Chars Livelihoods Programme

A study to assess the outcomes of the CLP on food security

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Executive Summary

Food security exists when "*all people, at all times, have access to sufficient, safe and nutritious food to maintain a healthy and active life".* Food security is a complex issue that can be broken down into three pillars: Access to Food, Food Availability and Food Utilisation.

The Innovation Monitoring and Learning (IML) division of the Chars Livelihoods Programme (CLP) has recently developed a new approach to measuring food security by integrating the concepts of food security pillars. Following the development of this new approach between April and June 2012, IML undertook research in July 2012 to assess the outcomes of the CLP on food security.

This report documents the findings of this research.

The CLP has a positive impact on improving access to food.

- Core participant households are less vulnerable to food insecurity as they spend a smaller percentage of their income on food.
- CLP participants are increasing the quantity and quality of food eaten.
- CLP participants are eating a more diverse diet.
- CLP participants are using food shortage coping strategies less frequently and are using less severe coping strategies

The CLP also has a positive impact on food availability.

- Core participant households are accumulating assets, increasing their income and accessing cultivable land
- CLP participants are less reliant on markets, neighbours and relatives, and able to cultivate and use their own produce.
- They experience a diversification in food sources and household food stocks.

The CLP has a mixed impact on improving food utilisation.

- Core participant households experience improvements in intra-household food distribution.
- There has been a marked improvement in hand washing behaviours, however not enough participants are hand washing with soap at all critical times.
- CLP participants have low access rates to clean water and sanitary latrines according to CLP standards.

Abbreviations

CDOs	Community Development Organisers
CPHHs	Core Participant Households
CSI	Coping Strategy Index
DEMOs	Data Entry and Monitoring Officers
FAO	Food and Agricultural Organisation
FCS	Food Consumption Score
FGDs	Focus Group Discussions
IGA	Income Generating Asset
IML	Innovation, Monitoring and Learning
WASH	Water, Sanitation, Health and Hygiene
WFP	World Food Programme
WHO	World Health Organisation

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Background

The Chars Livelihoods Programme (CLP) works with extreme poor households living on island *chars* in North Western Bangladesh. Improving food security is one of the CLP's desired outcomes, as highlighted in the Programme's purpose statement.[1] The CLP seeks to improve food security through the provision of an income generating asset (IGA), livelihoods training and inputs, and facilitating access to clean water and sanitation, etc.

Defining Food Security

Following the 1996 World Food Summit, food security was defined as existing when "*all people, at all times, have access to sufficient, safe and nutritious food to maintain a healthy and active life".* Food security is recognized as a complex and multidimensional issue that should be broken down according to three pillars:

1. Food availability: Food must be available in sufficient quantities on a consistent basis.
2. Food access: Households must be able to regularly acquire adequate amounts of food.
3. Food utilisation: Consumed food must have positive nutritional impact on people.[2]

Definitions and understandings of food security are context specific, as food security is affected by a range of factors which vary according to time and space. In the unique *char* context such factors include flooding, erosion, landlessness, seasonality (lean and rainy seasons), poor living conditions, low income and unequal household food distribution, etc.

Measuring Food Security

The Innovation, Monitoring and Learning (IML) division of the CLP is responsible for monitoring and documenting the outcomes of the programme, including food security.

The complexity of food security makes it inherently difficult to measure. There are no existing sets of internationally recognised indicators for food security, but rather a range of proxy indicators.[3] The selection of appropriate indicators is complicated by the fact that each must fit within one of three food pillars and must be context specific. This makes it particularly challenging to provide

[1] For more information on the CLP's outcomes, visit the website http://www.clp-bangladesh.org/
[2] World Food Programme (WFP), *Food Security*, 2012, <http://www.wfp.org/food-security/> World Health Organisation (WHO), *Food Security*, 2012, <http://www.who.int/trade/glossary/story028/en/>
[3] WFP (2009) *Emergency Food Security Assessment Handbook*, 2nd Edition.

an absolute picture of food security and determine whether a household is food secure or not.

From April to June 2012, the IML division reviewed its approach to measuring food security. The former approach focused solely on indicators of 'access to food' and was limited to:

- Average number of meals consumed per day
- Mean number of food groups consumed in the last seven days
- Mean number of food shortage coping strategies used in the last 30 days

This approach was simple, and sufficient to meet the targets set in the CLP logframe. However, by only focusing on one of the three pillars, it oversimplified the issue for food security in the *chars* and overlooked added complexities.

The review recommended realigning the CLP's approach to measuring food security with the theory put forward by UN agencies (namely FAO, WFP). The IML division selected additional indicators explicitly categorised according to the three pillars of food security. Specific indicators were then adapted to the unique *char* context using a participatory approach. For instance, the list of food shortage coping strategies used was determined by the *char* community. This review resulted in a new approach which provides a more context specific and holistic picture of food security in the *chars.*[4]

Research Objectives

Following the development of this new approach to monitoring food security, IML undertook research in July 2012 to assess the outcomes of the CLP programme on food security. This research had two objectives:

i. Understand the outcomes of the programme on food security
ii. Test if this new approach was appropriate for regular monitoring of food security.

This report documents the findings of the research.

[4] Cordier, L. (2012) *Review of the CLP's Approach to Monitoring Food Security – June 2012.*

Methodology

Introducing the CLP's monitoring system

During the second phase of the programme, the CLP will support 67,000 core participant households through six, annual groups, or cohorts. To monitor the outcomes of the programme, the CLP has traditionally collected data using a rolling baseline or pipeline control approach. This is where the baseline status of new, annual entrants, provides the basis against which one can measure the progress of earlier cohorts. This approach has strengths and weaknesses, which are discussed in more detail on the website.[5]

In October 2011, to supplement the rolling baseline approach, IML introduced an additional way of assessing outcomes of the programme on cohort 2.3 households. Baseline data were collected from a control group comprising households which meet the selection criteria but who would not receive CLP support for another two years. These households are being monitored alongside cohort 2.3 and therefore act as the control for cohort 2.3.

Research methodology

Qualitative research was undertaken during the 'food security review', from April to June 2012, to help with the tool development for this research. The qualitative research, in the form of Focus Group Discussions (FGDs) and in-depth interviews with CPHHs and control households, guided the study and helped IML understand which areas to focus on. The tool, a questionnaire based survey, was finalised in June 2012. The questionnaire was administered on a panel sample of CLP-1, and CLP-2 households, the latter comprising cohort 2.3 and the control group for cohort 2.3.

Table 1: Survey Sample

Cohorts	Number of HHs	Districts
CLP-1	650	Bogra,Gaibandha, Jamalpur, Kurigram, Sirajganj
Cohort 2.3	424	Kurigram, Nilphamari, Pabna, Rangpur, Tangail
2.3 Control	500	Jamalpur, Pabna, Rangpur, Tangail

Under ideal conditions, this food security study would have been conducted at baseline i.e. prior to cohort 2.3 households starting to receive CLP support. This was not possible as the review process did not start until cohort 2.3 had already started to receive CLP's support. Therefore, strictly speaking, the CLP does not have food security baseline data for cohort 2.3, using the new approach. However, at a stretch, the food security status of 2.3 control

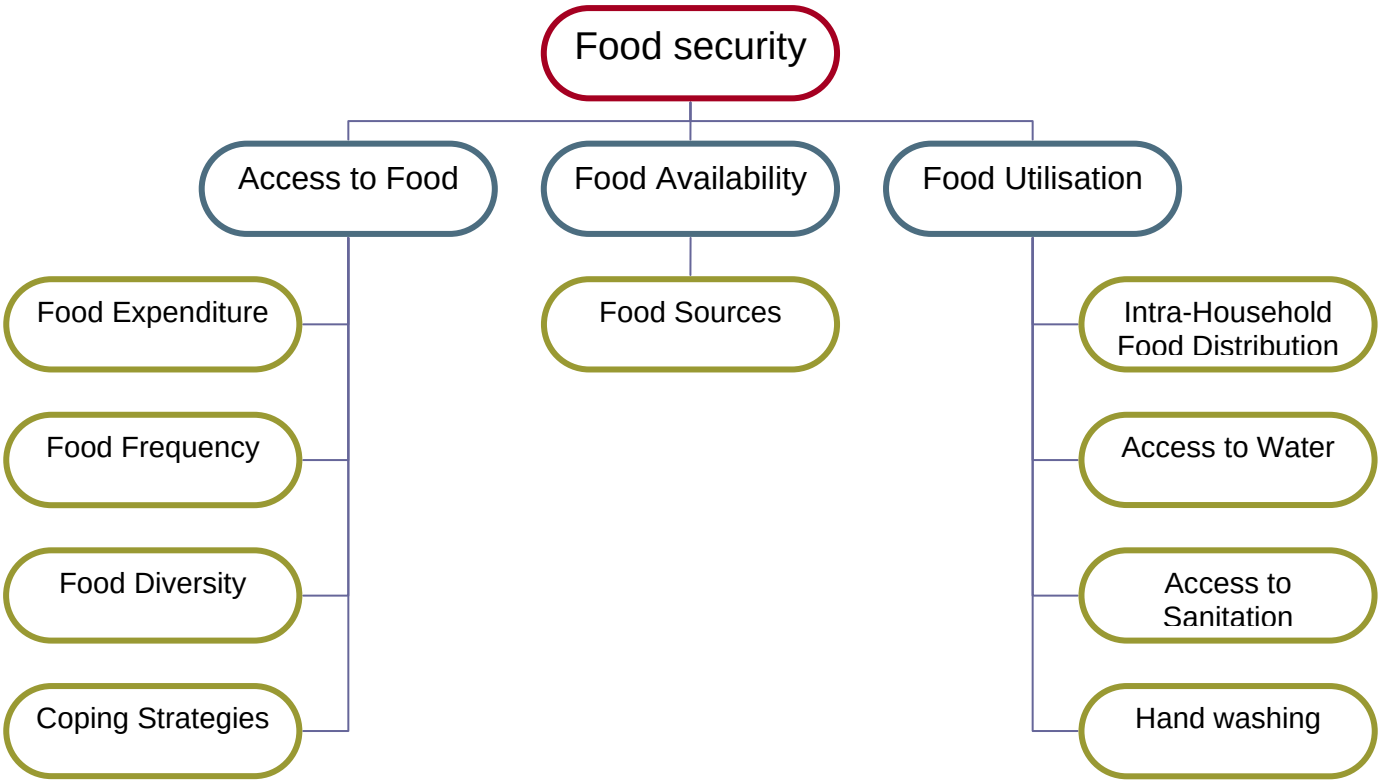
[5] For more information on the CLP's new monitoring system, please visit the website. http://www.clp-bangladesh.org/pdf/food%20security%20approach%20brief%20%282%29%283%29.pdf

households could act as a proxy food security baseline for cohort 2.3 households.

The data collection for this study was conducted between the 28th June and 16th July 2012. In order to collect all the data within the month (prior to the beginning of Ramadan which would have distorted the findings), IML selected and trained 10 Data Entry and Monitoring Officers (DEMOs) and 30 Community Development Organisers (CDOs). Data collectors were divided into 10 teams of 4, comprising 1 DEMO and 3 CDOs. One DEMO designed the database and 3 entered the data at the end of the survey.

Findings

The findings of this study are presented according to the three pillars of food security: Access to Food, Food Availability and Food Utilisation.



Access to Food

Access to food is achieved when households are able to regularly acquire adequate amounts of food. This is based on income, food consumption, food diversity and coping strategies used to acquire food. Below is the list of indicators selected to investigate access to food in the *chars.*

Table 2: Food Access Indicators

Category	Indicator
Food Expenditure	Percentage of households spending over 70% of income on food
Food Frequency	Percentage of households eating less than three or more than three meals a day
Food Diversity	Mean number of food groups consumed in the last 7 days
	Food Consumption Score
Coping Strategies	Mean number of food shortage coping strategies used in the last 30 days
	Coping Strategy Index

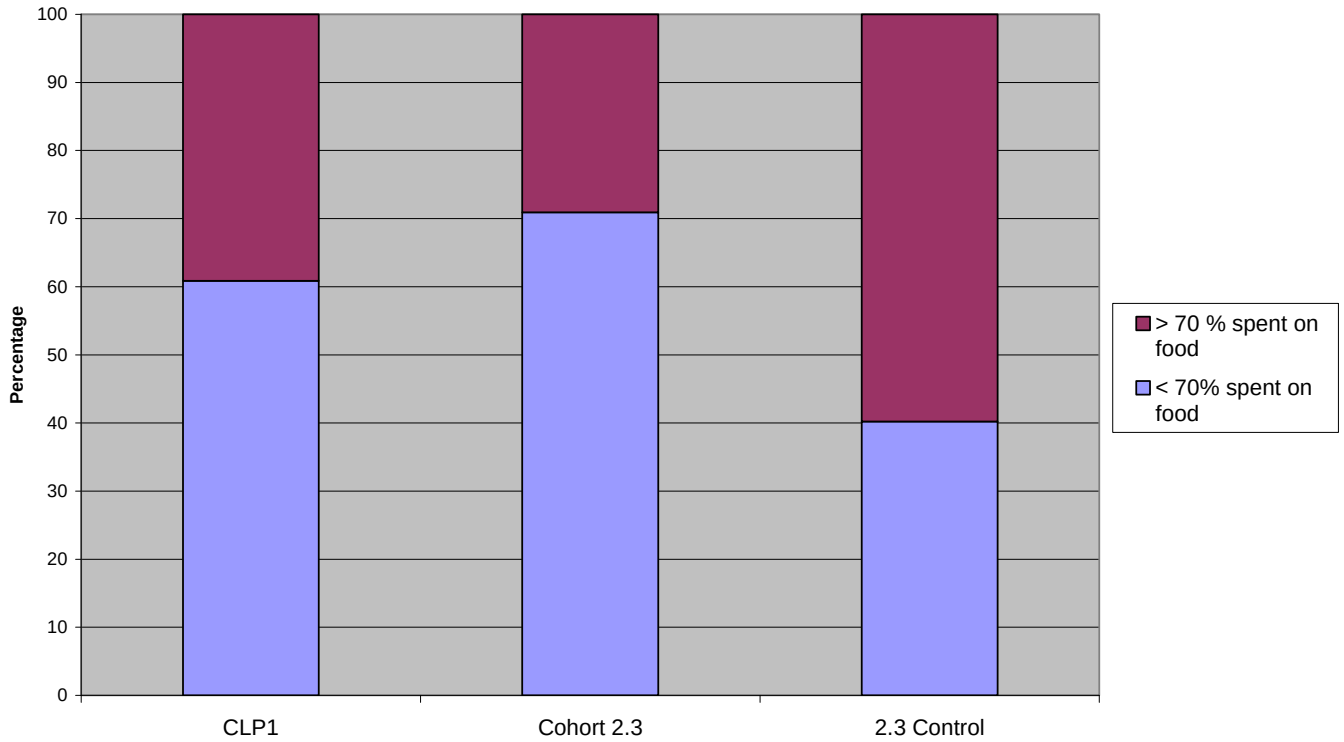
These proxy indicators are essential as they allow for numerous inferences to be made on a household's ability to acquire adequate quantities of food over

time. Measuring food expenditure and understanding how a household allocates cash income is essential to determine its vulnerability.[6] A household is considered vulnerable to food insecurity if over 70% of their income is spent on food.[7] Collecting data on food frequency and food diversity indicates the quantity and quality of a household diet, as well as macro and micro-nutrient intake.[8] Data on coping strategies reflects on the behaviours adapted by a household during food scarce periods.[9] For example, reducing the amounts of meals eaten per day may deteriorate an individual's nutritional status, and selling an asset may damage a household's productive capacity.

Food expenditure

The research shows the CLP is having a positive impact on reducing vulnerability to food insecurity. With a marked increase in total income, CPHHs are spending a smaller percentage of their income on food (from 61% in 2.3 control to 33% in CLP-1) (Annex 1.1). This indicates CPHHs have greater purchasing power and therefore more access to food. During food scarce periods, CPHHs spending less than 70% of their income on food have the possibility of re-allocating resources according to their needs.

Figure 1: Percentage of households spending over 70% of their income on food, by cohort



[6] WFP (2011) *Monitoring Food Security – Technical Guidance Sheet 2*
[7] Smith, 2002. Keynote Paper: The use of household expenditure surveys for the assessment of food insecurity. *Measurement and assessment of food deprivation and undenutrition.*
[8] WFP (2009) *Emergency Food Security Assessment Handbook*, 2nd Edition.
[9] WFP (2011) *Monitoring Food Security – Technical Guidance Sheet 2*

As shown in Figure 1, cohort 2.3 households are less vulnerable than CLP-1 households, as a smaller percentage of cohort 2.3 households are spending over 70% of their income on food. This result is skewed by the fact that CPHHs from cohort 2.3 are still receiving CLP's support, including monthly stipends.

Food frequency and diversity

Using the rolling baseline approach, it is clear that the CLP is having a positive impact on food frequency as 69% of CLP-1 households are eating three or more meals a day, compared to 33% in the 2.3 control group (Annex 1.2). However, this indicator should not be considered in isolation, as it does not provide insight into the types of food consumed and their nutritional value.

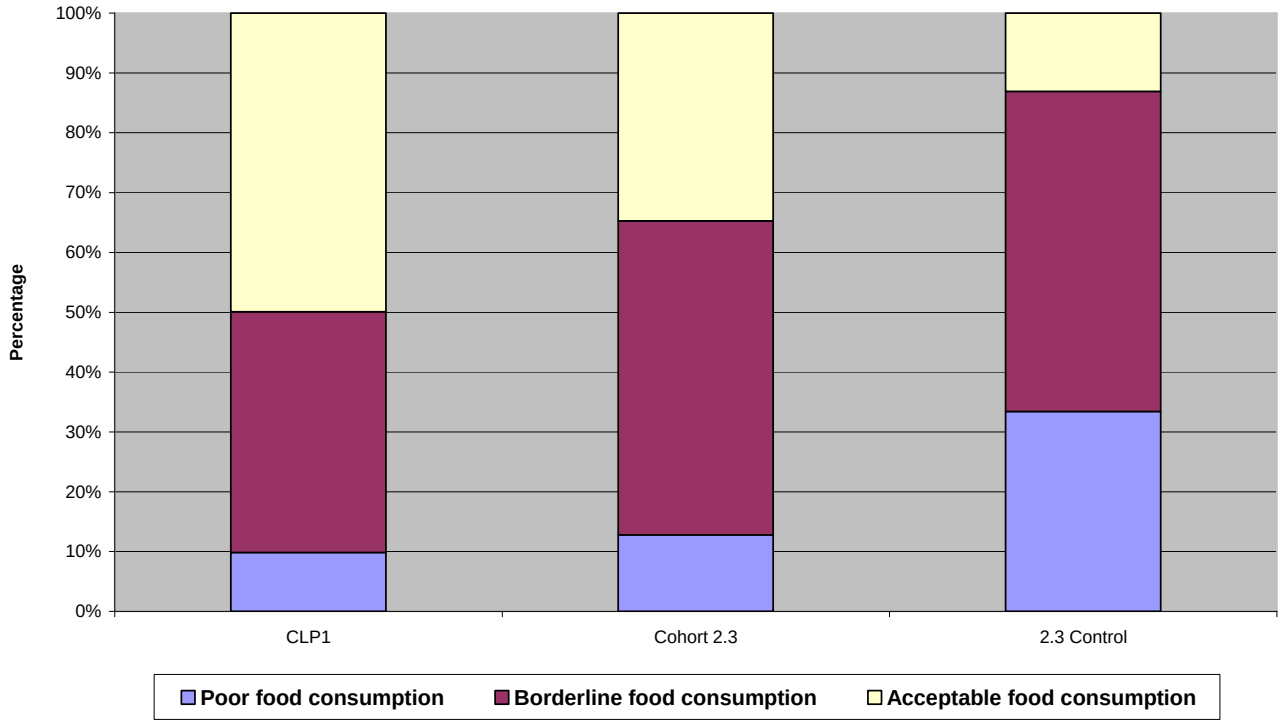
During preliminary qualitative research core participants as well as control households highlighted the importance of considering food frequency alongside food diversity. Women affirmed the importance of eating a diverse diet which included the consumption of fish, meat and vegetables on a weekly basis.[10]

The CLP's original indicator for food diversity was 'the mean number of food groups consumed in the last seven days'. The CLP logframe set the specific target to reach by 2016 of 100% of households consuming at least five food groups during the last seven days. Research findings show that 88% of CLP-1 households and 80% of 2.3 control are already reaching this target (Annex 1.3). The results are possibly biased by the fact that a household automatically consumes 2 out of the 5 food groups (e.g. oil and sugar). Perhaps the target should increase the number of food groups consumed to truly suggest the consumption of a diverse diet.

Another indicator used to measure food diversity is the Food Consumption Score (FCS) which considers dietary diversity, food frequency and the nutritional importance of food groups consumed (see Text Box 1 below). As shown in Figure 2, there is a considerable increase in the proportion of CPHHs with 'acceptable food consumption' (from 13% in 2.3 control to 50% in CLP-1) and a reduction in proportion of CPHHs with 'poor food consumption' (from 33% in 2.3 control to 10% in CLP-1) (Annex 1.4). Such a trend reflects an improvement in food consumption, with a higher intake of nutritious food. The combination of food frequency and food diversity indicators suggest an increase in quantity and quality of household diets among CPHHs.

[10] Cordier, L. (2012) *Review of the CLP's Approach to Monitoring Food Security – June 2012.*

Figure 2: Food Consumption Score, by cohort



Coping strategies

The CLP is also having a positive impact on the use of food shortage coping strategies. The rolling baseline approach shows a marked reduction in the mean number of coping strategies used in the last 30 days, with a mean of 5.21 in the 2.3 control group and 2.98 in CLP-1 households (Annex 1.5). This indicator is useful to illustrate a change in the use of coping strategies; however it does not consider the severity of coping strategies used.

Text Box 1: Definitions of the Food Consumption Score and Coping Strategy Index

Food Consumption Score & Coping Strategy Index

The Food Consumption Score (FCS), a tool developed by WFP, is a proxy indicator for food consumption, and therefore access to food. It is a weighed score based on dietary diversity, food frequency and the nutritional importance of food groups consumed. The FCS of a household is interpreted by comparing it to set thresholds: poor, borderline and acceptable food consumption. A high FCS indicates good food consumption.

The Coping Strategy Index (CSI), also developed by WFP, allows for the measurement of frequency of coping strategies used, as well as the quantification of their severity. The higher the CSI score the more food insecure a household is. This indicator allows for an assessment over time of whether a household's food security status is improving or worsening.

The Coping Strategy Index (CSI) allows for the measurement of frequency of coping strategies as well as the quantification of their severity (see Text Box 1 above). The findings show a lower CSI score amongst core participant households, suggesting an improvement in household food security (Annex 1.6).

Further analysis on the use of individual coping strategies revealed that overall CPHHs are using coping strategies less frequently. The rolling baseline approach shows that a smaller proportion of CLP-1 households are using specific coping strategies compared to 2.3 control households (Annex 1.7). There are however a few exceptions. There is a slight increase in the proportion of CLP-1 households 'selling assets' and 'taking money from savings' due to a shortage of food and income to buy food. This increase can be explained by the fact that core participant households are accumulating assets and increasing their income, and are thus more likely to use them when resorting to food shortage coping strategies.

The results show that CPHHs are not only using coping strategies less frequently, they are also using less severe coping strategies. There is indeed a marked difference in the frequency of use between more severe and lesser severe coping strategies amongst CLP-1 and control households. However, one severe coping strategy, 'eating rice with salt and chillies' has been reported to be used rather frequently by CLP-1 households (37%). It is possible that the severity of this coping strategy was misreported during the tool development process where CLP participants and control households were asked to rate the severity of specific food shortage coping strategies. [11]

Overall, findings have shown that there is a positive impact of the CLP on improving access to food. Core participants are less vulnerable to food insecurity and have increased the quantity, quality and diversity of household diets. Moreover, CLP participants are using coping strategies less frequently and using less severe coping strategies. Despite these marked improvements in access to food, the findings suggest that there are still improvements to be made. For instance, 40% of CLP-1 households still spend more than 70% of their income on food; 31% of CLP-1 households are eating less than three meals a day ; and 40% of CLP-1 households have been shown to have 'borderline food consumption'.

Food Availability

Food availability is achieved when food is available in sufficient quantities on a consistent basis. This depends on domestic food production, food prices and general food stocks. Below is the list of indicators selected to investigate food availability in the *chars.*

[11] Cordier, L. (2012) *Review of the CLP's Approach to Monitoring Food Security – June 2012*

Table 3: Food Availability Indicators

Category	Indicator
Food Sources	Food sources of main food items
	Possible food sources –livestock and land

Measuring these indicators allows for an in-depth understanding of food availability. For instance collecting data on the source of main food items reflect on a household's vulnerability to external shocks i.e. changes in food prices, extreme weather, etc. Moreover, collecting general data on the ownership of livestock and access to land provides a broader picture of possible food sources and information on household food stocks.

The CLP is having a positive impact on the diversity of possible food sources. An increasing amount of core participants households are rearing a variety of livestock, including chickens, ducks, goats and sheep. Moreover, as expected with the asset transfer project, there has been a significant increase in the proportion of CPHHs who own cattle. Not only have they accumulated assets, they have also experienced an increase in access to land, which is used to cultivate rice, jute, etc (Annex 2.1). With cultivable land and increased ownership of assets, households can choose to consume their own produce, use their assets as a source of food, making them rely less on a volatile market, or they can decide to sell their produce and increase their income sources.

Part of the CLP package of intervention includes the provision of a homestead garden. Homestead gardens, including bed crops and pit crops, have been thought to improve food security and diversify household food stocks.[12] The findings show that CLP-1 households (18%) are not up keeping their homestead gardens. On the other hand, there has been a considerable increase in the percentage of CLP-1 households (76%) with pit crops. As homestead gardens are not being used on the long term, it is impossible to link this intervention to improved food security. However, the high percentage of households with pit crops suggests a possible diversification of household food stocks.

Further analysis was undertaken on the sources of individual food items. The findings show a noticeable shift in food sources. Participants have moved away from mostly purchasing goods from the market and collecting food from neighbours or relatives, to purchasing their food from the market as well as growing their own crops or using their assets. This is particularly the case with rice, wheat, milk, poultry and non leafy vegetables (Annex 2.2-6).

The analysis also reveals interesting changes in the source of dark green leafy vegetables, such as spinach (locally known as '*shak*'). During preliminary qualitative research, core participants as well as control households selected the gathering of wild vegetables, namely '*shak*', as an indicator of food insecurity. Growing your own crops and vegetables was associated to increased status and a move towards food security. The results

[12] Conroy & Islam (2009) *Homestead Gardens: Improving Household Food Security – Results from a One Year Study.*

show a change in the ways households collect this vegetable. CPHHs have moved away from gathering wild '*shak*' from the field, to mostly producing their own (52%) and purchasing it from the market (26%) (Annex 2.7).

Overall, the CLP has had a positive impact on food availability. With the CLP's package of interventions core participants have an increased access to cultivable land and accumulated assets. This has led to a diversification in possible food sources. CPHHs have also experienced a shift in food sources. They are less reliant on markets, neighbours and relatives, and able to cultivate and use their own produce.

Food Utilisation

Improving food utilisation is achieved when food that has been consumed has a positive nutritional impact. Food utilisation refers to a household's use of food (i.e. food preparation and intra-household distribution) and an individual's ability to metabolise nutrients. Below is the list of indicators selected to investigate food utilisation in the *chars.*

Table 4:Food Utilisation Indicators

Category	Indicator
Intra-household food distribution	Percentage of mothers who skip a meal or eat less for their children
Access to water	Percentage of households consuming clean water to CLP standards
Access to sanitation	Percentage of households with access to a sanitary latrine to CLP standards
Hand washing practices	Percentage of women reporting specific hand washing practices
	Percentage of households with soap or ash available close to a water point or latrine

The list of indicators used for food utilisation is quite varied. Water, sanitation, health and hygiene (WASH) indicators are useful indicators for disease incidence and can be used as proxies for safe food preparation. Investigating these indicators provides insight on potential morbidity levels and therefore on an individual's ability to metabolise nutrients. Intra-household food distribution is an additional indicator used to assess food utilisation. Qualitative research revealed that during food scarce periods, the mother is usually the first to sacrifice meals within a household ('maternal buffering'). Therefore, collecting data on maternal buffering provides additional information on use, as well as vulnerability, food availability and seasonality of food insecurity.

Intra-household food distribution

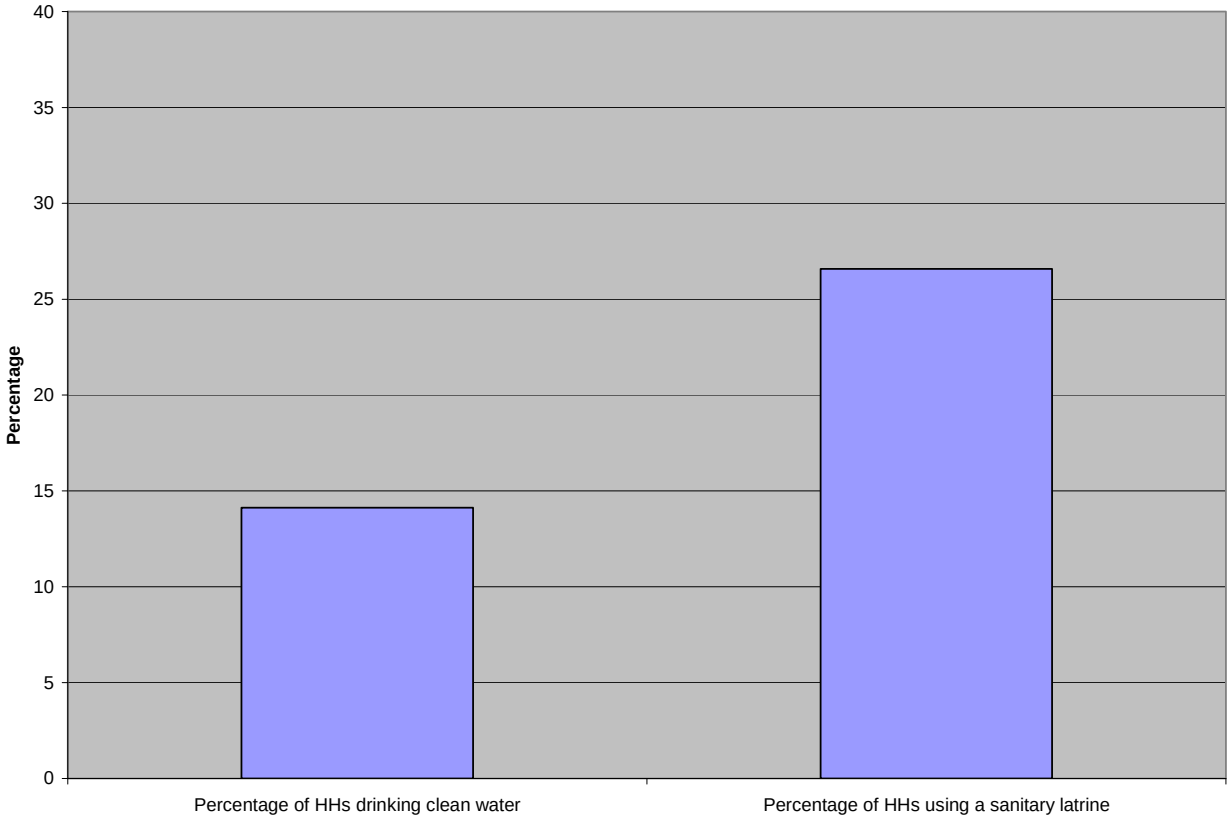
The CLP appears to have some positive impact on intra-household food distribution. The results suggest a decrease in the percentage of mothers skipping a meal or eating less for their children (50% in the 2.3 control group and 34% in CLP-1) (Annex 3.1). These percentages have been singled out from the specific coping strategies used by households within the last 30 days. The 30 day recall period may have created a recall bias, which would

underestimate the actual percentages. Such results reflect a reduction in household vulnerability to food insecurity, as mothers are not using this specific coping strategy as frequently due to a shortage of food or money to buy food.

Water, Sanitation, Health and Hygiene (WASH)

The impact of the CLP on WASH has shown mixed results. The text box below outlines the CLP's definition of what access to clean water and a sanitary latrine means in the *char* context. Using these criteria, the findings show low access rates to clean water and adequate sanitation. As shown in Figure 3, only 14% of CLP-1 households are drinking clean water and 27% are using a sanitary latrine (Annex 3.2-3). These are worrying results as a household's nutritional status is compromised when people are exposed to high levels of infection due to unsafe water supply and inadequate sanitation.[13]

Figure 3: Percentage of CLP-1 households drinking clean water and using a sanitary latrine.



There are a number of hypotheses that could explain these results. On one hand these low access rates could be due to the strict CLP criteria that must be met for a latrine to be sanitary, and a tube well to be providing clean water. In the majority of cases, not all were met. For instance, 80% of CLP-1 households did not have a tube well with an intact concrete platform (Annex

[13] WHO (2001) *Water-related diseases – Malnutrition.* http://www.who.int/water_sanitation_health/diseases/malnutrition/en/

3.5). Moreover, around 50% of CLP-1 households were using a latrine with a broken water seal (Annex 3.6). These are both crucial criteria that ensure access to clean water and adequate sanitation.

On the other hand, these low access rates could be due to the fact that not all CLP-1 households were targeted to receive an improved water source. Moreover, strict CLP implementation policies were in place during CLP-1.[14] These may have led to the exclusion of CPHHs from benefiting from WASH interventions. Other existing hypotheses could be related to behavioural change, whereby households had access to a sanitary latrine or improved water source, but decided not to use it. Further research is needed to explore these hypotheses and further understand the CLP's WASH outcomes.

Text Box 2: CLP's criteria for clean drinking water and sanitary latrines

Clean water from tube well:

- TW on a raised plinth above the flood line
- TW 40 feet deep
- TW 10 metres from latrine
- TW has an intact concrete platform
- TW is less than 10 minutes away from the household

Sanitary latrine:

- Pit covered with concrete slab fitted with a pan and water seal
- Pit supported internally
- Latrine raised on plinth above flood line
- Superstructure to provide privacy

Despite the low percentage of households using a sanitary latrine, the findings show a significant move away from open defecation. A high percentage of CLP-1 participants (76%) reported that adult males usually defecated in their own latrine, 12% used another household's latrine, and 11% still practiced open defecation. Indeed it is important to note that not all villages are 'open defecation free'. Results showed that open defecation was mostly practiced by children and a minority of adults (Annex 3.7).

The results show that the CLP is having a positive impact on hand washing behaviours. There is a marked increase in reported hand washing practices for all six key hand washing behaviours.[15] However, despite this increase in hand washing practices, a high proportion of core participants are not hand washing at all critical times. For instance, as shown in Figure 4, only 49% of CLP-1 women reported washing hands with soap after defecating, 65% after cleaning a child's anus, only 39% before preparing food and 45% before

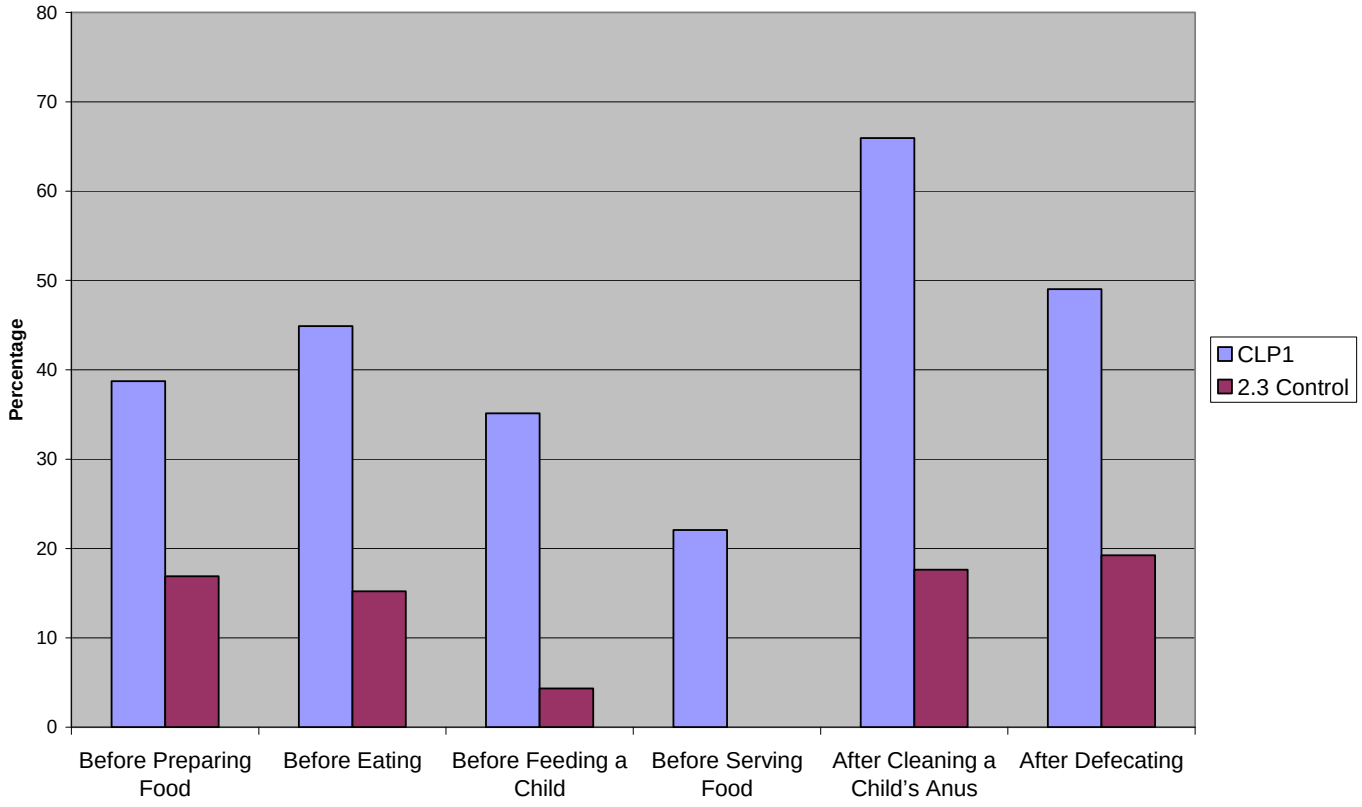
[14] Under CLP-1, the policies stated that six households without access to a tube well were necessary to receive a new tube well, and that four households using the same tube well were necessary for a tube well to be upgraded,

[15] The six hand washing behaviours are hand washing with soap before preparing food, before eating, before feeding a child, before serving food, after cleaning a child's anus and after defecating.

eating (Annex 3.8). Such results suggest improper food use and preparation, subsequently leading to contamination and (possibly) inability to metabolise nutrients.

The analysis of other hand washing indicators also indicates changes in hand washing behaviour, as there is a marked increase in percentage of households with soap or ash available near water points and latrines (Annex 3.9-10). This indicator has been recognised as a useful proxy indicator for hand washing, as individuals tend to over report their hand washing practices. However, the divergence in reported hand washing practices and the presence of soap suggests that participants are not automatically washing their hands following visual triggers.

Figure 4: Percentage of women reporting specific hand washing practices, by cohort



Overall, the impact of the CLP on food utilisation has shown mixed results. On a positive light, there have been improvements in intra-household food distribution and hand washing behaviours. However, there is still progress to be made as a low percentage of participants are hand washing with soap at critical times, suggesting improper food preparation and use. Moreover, the low access rates of CPHHs to clean water and sanitation reflects an increased vulnerability to water-borne diseases. Such infections affect an individual's ability to metabolise nutrients and prevent consumed foods of having a positive nutritional impact. Improving access to clean water and sanitation is essential to achieve food security.

Conclusion

Summary of findings

Following the development of a new approach to measuring food security, the IML division undertook some research in July 2012 to assess the outcomes of the CLP on food security.

The findings revealed that the CLP has helped improve access to food. Core participant households are less vulnerable to food insecurity as they have decreased the percentage of income spent on food. Moreover, core participants have increased the quantity, quality and diversity of household diets. The results also showed that CLP participants are using food shortage coping strategies less frequently and are using less severe coping strategies.

The CLP is also having a positive impact on food availability. The CLP's package of interventions has allowed core participants amongst other things to accumulate assets, access cultivable land and increase their income. This has led to a diversification of possible food sources in the *chars*. The ownership of pit crops has also led to a diversification in household food stocks. Moreover, core participants are less reliant on markets, neighbours and relatives, and able to cultivate and use their own produce.

The impact of the CLP on food utilisation has shown mixed results. The Programme has had some positive impact on food use, as households have experienced improvements in intra-household food distribution and hand washing behaviours. However, there is still progress to be made, as not enough participants are reporting hand washing with soap at all critical times. Moreover, improvements are to be made to improve access to clean water and adequate sanitation. These are essential to achieve food security. The low access rates increase households' vulnerability to water-borne diseases and thus prevent consumed foods from having a positive nutritional impact.

Recommendations

Based on the findings, a number of recommendations can be made to improve the CLP's outcomes on food security.

- Continue with the provision of the CLP's package of interventions, as these have led to a direct improvement in food availability and access to food.
- Prioritise the need to increase the proportion of participants with access to clean water and adequate sanitation
- Prioritise health and hygiene in social development group meetings. There is a need to highlight the importance of hand washing during food related activities.

- Undertake some additional research to understand why the CLP is having such a limited impact on WASH
- Change the food security milestones in the logframe. The number of food groups consumed should be increased to six food groups consumed in the last seven days.
- In the next logframe review, think of adding the 'Food Consumption Score' as one of the key indicators for food security.
- This study has confirmed that the new approach for monitoring food security is appropriate for regular monitoring. Update the monitoring system for food security and include the new set of indicators.
- Monitor food security over time to understand the issue of seasonality.

Annex 1 – Access to Food

Food Expenditure

Table 1: Details of food expenditure, by cohort

	CLP1	Cohort 2.3	2.3 Control
Total income (in Tk, per month)	5323	4555	2431
Total food expenditure (in Tk, per month)	1797	1597	1485
Percentage of income spent on food	33.76	35.05	61.07
Percentage spending over 70% income on food	39.11	29.06	59.80

Food frequency and diversity

Table 2: Percentage of households eating less than three or three or more meals a day, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage eating <3 meals a day	31.28	44.83	67.09
Percentage eating >=3 meals a day	68.72	55.17	32.91

Table 3: Percentage of households eating at least four food groups during the last 7 days, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households eating at least four food groups during the last 7 days	98.88	98.77	94.97

Table 4: Percentage of households eating at least four food groups during the last 7 days, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households eating at least five food groups during the last 7 days	88.48	89.38	79.40

Table 5: Food Consumption Score, by cohort

	CLP1	Cohort 2.3	2.3 Control
Poor food consumption	9.87	12.81	33.42
Borderline food consumption	40.22	52.46	53.52
Acceptable food consumption	49.91	34.73	13.07

Coping strategies

Table 6: Mean number of food shortage coping strategies used in the last 30 days, by cohort

	CLP1	Cohort 2.3	2.3 Control
Mean number of food shortage coping strategies used in the last 30 days	2.98	3.44	5.21

Table 7: Coping Strategy Index, by cohort

	CLP1	Cohort 2.3	2.3 Control
Coping Strategy Score	320	515	815

Table 8: Percentage of households using specific coping strategies, by cohort

	CLP1	Cohort 2.3	2.3 Control
Reducing quantity of food eaten	55.58	62.96	87.44
Collecting wild vegetables (spinach)	39.78	45.19	81.41
Eating twice a day	38.48	53.58	81.91
Mother skips a meal/eats less for children	34.20	38.27	50.00
Reducing quality of food	30.67	26.91	48.74
Taking money from savings	18.77	14.07	11.56
Taking food loan	14.50	23.46	32.91
Selling hens and/or ducks	6.13	5.93	1.76
Eating rice with salt and/or chillies	36.99	45.68	74.87
Eating once a day	11.52	17.04	37.69
Selling goats and/or sheep	2.42	1.48	1.51
Taking money loan with interest to buy food	9.11	9.63	11.56

Annex 2 – Food Availability

Table 1: Details of possible food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households with a bed crop	18.25	67.00	0
Percentage of households with a pit crop	75.79	85.22	1.26
Percentage of households with own land	13.97	5.17	0
Percentage of households with mortgage in land	30.91	9.11	0
Percentage of households with share in land	41.34	27.09	0
Percentage of households with lease in land	5.40	3.69	0
Percentage of households with cultivate on *khas* land	2.79	3.20	2.51
Percentage of households with cattle	64.80	98.52	2.01
Percentage of households with shared cattle	23.46	25.86	24.37
Percentage of households with goats and sheep	39.66	37.19	17.84
Percentage of households with shared goats and sheep	24.21	20.44	22.86
Percentage of households chickens and ducks	64.80	81.28	41.46

Table 2: Rice food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	25.84	13.83	2.01
Purchased with own money from market	63.20	80.25	81.91
Receiving food from relatives and neighbours	1.67	2.22	8.29
Other sources[16]…	9.28	3.70	7.79

Table 3: Wheat and other cereals food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	35.62	6.98	3.13
Purchased with own money from market	28.77	67.44	59.38
Receiving food from relatives and neighbours	21.92	23.26	31.25
Other sources[1]…	13.70	2.33	6.25

Table 4: Milk and milk product food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	47.17	20.29	4.80
Purchased with own money from market	43.77	63.77	72.80
Receiving food from relatives and neighbours	6.42	14.49	17.60
Other sources[1]…	2.64	1.45	4.80

[16] Other sources include: purchasing food from market using loaned money, purchasing food on credit, hunting, gathering, fishing, receiving food aid (UN, NGOs…) and receiving food as part of wage.

Table 5: Poultry food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	53.66	38.98	24.32
Purchased with own money from market	37.80	49.15	56.76
Receiving food from relatives and neighbours	6.10	11.86	10.81
Other sources[1]…	2.44	0.00	8.11

Table 6: Non leafy vegetables food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	35.49	52.66	10.59
Purchased with own money from market	58.04	41.49	65.00
Receiving food from relatives and neighbours	3.13	1.33	12.35
Other sources[1]…	3.34	4.52	12.06

Table 7: Dark green leafy vegetables food sources, by cohort

	CLP1	Cohort 2.3	2.3 Control
Own production (crops, animals)	51.76	76.97	9.27
Purchased with own money from market	26.21	10.39	34.36
Receiving food from relatives and neighbours	6.83	3.37	18.53
Hunting, gathering, fishing	13.22	8.71	36.68
Other sources[17]…	1.98	0.56	1.16

[17] Other sources include: purchasing food from market using loaned money, purchasing food on credit, receiving food aid (UN, NGOs…) and receiving food as part of wage.

Annex 3 – Food Utilisation

Intra-household food distribution

Table 1: Percentage of mothers who skip a meal or eat less for their children during the last 30 days, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of mothers who skip a meal or eat less for their children during the last 30 days	34	38	50

WASH

Table 2: Percentage of households with access to a sanitary latrine up to CLP standards, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households with access to a sanitary latrine up to CLP standards	26.58	25.93	0

Table 3: Percentage of households consuming clean water up to CLP standards, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households consuming clean water up to CLP standards	14.1	17.5	2.5

Table 4: Percentage of households with access to a tubewell, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households with own tube well	52.04	48.15	36.68
Percentage of households with a shared tube well	5.20	10.62	11.56
Percentage of households who use a neighbours tube well	42.75	41.23	51.76

Table 5: Percentage of households who access water from a tube well with an intact concrete platform, by cohort

	CLP1	Cohort 2.3	2.3 Control
Intact	20.07	24.20	5.53
Not intact or up to CLP standards	79.93	75.80	94.47

Table 6: Percentage of households with a pit originally covered with a concrete slab fitted with a pan and water seal, reported that the water seal was broken, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households using a latrine with a broken water seal	49.9	44.4	100

Table 7: Percentage of adult males, adult females and children reported practicing open defecation, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of adult male practicing open defecation	11.73	14.81	40.80
Percentage of adult female practicing open defecation	11.01	11.63	37.44
Percentage of children practicing open defecation	28.57	40.85	69.57

Table 8: Percentage of women reporting hand washing with soap after or before specific activities, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage hand washing before preparing food	38.72	42.19	16.90
Percentage hand washing before eating	44.91	43.42	15.22
Percentage hand washing before feeding a child	35.11	53.33	4.35
Percentage hand washing before serving food	22.09	21.84	0.00
Percentage hand washing after cleaning a child's anus	65.94	64.86	17.65
Percentage hand washing after defecating	49.03	46.47	19.26

Table 9: Percentage of households with soap or ash available close to the tube well used to access water, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households with soap or ash next to tube well	70.45	65.93	25.13

Table 10: Percentage of households with soap or ash available close to the latrine, by cohort

	CLP1	Cohort 2.3	2.3 Control
Percentage of households with soap or ash next to latrine	61.30	53.95	20.98