your answers will never be identified. You are not obliged to answer any question you don't want to, and you may withdraw from the interview at any time. In case you need more information you may contact the branch office of your local Red Cross."

If requested give card with contact information

"May I begin the interview now?"

"Before we begin, do you have any questions?"

[Q: what will you do with the information?]

[A: This information will help the Red Cross to identify health priorities in your communities and assess whether Red Cross is meeting its goals.]

Date of Interview:

□□/□□/□□□□

DD/ MM/ YYYY

VERBAL CONSENT?

- 1 Yes - 2 No**. – go to end (interview is over)**

SECTION 3: HOUSEHOLD CHARACTERISTICS

This section is to be completed by the person most knowledgeable about the household - may consult with others. It is also to be completed for every household, even if there are no eligible women or children in the household. It includes questions at the household level and is to be completed by the household head or person most knowledgeable.

Hhld01." **How many rooms (or huts) in this household (or compound) are used for sleeping?"**

Enter number: _____

Hhld02: Does your household have: CIRCLE ALL THAT APPLY

1. Electricity?
2. A cupboard?
3. A radio?
4. A mattress? (not made of straw or grass)
5. A television?
6. A clock?
7. A mobile telephone?
8. A water pump?
9. A generator?
10. A grain grinder?
11. A computer or laptop?
12. A sewing machine?
13. A table?
14. A chair or stool?
15. NONE OF THE ABOVE

Hhld03: Do any members of this household own: CIRLE ALL THAT APPLY

1. Watch?
2. A bicycle?
3. Motorcycle or motor scooter?
4. Animal-drawn cart?
5. Car or truck?
6. Boat or a canoe?
7. Property (land) ?
8. NONE OF THE ABOVE

Hhld04: How many of the following animals does this household own?

IF NONE, ENTER '00'.

IF 99 OR MORE, ENTER '99'

IF UNKNOWN, LEAVE BLANK

	ANIMAL	**NUMBER**
Hhld04	Cattle	
Hhld05	Camel, donkeys or mules	
Hhld06	Goats	
Hhld07	Sheep	
Hhld08	Chickens, ducks or guinea fowls	
Hhld09	Pigs	

Hhld 10: How many Kenyan Shillings did your household earn from farming and livestock during the last farming season?

1. _____KSH
2. Don't know

Hhld 11: Does your household have any income OTHER than farming? Circle <u>all that apply</u>

1. No additional income (just farming)
2. Cash for labour
3. Formal employment
4. Cash from relatives
5. Social support from an organisation
6. Personal/private business
7. Renting land
8. Mining
9. Other (specify) :
10. NONE OF THE ABOVE

SECTION 4: HOUSEHOLD LEVEL VISITS BY COMMUNITY HEALTH WORKER

CHW01: In the past 12 months has a Community Health Worker (CHW) visited your home?

1 Yes

2 No **→GO TO CHW06**

3 Don't know →**GO TO CHW06**

CHW02: Was the CHW a man or a woman?

1 Male

2 Female

3 Don't know can't remember

CHW03: What was the reason for his/her visit? CIRCLE ALL THAT APPLY

1 First visit/assessment for a child

2 First visit/assessment for an adult

3 Follow up visit/assessment for a child

4 Follow up visit/assessment for an adult

5 Don't Know

CHW04: What was the issue or problem he/she discussed? CIRCLE ALL THAT APPLY

1. Provided general health information
2. Provided information on hand hygiene
3. Provided information/advice about contraception/family planning
4. Provided antenatal care/information/advice
5. Provided ORS packets for the treatment of diarrhea
6. Provided antibiotics
7. Provided antimalarial drugs
8. Referred to service elsewhere
9. Counseling on home remedies
10. Don't know / Don't remember

CHW05: Were you satisfied with the advice/treatment you received from the CHW?

1. Yes
2. No
3. Don't know/ No comment

CHW06: When you think that a member of your household is ill who is the first person/place that you think of contacting? (DO NOT PROMPT. CIRCLE ONLY ONE)

1. A public health facility (hospital, dispensary, etc)
2. A private health facility
3. A mission or faith-based facility
4. A pharmacy
5. Community Health Worker (CHW)
6. Traditional healer
7. Other SPECIFY:_____

CHW07: In the past 6 months have any members of your household attended any health education sessions offered in your community?

1 Yes

2 No →**GO TO HAND HYGIENE**

3 Don't Know →**GO TO HAND HYGIENE**

CHW08: Who attended these health sessions? CIRCLE ALL THAT APPLY

1. Male head of household
2. Female head of household
3. Other

SECTION 5: HAND HYGIENE

HH01: What is the MAIN hand-washing facility used in your household? (Circle only one)

1. No hand-washing facilities available in the household
2. Jug with water
3. Permanent hand-washing station (sink or other fixed basin)
4. Other: Specify _____

HH02: Observe presence of water for hand washing in household.

1. Water is available for hand-washing (observed by volunteer)
2. Water is not available

HH03:What do members of your household usually use to wash their hands?

(IF POSSIBLE OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT. CHOOSE ONE ONLY.)

1. Soap (bar, liquid, powder, paste),
2. Detergent,
3. Ash, mud, sand, cattle urine
4. None.

HH04: When do members of your household usually wash their hands?

(DO NOT READ RESPONSE OPTIONS BUT PROMPT FOR ALL POSSIBLE TIMES "IS THERE ANY OTHER TIME?" Circle ALL THAT APPLY)

1. Before eating
2. After eating,
3. Before cooking,
4. After cooking,
5. Before using the latrine,
6. After using the latrine
7. Before cleaning a baby's bottom
8. After cleaning a baby's bottom
9. Other. SPECIFY:_____

SECTION 6: WATER AND SANITATION

WS01: What is the main source of drinking water for your household? Cirlce only one

1 Piped water

2 Dug well

3 Tube well or borehole

4 Protected Spring

5. Unprotected Spring

6 Surface water

7 Any unprotected source.

WS02: Do you treat your water to make it safe for drinking?

1 Yes

2 No →**GO TO WS04**

3 Don't Know →**GO TO WS04**

WS03: If yes, what do you usually do to the water to make it safer to drink?

(PROBE: IS THERE ANYTHING ELSE? Circle ALL THAT APPLY)

1. Boil
2. Add bleach/chorine/water guard
3. Strain through cloth
4. use water filter
5. Solar disinfection
6. Let it stand and settle,
7. Store safe drinking water in closed container
8. Other _____

WS04: How many minutes does it take to go to where your household's drinking water is, get it, and come back?

1. _____Minutes
2. Don't know

WS05: Who usually goes to carry the water to your household? Circle only one answer

1. Adult woman
2. Adult man
3. Female child (< 15)
4. Male child (< 15)

WS06: Is the source of the drinking water near to the defecation area?

1. Yes
2. No

WS07: What type of toilet does your household use?

1. Flush toilet
2. Ventilated pit latrine
3. Traditional pit toilet
4. No facility/bush/field
5. Other (specify) _____

WS08: Do you share this toilet facility with other households (HHs)?

1. Yes
2. No. →**GO TO SECTION 7 (Malaria)**

WS09: How many HHs use this toilet facility? (Circle only one option)

1. Only this household
2. Several households (2 to 5)
3. The whole village.

SECTION 7: MALARIA

MAL01: Do you have any insecticide-treated mosquito bed-nets in your house?

1 Yes

2 No →**GO TO SECTION 8**

3 Don't Know → **GO TO SECTION 8**

MAL02: Where did you get the bed-net(s)? (CIRCLE ALL THAT APPLY)

1 From a non-governmental organization (NGO)
2 From a local business person,
3 From a public health official (government ministry)
4 Other: Specify_____
5 Don't know

MAL03: Who slept under the bed-net last night?

(READ ALL OPTIONS OUT LOUD. CIRCLE ALL THAT APPLY)

1. A child/children
2. Pregnant woman
3. Any other woman in the household
4. Yourself
5. Spouse/ partner
6. Other

SECTION 8: Agro training and Livelihoods

AL01: Has anyone in your household been trained in modern farming techniques?

1. Yes
2. No - Go to question AL04

AL02: Who conducted this training? (Circle only one)

1. Government
2. NGOs (Non-government Organizations)
3. Community-based organizations
4. Faith-based organisations
5. Other: Specify_____
6. Don't know

AL03: Has that training increased the income of your household ?

1. Yes
2. No

AL04: Is anyone in your household a member of a farmer group (agriculture or livestock)?

1. Yes
2. No

AL05: Has your household suffered from a livestock disease outbreak in the 12 months?

1. Yes
2. No
3. Don't know / Not applicable

AL06: What type of financial saving system does your household usually use?

(circle all that apply)

1. None (household has no savings)
2. Keep cash at home
3. Traditional saving system
4. Village Saving and Loan Association(VSLA/VICOBA) or Community Bank
5. Micro finance institution
6. Commercial bank
7. In kind (savings are kept as assets/animals etc, and not as cash.)
8. Other (specify)……..
9. Don't know

AL08: Has your household received credit (a loan) from any of the following groups in the last 12 months? (circle all that apply)

1. Household has received no credit / loan
2. Relatives

3. Village saving and loan association(VSLA/VICOB) / Community Bank
4. Traditional lenders
5. NGOs
6. Commercial bank
7. Micro finance institutions
8. Others (specify) ……

AL09: What was this credit used for? (Circle all that apply)

1. Not applicable / Household did not receive any credit/ loan
2. Buying food
3. Access to Health Centre and/or buying medicine
4. Livestock purchase
5. Agricultural input purchase
6. Petty trade
7. Used to meet non-food needs (clothing, shelter, school fees, dowry)
8. Personal enjoyment/ leisure
9. Other (specify)……..

SECTION 9: FOOD SECURITY

FS01: What best describes the food consumed in your household during the past 6 months? (due to lack of available food or lack of money to buy food):

1. Always enough food of what was wanted
2. Enough food, but not always what was wanted
3. Sometimes there was not enough food
4. Often there was not enough food

FS02: In the past 6 months have <u>you or any other adult</u> in your household <u>skipped a meal</u> because there was not enough food available or you did not have enough money to buy food?

1. Yes
2. No – Go to FS04

FS03: HOW OFTEN? – circle only one

1. Always
2. Sometimes
3. Rarely
4. Never

FS04: In the past 6 months has <u>any child under 5 years</u> in your household <u>skipped a meal</u> because there was not enough food available or you did not have enough money to buy food?

1. Yes
2. No – Go to FS06

FS05: HOW OFTEN? – circle only one

1. Always
2. Sometimes
3. Rarely
4. Never

FS06:? Did <u>you or another adult</u> in your household <u>stop eating for an entire day</u> (during the past 6 months) because there was not enough food available or because you did not have enough money to buy food

1. Yes
2. No – Go to FS08

FS07: HOW OFTEN? – circle only one

1. Always
2. Sometimes
3. Rarely
4. Never

FS08: Did <u>any child under 5 years</u> in your household <u>stop eating for an entire day</u> (during the past 6 months) because there was not enough food available or because you did not have enough money to buy food?

3. Yes
4. No – Go to FS010

FS09: HOW OFTEN? – circle only one

5. Always
6. Sometimes
7. Rarely
8. Never

FS10: Have you or any member of your household changed job or livelihood activity in the past 6 months?

1. Yes
2. No

FS08: Where did most of the food for your household come from over the past 6 months? (Select only one answer)

1. Farming within the household
2. Cash purchases
3. Credit purchases
4. Sale of livestock
5. Sale of fruit
6. Gifts from family/Neighbors
7. Relief from government or NGOs
8. other sources (specify)_____

SECTION 10: DISASTER PREPAREDNESS

DP01: Which of the following disasters has your household experienced in the past 12 months? (Circle all that apply)

1. Livestock disease outbreak
2. Drought
3. Flood
4. Conflict and/or cattle rustling
5. Other: Specify_____

DP02: How prepared is your household for livestock disease outbreaks? (Circle one)

1. Completely prepared
2. Very prepared
3. Prepared
4. A little prepared
5. Not at all prepared

DP03: How prepared is your household for Drought disasters? (Circle one)

1. Completely prepared
2. Very prepared
3. Prepared
4. A little prepared
5. Not at all prepared

DP04: How prepared is your household for Flood disasters? (Circle one)

1. Completely prepared
2. Very prepared
3. Prepared
4. A little prepared
5. Not at all prepared

DP05: How prepared is your household for conflict/ cattle-rustling disasters? (Circle one)

1. Completely prepared
2. Very prepared
3. Prepared
4. A little prepared
5. Not at all prepared

18. APPENDIX B: WOMAN'S AND CHIDREN'S QUESTIONNARIE

Eligible women for this questionnaire are women listed in the Household Table who are age 15 through 49 (inclusive). If possible choose a woman with a child between 0 and 5.

SECTION 1: WOMAN'S IDENTIFICATION AND CONSENT

This section is to be completed prior to beginning the interview. Be sure to enter the household ID (HHID and the line number from the household table for the woman completing this survey at the top of the page. Be sure that this information is completed on <u>EVERY</u> page.

READ CONSENT STATEMENT: "The interview will take about 30 minutes. All the information we obtain will remain strictly confidential and your answers will never be identified. You do not have to answer any question if you don't want to, and you may withdraw from the interview at any time. In case you need more information you may contact the branch office of your local Red Cross".

IF REQUESTED, GIVE CARD WITH CONTACT INFORMATION

ASK "May I start now?"

RECORD CONSENT HERE

1. Yes 2. No → **SKIP TO END AND COMPLETE RESPONSE CODE = 3 REFUSED**

SECTION 2: WOMAN'S BACKGROUND (WB)

Information collected in this section will be used to verify eligibility based on age and marital status and provide basic demographic information for the purposes of sample description

WB01 **In what year were you born?**

YEAR OF BIRTH:_____

WB02 What is the highest level of school and grade you attended?

1. None
2. Primary (Class 1-8)
3. Secondary-O Level (Form 1-4)
4. Secondary-A level (Form 5-6)
5. Polytechnic/vocational training
6. College/University

WB03: What is your current marital status?

1. Currently married or in union
2. Widowed
3. Divorced
4. Separated
5. Never married

SECTION 3: FAMILY PLANNING AND CONTRACEPTION (FPC).

FPC01: Are you currently taking or using any form of contraception or birth control?

1. Yes
2. No

FPC02: IF NOT CURRENTLY USING BIRTH CONTROL;

Do you know of a place where you could obtain a method of birth control?

1. Yes
2. Don't know

FPC03: Are you pregnant now?

1 Yes → **SKIP TO PC01**
2 No,

FPC04: IF NOT CURRENTLY PREGNANT

Is the reason for not being pregnant now any of the following? READ THE RESPONSES

1. Want to delay the next pregnancy for 2 years.
2. Do not want to have more children
3. Don't know.

SECTION 4: PERINATAL CARE (PC)

Now I would like to ask some questions about ONLY your child born MOST RECENTLY in the last five years.

INTERVIEWER, CHECK THE HOUSEHOLD TABLE: Has she given birth to any children? IF YES, was that within the last 5 years? That is born in 2007 or later. If yes, then PROCEED; if No **→GO TO END SURVEY IS FINISHED**

Now I would like to ask you some questions about the prenatal care you received during your most recent pregnancy.

INTERVIEWER: READ THE QUESTIONS IN COLUMN 2 AND RECORD THE ANSWER FOR THE YOUGEST CHILD ONLY.

	QUESTION	CHILD 1 (Youngest)
PC01_	What is the name of your youngest child?	

	QUESTION	CHILD 1 (Youngest)
PC02_	**Is (CHILD) a boy or a girl?**	☐ Boy ☐ Girl
PC03_	**How old was (CHILD) at his/her last birthday (years) 0 if < 1?**	_____ yrs
PC04_	**Did you see anyone for a checkup (prenatal care) for this pregnancy?**	1. Yes 2. No →**GO TO PC06**
PC05	**Whom did you see? (record all)**	1. Doctor/Nurse/Midwife/Clinical officers 2. Traditional Birth Attendant (TBA) 3. Community Health Worker (CHW) 4. Other
PC06	**Who assisted with the delivery of (CHILD)**	1. Doctor/Nurse/Midwife/Clinical officers 2. Traditional Birth Attendant (TBA) 3. Community Health Worker (CHW) 4. Other
PC07	**Where did you give birth?**	1. Home/other home 2. Public hosp/clinic 3. Private hosp/clinic 4. On the way to facility 5. Other

INTERVIEWER: IF NO PRENATAL CARE FOR YOUNGEST CHILD GO TO SECTION ON TETANUS ON THIS PAGE

I would like to ask you some more questions about your youngest child (NAME) who under 5yrs.

INTERVIEWER : ALLOW MOTHER GET ALL HER HEALTH RECORD CARDS

PC08 **How many months pregnant were you when you first received checkups for this pregnancy**

1 Early (first 12 weeks/ 1-3 mo)
2 2nd trimester (13-21 weeks/4-6 mo)
3 Early 3rd trimester (22-36 weeks/ 7-8 mo)
4 Late 3rd trimester (37 wk +/ 9 mo)

PC09 **How many times did you receive checkups during this pregnancy**

_____Checkups

PC10 **As part of your checkups during this pregnancy did anyone do the following:**

MARK "X" TO ALL THAT APPLY

	Yes
1.Weigh you?	
2. Measure your blood pressure?	
3. Ask you to give a urine sample?	
4. Take a blood sample?	

TETANUS

TET1 **During <u>your last</u> pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, or jerking, after birth?**

1. Yes
2. No → **GO TO TET3**
3. Don't know -> **GO TO TET3**

TET2 **During <u>your last</u> pregnancy, how many times did you get a tetanus injection?**

_____ times > 2 →GO TO IRON TABLETS

INTERVIEWER IF 2 OR MORE TIMES GO TO IRON TABLETS

TET3	**At any time <u>before</u> your last pregnancy, did you receive any tetanus injections?**	1. Yes 2. No →**GO TO IRON TABLETS** 3. Don't Know
TET4	**How many times <u>before</u> your last pregnancy did you receive a tetanus injection?**	____ number of times ENTER '98' IF DON'T KNOW
TET5	**How many years ago did you receive your last tetanus injection before your last pregnancy?**	____ years **ENTER '98' IF DON'T KNOW**

IRON TABLETS

IRON1	**During your last pregnancy, were you given or did you buy any iron tablets?**	1 Yes 2 No → **SKIP NEXT Question** 3 Don't Know
IRON2	**IF YES, During your last pregnancy for how many days did you take the tablets?**	_____ days **ENTER '98' IF DON'T KNOW**

MALARIA

MAL1	**During your last pregnancy, did you take any drugs to keep you from getting malaria?**	1 Yes 2 No → **GO TO QUESTION MAL4** 3 DK→ **GO TO QUESTIONMAL 4**
MAL2	**What drugs did you take?**	1 SP/FANSIDAR 2 ACTs/AL 3 OTHER 4 DK

MAL3 **How many times did you take (SP/Fansidar) during your last pregnancy?**

____ times

ENTER '98' IF DON'T KNOW

MAL4 **Did you receive a bed net during the prenatal consultations?**

1 Yes
2 No
3 Don't know

HOSPITAL USE

HOSP1 **IF BORN AT HOSPITAL**

How many days after (NAME) was delivered did you stay there? RECORD '0' IF LESS THAN 1 DAY

____ days

ENTER '98' IF DON'T KNOW

ASK REMAINDER OF QUESTIONS FOR BOTH HOME AND HOSPITAL BIRTHS 1

HOSP2 **Did anyone check on your health after delivery, for example, taking your blood pressure or examining you?**

2 Yes
3 No→**GO TO HOSP5**
4 Don't know→**GO TO HOSP5**

HOSP3 **Who?**

1. Doctor/Nurse/Midwife/Physician Ass.
2. Traditional Birth Attendant (TBA)
3. Community Health Worker (CHW).
4. Other

HOSP4 **IF YES, How many days after YOUNGEST CHILD [NAME] was delivered did the first check on you take place?**

_____ days

RECORD '0' IF WITHIN THE FIRST DAY, RECORD '98' IF AFTER 42 DAYS

HOSP5 **Did anyone check on [CHILD]'s health after delivery?**

1 Yes
2 No → **GO TO SECTION 5**
3 Don't know→ **GO TO SECTION 5**

HOSP6 **IF YES, How many days after [CHILD]was delivered did his/her first check take place?**

_____ days

RECORD '0' IF WITHIN THE FIRST DAY, RECORD '98' IF AFTER 42 DAYS

SECTION 5: NUTRITION (MOST RECENT BIRTH ONLY)

NUT01 In the first two months after delivery did you receive a vitamin A dose?

1 Yes
2 No

NUT02 Did you ever breastfeed to [CHILD]?

1 Yes
2 No → GO TO AGECHECK

NUT03 How long after you delivered did you first give [CHILD] the breast?

1 Right after giving birth
2 Within 30 minutes
3 Within a few hours
4 Within the first day
5 The day after he/she was born
6 More than 2 days
7 DK/CAN'T REMEMBER

NUT04 **In the first three days after delivery was [CHILD] given anything to drink other than breast milk?**

1 Yes
2 No
3 Don't know /Can't remember

NUT05 **For how many months did you exclusively breastfeed [CHILD]?**

MAKE SURE WOMAN UNDERSTANDS THAT THIS MEANS SHE FED BREAST MILK ONLY _____ months

NUT06 **Are you still breastfeeding [CHILD]?**

1 Yes

2 No → **GO TO AGECHECK**

NUT07: IF YES, is [CHILD] given anything to eat or drink other than breast milk?

1 Yes

2 No

NUT08: **Has [CHILD] ever received a vitamin A dose (like this/any of these)? SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS**

1 Yes

2 No → **GO TO SECTION ON CHILD DISEASES BELOW**

3 Don't know

NUT09: Within the last six months, was [CHILD] given a Vitamin A dose?

1 Yes

2 No

3 Don`t know

SECTION 6: CHILD DISEASE

CD01: Have any of your children had diarrhea (3 or more loose stools within 24 hours) in the last 2 weeks?

1 Yes

2 No → **GO TO CD08 ON NEXT PAGE**

3 Don`t know→ **GO TO CD08 ON NEXT PAGE**

CD02: If Yes, how many children had diarrhea in the last 2 weeks?_____

CD03: Did you seek advice or treatment for the diarrhea from any source?

1 Yes

2 No → **GO TO CD08 ON NEXT PAGE**

CD04: How long after the YOUNGEST CHILD (with diarrhea) started having diarrhea did you seek help?

1 Same day

2 Next day

3 Two days

4 Three or more days

CD05: Where did you seek advice or treatment? PROBE AND CIRCLE ALL MENTIONED

1 Gov't hospital/clinic/ health centre/dispensary
2 Private hospital/clinic/centre including mobile clinic
3 Mission hospitals/Faith based facilities
4 Pharmacy
5 Community Health Worker (CHW)
6 Shop
7 Traditional practitioner
8 Market
9 Other_____

CD06: What was given to treat the diarrhea? Anything else?

SHOW LOCAL PACKAGING FOR ORS AND TABLETS OF ZINC AND ASK IF THE CHILD RECEIVED THESE MEDICINES. (CIRCLE ALL MENTIONED)

1 Nothing
2 Drink made of ORS powder
3 Home-made fluid
4 Zinc tablets
5 ORS and zinc
6 Injection of antibiotics
7 Intravenous infusion of fluids/electrolytes
8 Home remedies/herbal medicines

CD07: Have any of your children had a cough in the last 2 weeks?

1 Yes

2 No → **GO TO CD12**

3 Don`t know **GO TO CD12**

CD08 If Yes, how many children had a cough in the last 2 weeks? _____

CD09: When the youngest child (0-5yrs) with a cough had the cough, did he/she have trouble breathing or breath faster than usual with short, fast breaths?

1 Yes

2 No → **GO TO CD13**

CD10: Was the fast or difficult breathing due to a blocked or runny nose or was it chest related?

1 Blocked runny nose

2 Chest related

3 Both

CD11: **Did you use antibiotics to treat the cough? (SHOW LOCAL PACKAGING FOR ANTIBIOTICS THAT COULD BE USED).**

1. Yes
2. No
3. Don't know

CD12: Have any of your children had fever in the last 2 weeks?

1 Yes

2 No → **GO TO CD19**

3 Don't know → **GO TO CD19**

CD13: If Yes, how many children had fever in the last 2 weeks? _____

CD14: Did you seek advice or treatment for the fever of the YOUNGEST CHILD with a fever?

1 Yes

2 No → **GO TO CD18 ON NEXT PAGE**

CD15: How long after youngest child (0-5yrs) had this fever did you seek help?

1 Same day

2 Next day

3 Two days

4 Three or more days

CD16: Where did you seek advice or treatment? Anywhere else? CIRCLE ALL MENTIONED

1 Gov't hospital/clinic/centre/dispensary
2 Other public
3 Private hospital/clinic/centre including mobile clinic
4 Other private/or mission facility
5 Pharmacy
6 Community Health Volunteer

7 Shop/Market/Other local source
8 Traditional practitioner

CD17: What was given to treat fever? Anything else? CIRCLE ALL MENTIONED.

1 Sp/fansidar
2 ACT
3 Amodiaquine
4 Quinine
5 Combination with artemisinin
6 Other anti-malarial
7 Pill/syrup
8 Injection
9 Aspirin
10 Paracetomol
11 Ibuprofen
12 Other
13 Don`t know

CD18: When you think that your child might be sick, who is <u>the first</u> person or place you would think of calling? CIRCLE ONLY ONE

1. Gov't hospital/clinic/centre/dispensary
2. Other public facility
3. Private hospital/clinic/centre including mobile clinic
4 Other private/Mission facility
5 Pharmacy
6 Community Health Volunteer
7 Other Field worker
8 Shop
9 Traditional practitioner
10 Market
11 Other

CD19: What causes malaria? Circle all mentioned.

1 Mosquito bites
2 Witchcraft
3 Plasmodium
4 Intravenous drug use
5 Blood transfusions
6 Injection

7 Sharing razors/blades
8 Kissing
9 other
10 Don't Know

SECTION 7: CHILD VACCINATION

This section is intended to capture information on PENTA and measles vaccination. The outcome indicator will be the percentage of children age 12 – 23 months who received 3 doses of PENTA/measles

INTERVIEWER CHECK – IF NO CHILD 12-23 MONTHS THEN GO TO END. IF MORE THAN ONE CHILD 12-23 MO ASK ABOUT OLDEST CHILD.

IM01: Do you have a card where the oldest child's vaccinations are written down? (OLDEST CHILD BETWEEN 12-23 MONTHS). IF YES "May I see it?

1 Yes and seen by interviewer →**GO TO IM06**

2 Yes but not seen→ **GO TO IM02**

3 No card → **GO TO IM02**

IM02: Did the child (NAME) receive the following vaccinations? CHECK "X" IN THE APPROPRIATE BOX.

VACCINE	**YES**	**NO**
IMO2:PENTA 1		
IMO3:PENTA 2		
IMO4:PENTA 3		
IMO5:MEASLES		

IM06: May I copy the information from the card?

- **PENTA1** _____/___/_____
  DD /MM/ YR

- **PENTA2** _____/___/_____
  DD /MM/ YR

- **PENTA3** _____/___/_____
  DD /MM/ YR

- **Measles** _____/___/_____
  DD /MM/ YR

IM07: Has [NAME] received any vaccinations (IF HAVE THE CARD: that are not recorded on this card), including vaccinations given during immunization campaigns?

1 Yes

2 No

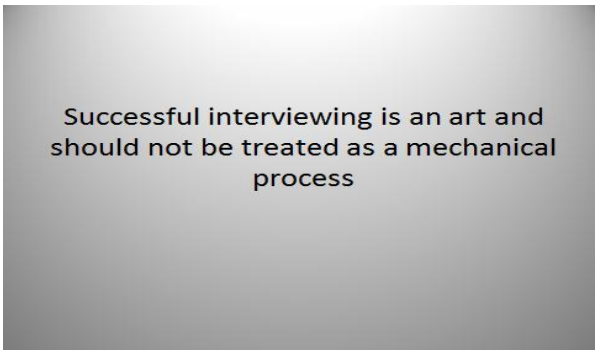
3 Don`t know

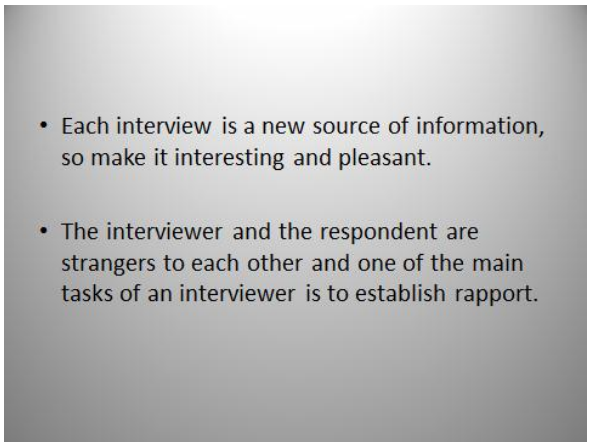
IM08: Have all the other children aged 12-23 months received the above vaccinations?

1 YES
2 NO
3 Do Not Know

END - THANK RESPONDENT FOR HER PARTICIPATION

19. APPENDIX C: INTERVIEWING TIPS





Make a good first impression

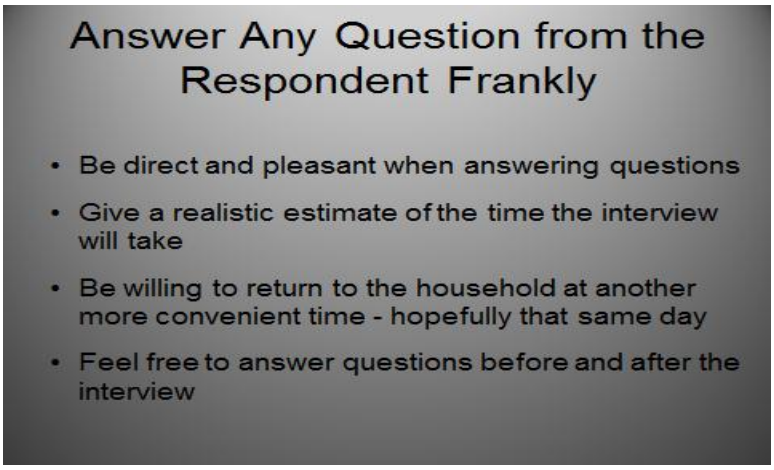
- Make the person feel at ease
- SMILE ☺
- Begin with the words written at the top of the household questionnaire

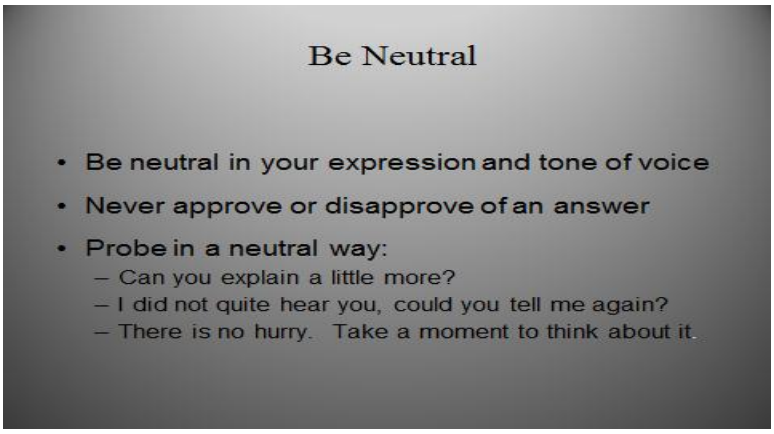
Always have a positive approach

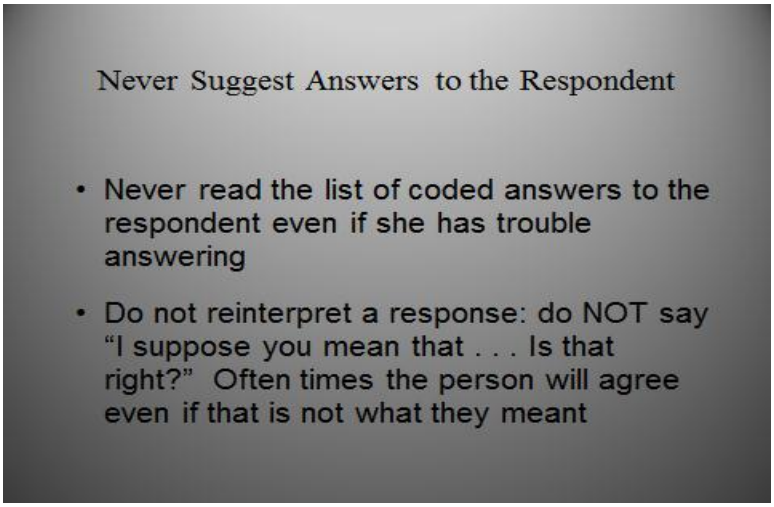
- **DO SAY:**
  - I would like to ask you a few questions.
  - I would like to talk with you for a few moments.
- Do NOT say: (too apologetic)
  - Are you too busy?
  - Would you share a few minutes?
  - Would you mind answering some questions?

Stress Confidentiality of Responses when Necessary

- If the respondent is hesitant or asks what the data will be used for, explain that all the information is confidential
- No individual names will be used
- All information is pooled for the report
- Never mention other interviewers or show completed questionnaires to other interviewers
- Do not show completed questionnaires to supervisors in front of other people in the community


Answer Any Question from the Respondent Frankly
• Be direct and pleasant when answering questions
• Give a realistic estimate of the time the interview will take
• Be willing to return to the household at another more convenient time - hopefully that same day
• Feel free to answer questions before and after the interview


Be Neutral
• Be neutral in your expression and tone of voice
• Never approve or disapprove of an answer
• Probe in a neutral way:
– Can you explain a little more?
– I did not quite hear you, could you tell me again?
– There is no hurry. Take a moment to think about it.


Never Suggest Answers to the Respondent
• Never read the list of coded answers to the respondent even if she has trouble answering
• Do not reinterpret a response: do NOT say "I suppose you mean that . . . Is that right?" Often times the person will agree even if that is not what they meant

Read the questions as written

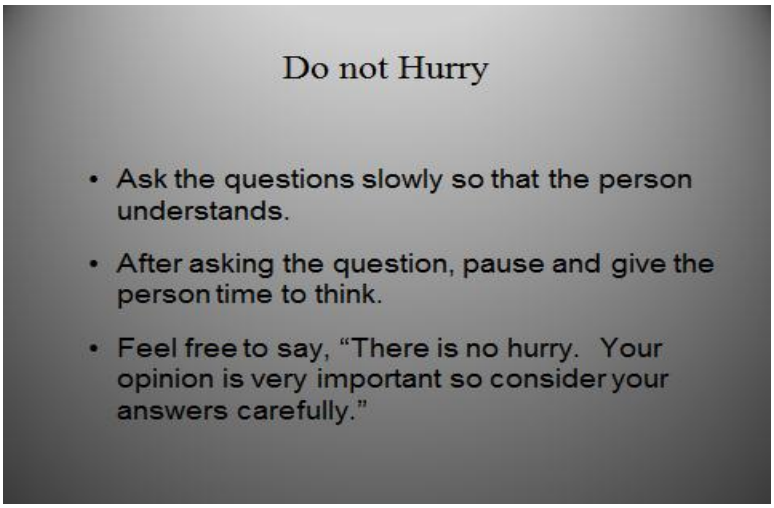
- The wording and sequence of the questions must be maintained.
- If someone misunderstands, repeat the question slowly and clearly.
- If they do not understand again, carefully reword the question - do not alter the meaning.

Handle Hesitant Respondents Tactfully

- What do you do when someone says:
  - "I don't know" to every question, gives irrelevant answers, acts bored or detached, contradicts themselves or refuses to answer
- Listen to answers - if they are irrelevant, steer the person back to the survey questions
- Act friendly, sympathetic and responsive
- Maybe try to find a more private place
- If you have tried everything, write REFUSED on the question and keep going with the next part. Try to go back at the end of the questionnaire

Do Not Form Expectations

- Always behave and speak in a way that puts the person at ease so that they are comfortable talking with you.


Do not Hurry
• Ask the questions slowly so that the person understands.
• After asking the question, pause and give the person time to think.
• Feel free to say, "There is no hurry. Your opinion is very important so consider your answers carefully."


SAY THANK YOU!!!!

20. APPENDIX D: QUALITATIVE STUDY REPORT

IMPROVING MATERNAL, NEWBORN AND CHILD SURVIVAL AND IMPROVING RESILIENCY IN COMMUNITIES TO CHRONIC DROUGHT CONDITIONS IN KENYA.

QUALITATIVE STUDY REPORT

PREPARED BY

ALAN KAMAU

1.0Introduction

Kenya ranks among the lowest countries in terms of Human Development Index, with high maternal, neonatal and child mortality. The Kenya Demographic and Health Survey (KDHS 2003) show that the infant mortality rate is 52 per 1,000 live births and the under-five mortality is 74 deaths per 1,000 live births. This implies that one in every 19 children born in Kenya dies before its first birthday, while one in every 14 does not survive to age five. Neonatal mortality is 31 deaths per 1,000 live births, while post-neonatal mortality is 21 per 1,000 live births during the same period. Thus, 60 percent of infant deaths in Kenya occur during the first month of life. Whereas the results show remarkable declines in all levels of childhood mortality from rates observed in the 2003 KDHS, the rates are still high compared to other developing countries. The recorded decline indicates the first signs that the country is making progress towards achieving MDG #4 however a lot needs to be done to further reduce these rates. It is against this background that Kenya Red Cross Society (KRCS) with support from Canadian Red Cross is implementing a project aimed at scaling up delivery of basic health services to poor and hard to access rural communities in West Pokot County and improving resiliency to chronic drought conditions among three communities in East Pokot, East Marakwet, and Pokot Central. In West Pokot, the program efforts are geared towards achievement of MDGs 4 and 5 through supporting the Ministries of Health to deliver proven high impact, cost effective interventions on maternal, neonatal and child health. In East Pokot and East Marakwet, the communities will be prepared through community based planning, capacity building in farming and accompanied Watsanactions to mitigate drought risks and improve long term food security.

1.1Context of the study

A quantitative baseline survey for the project was recently conducted with preliminary findings presented to KRCS. The purpose of the survey was to establish baseline indicator values for the project as a first step in a process of long term data driven strategic thinking for Kenya Red Cross and its partners. Emerging from the preliminary findings was lack of qualitative

information/data to better inform distinctive findings related to the project indicators. It is against this background that a qualitative study was recommended to explore possible answers to the quantitative findings that were found to be unique.

1.2Purpose of the study

To explore social cultural and systematic factors which may be attributed to influence MNCH service coverage and Livelihood indicators as informed by the quantitative baseline findings. Specifically this included maternal health (Antenatal care and delivery), child health (breastfeeding, diarrhea prevention & treatment) and Community Health Workers (CHW). Livelihood thematic areas includedfarming practices, hygiene practices and current education available.

2.0 Methodological approach

The consultant jointly with the Kenya Red Cross and Canadian Red Cross discussed on the study objectives and developed a common understanding of the ToR and expected deliverables. The consultants prepared an implementation plan that was used as a basis for conducting the study.

2.1 Data collection sources and methods

The study mainly utilized qualitative approaches to source primary data/information which included:-

Focus Group Discussions (FGDs):- The method was used to generate perceptions and insights from project beneficiaries on the identified MNCH service coverage and livelihood thematic indicators. A total of nine(9) FGD were conducted with eight (8) FGDs being separate for men and women and one (1) FGD involving both men and women who were Community Health Workers. The FGDs were conducted in a quiet area and involved 8 to 10 participants. Participants were informed the purpose of the study, the duration of the session and the assurances about confidentiality. Questions focused on the behavior, experience, opinion, beliefs

and feelings of participants on selectedMNCH service coverage and livelihood thematic indicators. The FGDproceedings were written by the consultant in addition to KRCS staff. At the end of each day the consultant and the KRCS staff harmonized their notes.

Key informant interviews: -This technique targeted key resource people who were considered to have crucial information related to the thematic areas under investigation. This included the District Public Health Nurse (D.P.H.N) and District Public Health Officer (D.P.H.O).

2.2 Sampling plan

Purposive sampling which is a non-probability procedure that allows a researcher to use cases that have the required information with respect to objectives of the study was used to select study participants for the FGD and Key Informant Interviews. Participants were selected in the same area where the quantitative study was conducted.

2.3Ethical considerations

Since this was a study for the purposes of exploring socio-cultural dimensions influencing key MNCH service coverage and Livelihood indicators, there was no risk associated with participation. There was no direct benefit to participants as the benefit was indirect in nature i.e. the findings will inform on how best to implement and target project interventions. All information was treated with strict confidentiality with participant's names not being recorded on any data collection forms.

2.4 Data analysis

Data gathered was analyzed through listing and organization of the data under key areas under investigation.

3.0 Findings and Discussion

3.1 Antenatal Care

Antenatal care is an essential service to women of reproductive age during pregnancy. It is during an antenatal care visit that screening for complications occurs and advice is given on a range of issues, including place of delivery and referral of mothers. Under normal circumstances, WHO recommends that a woman without complications should have at least four antenatal care visits, the first of which should take place during the first trimester.

Emerging from the study, a majority of the women in the FGDs reported seeking antenatal care services with fewer women having the recommended four (4) visits. Among those who reported attending the ANC four (4) times, key reasons included proximity to a health facility and recommendations from healthcare provider based on the status of the pregnancy in terms of risks. Reasons given for not attaining the four (4) visits included distance from a health facility and inadequate knowledge on the importance of the visits.

> *"The distance to the nearest facility is Sigor which is about 19 Kilometre and this makes it difficult to seek medical attention in addition to lack of money to pay for the transport''.* ***Female FGD participant at Masol.***

Among all the women who reported attending ANC during their most recent pregnancy, in unison they reported receiving vaccination for tetanus, undergoing physical examination, receiving iron tablets and withdrawal of blood and urine for testing.

3.2 Place of delivery

Health facility delivery is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complication and infections that can cause morbidity and mortality to either the mother or the baby.

In the study, an overwhelming majority of women in the FGD reported giving birth at home with only two (2) women reporting delivering at a health facility. This was further reinforced by the

Deputy District Health Nurse who reported that approximately 15-20% deliveries occur at the health facilities. Reasons attributed to delivery at the health facility by the two women included advice from the husband and prolonged labor. Factors reported to contributing to a majority of women delivering at home included:-

User fees levied by health facilities- this ranged from Ksh 900 to 1,600 which a majority of the women reported they cannot afford

Distance to health facilities-was cited as a factor contributing to most women opting to deliver at homes. This was compounded by lack of dependable means of transport either due to lack of money or means of transport.

Delivery occurring too fast- Interestingly, a majority of the women reported that the delivery occurs too fast and due to the distance of the facilities they cannot make it even if they wished to.

> *"When labor starts it lasts only for few minutes to one hour and this cannot allow me to go to the health facility as the distance is long".* ***Female FGD participant in Nyagaite community, Central Pokot***

Healthcare provider attitude/perceptions- was cited as a factor that may likely contribute to women delivering at home. In a female FGD in 'Masol', they reported that if a male health care provider known to the women is in-charge of conducting delivery, the women will not visit that facility for delivery and would rather opt to deliver at home. Similarly in an FGD among women in 'Tot' they cited the harshness of healthcare providers to women delivering at the health facility especially if the women had not attended ANC clinics as deterrent to hospital delivery.

3.3 Assistance during delivery

In addition to place of birth, assistance during childbirth is an important variable that influences the birth outcome and the health of the mother and the infant. The skills and performance of the birth attendant determine whether or not he or she can manage complications and observe hygienic practices.

In the study, an overwhelming majority of the mothers reported delivering under the supervision of Traditional Birth Attendant (TBA). Reasons attributed to this phenomenon included:-

Influence of mother in law and older women in the community: - A majority of the women in most of the FGDs reported that older women in the community as well as mother in laws determine the choice of the person to assist in delivery and in particular recommend particular T.B.As.

Blessings bestowed by T.B.A to the infant: - In Kolowa-East Pokot, women reported that in their community there is a belief that particular T.B.A bestow blessings to infants and therefore contributing to the prosperity of the infant in the future as well as avoidance of dreaded conditions such as madness.

Convenience in settling delivery costs to T.B.As:-

Whereas at the health facility women are supposed to pay cash for delivery before discharge, a majority reported that the T.B.A are flexible and payment may take the form of manual labour and provision of a goat at a later date.

> *"With Traditional Birth Attendant, we reward her with a goat or sugar at a later date when the woman has recovered and is working".* ***Female FGD participant in Kopro.***

3.4 Breastfeeding

Early initiation of breastfeeding is encouraged for a number of reasons. Mothers benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps the contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases.

In the study, an overwhelming majority of mothers reported giving their infants something before breastfeeding (pre-lacteal feeds) with water and or sugar water being the most common

item. Major reason cited for this practice was to prevent the infant from crying as they believed that flow of breast milk from the mother is not always adequately available during the first day. Some said the water and or sugar water helps in cleansing the baby stomach in preparation for the breast milk. Other women reported inclusion of three grains of maize while preparing the water solution.

> *"After delivery, the infant is given water more often by mothers in law or any other accompanying mother to prevent the baby from crying as well as to satisfy hunger from the infant due to unavailability of milk".* ***Female FGD participant in Nyangaite community.***

UNICEF and WHO recommend that children be exclusively breastfed during the first 6 months of life. Exclusive breastfeeding is recommended because breast milk is uncontaminated and contains all the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to disease. Early supplementation is discouraged for several reasons. First, it exposes infants to pathogens and increases their risk of infections. Second, it decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production. Third, in low-resource settings, supplementary food is often nutritionally inferior.

In the study, an overwhelming majority of women in the FGD reported not to have practiced exclusive breastfeeding for six (6) months on their most recent pregnancy. The women introduced other feeds notably cow milk and plain water mixed with herbs as early as the 2nd week with majority reporting introducing the feeds after one (1) month. It emerged that exclusive breastfeeding for six (6) months was not practical as the women have to provide for the family as well as engage in other productive tasks which involves moving out of the homestead and leaving the infant behind. Another key reason cited was the poor nutritional status of the mothers that made it difficult for the mother to have adequate breast milk for the infant.

> *"We have to provide for our families and therefore we have to go engage in productive tasks within and outside our homes. This may be as early as two weeks after delivery".* ***Female FGD participant in Masolcommunity.***

3.5 Immunization

Universal immunization of children against the six vaccine-preventable diseases (namely, tuberculosis, diphtheria, whooping cough (pertussis), tetanus, polio, and measles) is crucial to reducing infant and child mortality. Other childhood vaccines given in Kenya protect against hepatitis B and haemophilus influenzae type b (Hib). According to the guidelines developed by the WHO and adopted by Kenya, children are considered fully vaccinated when they have received a vaccination against tuberculosis (also known as BCG), three doses each of the DPT-HepB-Hib (also called Pentavalent) and polio vaccines, and a vaccination against measles.

In the study, an overwhelming majority of mothers reported taking their children for vaccination though most children miss out on the polio vaccination given at birth due to the fact that a majority of deliveries occur at home. Most mothers reported going to the clinic after home delivery after a period of three (3) weeks to one (1) month during which the infant is vaccinated against tuberculosis. Subsequent vaccinations were reported to be largely followed.

> *"We always take our children for vaccination though distance and cost of transport is a major hindrance to sticking to the schedule".* ***Female FGD participant in Nyangaite community.***

The mothers also reported that a number of children miss out on vaccinations largely due to distance to a health facility compounded by lack or no means of transport. It was also noted that lack of knowledge contributed to mothers not taking their children for vaccination with a typical case of woman in one of the FGD who had not taken her four (4) year old boy to the clinic for any vaccination.

3.6 Diarrhea prevention and treatment

Diarrhea is a major cause of morbidity and mortality among young children, although the condition can be easily treated with oral rehydration therapy (ORT). Exposure to diarrhea-causing agents is frequently related to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta. In Kenya, families are encouraged to rehydrate children with either commercially packaged ORS or other fluids prepared at home with locally obtained ingredients, for example, water, juices, and soups.

In the study, all the women in the FGD were aware of diarrhea and cited possible ways to prevent and control when it happens. Similarly, a majority of the women reported knowing ORS packets. In terms of care seeking behavior, a majority resorted to use of herbs as a first priority and or consulting a herbalist. Some undertook home treatment with oral rehydration therapy (ORT) by use of locally obtained ingredients, for example, water mixed with sugar and a pinch of salt. Seeking advice from the facility for treatment was a last resort based on the severity of the condition with the duration of seeking treatment from the start of diarrhea ranging from two (2) days to three (3) days. At the facility, a majority of the mothers reported being offered ORS while others reported being treated with antibiotics.

> *"When we go to the facility, we are offered sachets to make solution for the children; and sometimes we are given flagyl".* ***Female FGD participant-Kopro community.***

Although use of zinc for treatment of diarrhea was introduced in Kenya in 2006, very few mothers had knowledge on it and were not sure if they were offered at the health facility when they sought treatment. The District Public Health Nurse though reported that zinc was available at the health facilities though not at the shops.

3.7 Community Health Workers

One of the key innovations of the Kenya Essential Package of Health (KEPH) as per the National Health Strategic Plan has been the recognition and introduction of Level One services that are aimed at empowering Kenyan households and communities to take charge of improving their

own health. Towards this, Community Health Workers are pivotal part of the Level One services whose role include visiting households, determining members' health condition, providing them appropriate advices, promoting home care and compliance with treatment, giving first aid treatment and referring them to health facility if need be among other roles.

In the study, most FGDs participants acknowledged knowing the existence and role of CHWs in the community though their numbers was few. Notable advice sought by the community from the CHWs was advice on treatment and linkage to a health facility for treatment. There was no objection in terms of their roles. However, CHWs reported lacking the requisite tools/materials and support to effectively conduct their roles in the community which made them become inactive. The CHWs also reported that for them to be effective in their roles as well as being change agents, they have to first themselves adopt healthy practices before recommending them to the general community and therefore the need to be supported and or facilitated in transforming their practices.

> *"We need to change ourselves e.g. constructing latrines in our homes before we reach out to the rest of the communities. Therefore we need to be supported so as to become effective in our roles".* ***CHW in an FGD in Masol.***

3.8 Agriculture

Agriculture continues to be a fundamental instrument for sustainable development, poverty reduction and enhanced food security in developing countries including Kenya. Sustained and accelerated growth requires a sharp increase in productivity of smallholder farmers. The Strategy to Revitalize Agriculture (SRA), Kenya Vision 2030, Comprehensive African Agricultural Development Program (CAADP) and Alliance for Green Revolution in Africa (AGRA) have underscored the importance of increasing agricultural productivity in the fight against poverty.

In the study, it was found that communities in Kolowa- East Pokot have predominantly been pastoralists while those in Tot and Central Pokot have been agro-pastoralist. In the FGDs

involving farmers and non-farmers in East Pokot it was noted that their existed no farmers group prior to the current project and therefore any farmers group in the project location are attributable to the KRCS project. It was reported that the farmers group were formed between May and June 2012 whereas training of the farmers group happened between September and November 2012.

In terms of Livestock, Kolowa community considered livestock to be the main source of generating income at the household level whereas in Tot they considered farming to be the main source of household income. A majority of the people reported rearing chicken and goats/sheep with very few owning cattle. The number of sheeps/goats owned ranged from 10 to 30 in Kolowa and 5 to 20 in Tot. In Nyangaite community of central pokot, the men FGD reported that the community do not count their livestock especially sheeps/goats and therefore it would be difficult to ascertain the numbers.

3.8.1 Food Security

Household food security is multi-dimensional and has complex interactions with various indicators and is therefore difficult to capture using any single/specific indicators. Food security is defined in terms of three elements: availability, access, and utilization of food. The combination and interaction of these elements represent household food security. In this study, food availability was used to gauge food in/security. Food availability means consistency in supply of sufficient quantities of food for all household members procured either through household production, domestic output, commercial import, or humanitarian assistance.

In Kolowa-East Pokot, the men and women FGD in unison reported taking one meal per day for adults whereas children may take two meals in a day depending on it is availability. It was reported that during lean times, households sell livestock in-order to get food or look for casual jobs to get income that may be used to purchase food. In Tot-East Pokot, both men and women FGDs reported to having two meals per day whereas children may have three depending on availability of food. Farming was cited as the principal way through which households access food although it could not sufficiently meet their needs.

> *"…….We hardly get enough to sustain us given that the rains are never enough…."Male FGD participant in tot community.*

3.9 Sanitation and Hygiene

In *Masol and Nyangaite* communities of pokot central, they cited cultural beliefs where it is believed that men do not defecate and therefore they cannot be seen to be going to defecate. In addition, they believe men and children faecal matter cannot mix.

3.9.1 Hand washing

Hands are the main pathways of germ transmission and therefore hand hygiene is the most important intervention to prevent oral – faecal related infections. To assess knowledge of key hygiene behaviours, FGD participants were asked to list different times they washed their hands. Among the men FGD in terms of priority they listed when they wake up in the morning, before eating and after touching dirty things whereas women FGD they listed when they wake up in the morning as the first priority, before food preparation and after defecation. When the men FGD were further probed if they washed their hands after defecation they indicated that was not the case as they defecate far away in the bush and proceed on for other duties.

In both men and women FGDs, participants reported non-existence of designated areas for hand washing but rather household members use a container to fetch water and wash their hands anywhere in the compound.

4.0 Key recommendations

Finding	Recommendations
Most mothers do not attend the recommended four (4) ANC visits mainly due to distance.	Routine medical out-reach to the furthest places should be supported with prior mobilization of pregnant mothers.
Despite a majority of mothers attending at least one (1) ANC visit, majority still deliver at home.	Targeted awareness to women of reproductive age on the importance of hospital delivery should be considered. Birth preparedness plan should be enforced with the health facility working closely with the CHWs including

	T.B.As.
Traditional Birth Attendants still play a major role in delivery of pregnant mothers.	T.B.As should be targeted and sensitized on the importance of skilled birth delivery. Consideration should be made on provision of delivery kits to the T.B.A to promote safe delivery. More importantly T.B.A should be meaningful involved and where possible recognized for safe birth delivery. The T.B.A may also be facilitated to conduct deliveries at local facilities under the supervision of the healthcare providers.
Majority mothers provide other feeds (pre-lacteal) notably water and or water sugar before initiation of breastfeeding.	Targeted awareness sessions should be conducted on the importance of colostrum as well as the availability of milk immediately after birth. Hygienic preparation of the water and or sugar water should also be emphasized during these sessions as the practice seems to be a norm.
Complementary feeding starts as early as two (2) weeks and majority at one (1) month.	Targeted dialogue sessions with the key decision makers including mother in laws and men should be undertaken emphasizing on the importance of exclusive breast feeding for six (6) months. Hygienic preparation of complementary feeds should also be emphasized during these sessions as the practice seems to be a norm and may take time to change.
Most mothers visit the clinic three (3) weeks to one (1) month after delivery meaning infants miss out on oral polio given at birth and delayed B.C.G vaccination.	While most births take place at home, mothers should be sensitized to visit the clinic at the earliest time possible to receive the vaccinations. Similarly, regular medical outreach sessions should be supported in far to reach areas with prior mobilization of children for vaccination.
Mothers seek treatment on diarrhea for their children when it becomes severe and more often after two (2) to three (3) days.	Early and prompt treatment should be emphasized during health educations.
Knowledge on Zinc as an important treatment	Awareness on Zinc should be up-scaled and

remedy for diarrhea was very low and not readily available.	efforts to make it readily available pursued.
Community Health Workers do not have the requisite tools and support to effectively perform their duties.	Efforts should be made to support CHWs with tools and supervision should be enhanced for optimal results. Similarly, CHWs need to be role models in adoption of health practices for them to become effective agents of change
Latrine coverage is very low with open defecation widely practiced.	Innovative options should be pursed on how to upscale low cost latrine construction. This should be accompanied with targeted BCC approaches on raising awareness on importance of latrine.

ANNEX 1: Informed Consent

Read the following statement before beginning the FGD.

My name is …….

I am working on behalf of Kenya Red Cross Society, a humanitarian organization working with the Government and other partners in fighting poverty to improve the lives of local communities. As a step towards this, KRCS is currently implementing MNCH and Livelihood recovery project in

Annex 2: Guide interview for Qualitative Research - Maternal, Neonatal and Child Health Project

CATEGORIES	BASELINE RESULTS	THEMES/QUESTIONS
MATERNAL HEALTH		
ANTENATAL CARE	77.3 % of women had prenatal checkups during the last pregnancy but only 21% attend 4 ANC visits	• What thought / hopes/ fear do you have about you own health during the pregnancy? • Did you take medicines/ traditional remedies during your last pregnancy? what? Iron supplementation? reasons for taking iron or not? • Did you consult physicians/nurses at the health facility during your last pregnancy? reasons for consulting or not ? how many visits? how many visits do you think is feasible during your pregnancy? and why? • **Researcher: Identify potential barriers and motivating factors for having 4 ANC visits at the health facility.**
DELIVERY	16.2% of women had delivery assisted by Physician/Nurse/ Midwife and only 13.1 % delivered at the health facility	• What thought / hopes/ fear do you have about giving birth? • Where did you deliver? And why? use of TBA or skilled birth attendants? and why? • What are the household practices related to the birth preparedness and during the delivery? communication and transport in case of emergency? • **Researcher: Identify potential barriers and motivating factors for giving birth at the health facility**
CHILD HEALTH		
BREASTFEEDING	72.7% initiated breastfeeding immediately and 11.1% exclusively breastfed (6 months)	• What are the breastfeeding practices on early initiation after delivery?colostrum as dangerous for newborns? • What the reasons for stopping or continuing exclusive breastfeeding during 6 months? weaning practices? • **Researcher: Identify potential barriers and motivating factors for changing norms and practices related to exclusive breastfeeding**
IMMUNIZATION	85.6% of children aged 12 - 23 months with three doses of PENTA	• What though /beliefs do you have about vaccination for your children • **Researcher: Identify the prevalence of factors preventing vaccination high coverage (barriers impeding communication reaching to communities and families)**
DIARRHEA PREVENTATION AND TREATMENT	87.7% sought advice or treatment from government / private or	• What do you know about diarrhea disease? • According to you what is the best manner for preventing and treating diarrhea? • Do you seek care at the health facility when you child is suffering from diarrhea? Reasons for seeking care

	pharmacy but only 26.2% were treated with ORS and zinc	(duration, severity..etc) ? • What do you know about ORS and zinc treatment? willing to take it ? • **Researcher: Identify potential barriers and motivating factors related to diarrhea prevention and treatment**
COMMUNITY HEALTH WORKERS (CHWs)		
	19.1 % households visited by a CHW in past year	• What are the knowledge, attitude and perceptions towards CHW's roles in the community? health care seeking behavior? • How can CHWs assist you during the pregnancy, delivery and post-partum ? • Are you willing to consult the health volunteer in your village for diarrhea, malaria and pneumonia treatments?
(Livelihoods project)	19.1% of HH visited by a CHW in past year	• How many CHWs are active in Tot, Kolowa and Nyangaita? (How many men? Women?) How many are trained and not active? Does CHW training include PHAST/CLTS/CBHFA?....when were the CHWs (working in Tot, Kolowa and Nyangaita) last trained? … (likely need Key Information Interview here) • What is their program (schedule) for community meetings? Health campaigns? Household visits in Tot, Kolowa and Nyangaita? How many sessions are conducted by CHWs in a week? A month?
Livelihoods		
Modern farming practices	22% of households have someone trained in modern farming techniques (intervention area)	• Is this training the one recently conducted by KRCS in 2012 for the Livelihoods project ?.... or were these farmers trained before 2012 by another agency? • Are more of the trained farmers from the Tot community, or Kolowa community?
Member of farmers group	31% of HH do not have someone from HH in a farmer group	• Is this a mistake on quantitative survey (31% HAVE or DO NOT HAVE?) …. • Are the majority of these farmer groups those formed for the KRCS Livelihoods project in 2012?
Food security	70% HH have adult who has skipped meal in past 6months 55.5% HH have child who has skipped a meal in last 6months	• Are families more likely to report low availability of food because they THINK this may qualify their HH for additional/more food aid? (Do families tend to exaggerate their food insecurity?) Are Pokots or Marakwets more likely to do this? • How many times per day does the average family eat? (Is it different for men/women, or adult/child?)
Wealth	Average HH has 34	• Do Pokot people discuss the # of livestock they have? If not, is there a different way to measure their wealth?

	livestock	•
HYGIENE KNOWLEDGE/ PRACTICES		
PHAST/CLTS	No quantitative data	• Have community members (or CHWs/ Red Cross volunteers) ever received training on PHAST or CLTS? • Have HH • ever received hygiene promotion messages? (if so, how?: health campaigns? HH visits?) • It would help to estimate the % of HH that KNOW AND PRACTICE key hygiene behavior….
SHEPP	No qualitative data	• How many schools are in Tot, Kolowa and Nyangaita? (James Kuria may have this information…) • How many boys and how many girls are in the schools in Tot, Kolowa, and Nyangaita?
Hand washing	93.6% of HH wash hands using soap or detergent	• Is this an error? • Why is it so high? • What kind of soap/detergent?
	1% of HH wash their hands at the 4 critical times	• (Before/After eating; After using toilet; Before preparing food; After changing baby) • Why is this so low? …. When do people most commonly wash their hands? (Which of the 4 critical times are missing?)
IEC	No quantitative data	• What would be the most appropriate/effective way (media type) to communicate educational messages? (Posters, flyers, radio, video, spoken, etc…..?)
Health	No quantitative data	• What % of reported illnesses are water and sanitation related diseases? (Key Informant Interview….)