



Examining Differences in the Effectiveness and Impacts of  
Vouchers and Unconditional Cash Transfers



**Concern Worldwide**

Concern Worldwide was established in 1968, and currently has emergency and developing programs in over 24 countries in Africa, Asia and the Caribbean. Concern Worldwide primarily receives its funding from governments, private foundations and private citizens.

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## ACRONYMS

|         |  |
|---------|--|
| CFW     | Cash-for-Work  |
| DD      | Difference-in-differences strategy                         |
| ECHO    | The Humanitarian Aid department of the European Commission |
| FANTA   | Food and Nutrition Technical Assistance Project            |
| FEWSNET | Famine Early Warning System Network                        |
| HDDS    | Household Dietary Diversity Score                          |
| HH      | Household  |
| IA      | Irish Aid  |
| MAHFP   | Months of Adequate Household Food Provisioning             |
| M&E     | Monitoring & Evaluation                                    |
| NFI     | Non-Food Items   |
| OR      | Operational Research                                       |
| USAID   | United States Agency for International Development         |



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## ABSTRACT

The objective of this study is to examine the differences in the effectiveness and impacts of vouchers versus unconditional cash transfers in the Bushani camp of the Masisi territory of the Democratic Republic of Congo. As part of this research, the study team collected household data from over 230 households in the Bushani camp in September 2011 (before the start of the program), November 2011 (after the first two cash and voucher distributions) and March 2012 (after the last cash and voucher distribution). Households within the camp were randomly assigned to one of two interventions, namely, an unconditional cash transfer or a voucher (a coupon that allowed households to purchase food and non-food items for a fixed value on a voucher fair). Both interventions were worth USD \$130. In light of the extreme vulnerability of all households in the camp, there was no pure comparison group (a group of households that received neither intervention).

A comparison of the baseline household and individual-level socio-demographic and economic characteristics suggests that both groups were similar before the program. Overall, cash households were slightly larger, were more likely to be female-headed, relied upon more income sources and had higher diet diversity than voucher households. With the exception of the female-headed indicator, none of these differences was statistically significant. Thus, this suggests that the randomized assignment of households to each intervention resulted in two groups that were similar, and so any differences observed after the program can be attributed to the different transfer modality.

Overall, the results of the research suggest that cash transfer households were able to use the transfer to buy a more diverse set of food and non-food items than voucher households. More cash households bought cereals, meat, condiments, oil and vegetables, medicines and housing materials than their voucher counterparts. These patterns were largely similar in November (after the first two transfers) and March (after the last transfer), despite very different transfer amounts in both periods. All households were able to increase the value of their assets by 30 percent between September and March 2012, with similar trends in the cash and voucher groups. There was no evidence that cash transfer households were using the transfer to purchase “temptation” goods, such as alcohol.

How household in the two groups used the transfer also yielded some differences in objective measures of household well-being, as measured by asset ownership, food security and savings. The cash transfer group was more likely to save a portion of their transfer (between US\$ 1.50-\$2.50), less likely to suffer from food insecurity and more likely to purchase certain assets as compared to the voucher group. By contrast, more voucher households purchased metal sheeting and poultry than the cash group. There were no other differences in terms of diet diversity, the types of foods consumed, the types of coping strategies used, the overall acquisition or sale of durable and non-durable goods or intra-household decision-making between the two groups.

Using qualitative and quantitative data provides some insights into why there were differences in purchasing behavior and asset ownership between the two groups. Overall, voucher households were only able to purchase the goods available on the multisectoral and food voucher fairs on one day, which provided some limitations in terms of choice. This also meant that households were not able to save a portion of the transfer, unless they sold the voucher or goods purchased with the voucher. Finally, while the value of the voucher was equivalent to the cash transfer, its market value might have been less, as voucher households had to purchase their goods at a “closed” voucher fair in Masisi Centre, with relatively higher transport costs to the camp and potentially higher prices, as

traders were less willing to bargain.

The cash transfer program was cheaper, and more cost effective, for both Concern Worldwide and program recipients. The cash program cost \$11.34 per program recipient, as compared with \$14.35 per voucher recipient. In addition, despite the fact that both group of recipients had to travel to Masisi Centre to obtain their transfer, cash transfer recipients reported feeling safer than voucher recipients, as they could conceal the cash more easily along the Bushani-Masisi road. Since the benefits in the cash group were similar to, and slightly better than, those of the voucher group, cash transfers are preferred to vouchers from a cost effectiveness, efficiency and welfare perspective. Program recipients stated that they would prefer smaller cash transfers on a more regular basis, but still distributed in Masisi Centre to ensure security.

**Keywords:** Cash transfers, vouchers, social protection, emergency program, Democratic Republic of Congo

## 1. INTRODUCTION

### 1.1. Background

As one of the largest countries in sub-Saharan Africa with access to vast natural resources, the Democratic Republic of Congo has been at the center of what has been termed “Africa’s world war” since the late 1990s. An original five-year conflict pitted government forces, supported by Angola, Namibia and Zimbabwe, against rebels backed by Uganda and Rwanda. The war has claimed an estimated three million lives, either as a direct result of fighting or because of disease and malnutrition.

Despite a peace deal in 2003, renewed fighting erupted in the eastern parts of the country in 2008, displacing millions of people. The most vulnerable regions are those of North and South Kivu, which are subject to attacks by government and militia forces, looting and sexual violence. Internally displaced populations have been forced to move to formal or informal camps, with limited opportunities to earn income and meet basic livelihoods.

Concern Worldwide has been implementing emergency response programs to address the needs of internally displaced, returnees and host populations in the Masisi Territory since 2008. There have been three main components of these programs: 1) a voucher program, where program recipients have been provided with vouchers to spend at organized voucher fairs, providing access to non-food items (NFIs), foodstuffs, agricultural inputs and primary school fees;<sup>1</sup> 2) a cash-for-work (CFW) program, primarily focusing on road rehabilitation in areas less affected by the conflict; and 3) seeds and tools distributions. While each program has been provided to internally displaced, returnee and host populations, vouchers have been primarily used with internally displaced populations and CFW has been primarily provided to host communities.

The focus on vouchers as a component of humanitarian assistance in Masisi (rather than unconditional cash transfers) came about for two reasons: 1) Security concerns over providing cash transfers in conflict-affected areas (despite the fact that similar security concerns would arise in CFW programs); and 2) Efforts to discourage “irresponsible spending” (i.e., spending on unnecessary items such as alcohol, also known as “temptation” goods). These concerns were cited by program recipients in an evaluation by the Overseas Development Institute (2009) as a reason for their preference for vouchers.<sup>2</sup> Nevertheless, an evaluation by MDF of a CFW program cited very low levels of “irresponsible” spending among CFW program recipients, potentially due to the quasi-conditional nature of CFW.<sup>3</sup> Concern Worldwide implemented the unconditional cash transfer and

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<sup>1</sup>Concern became the CCCM NFI partner for Masisi Centre camps in 2008. Since then, Concern has been carrying out in-kind NFI distributions in initially four, now five camps in line with CCCM/UNHCR standards.

<sup>2</sup>ODI. Concern Rubaya Cash Voucher Evaluation, Overseas Development Institute, September 2009.

<sup>3</sup>CFW is not technically a conditional cash transfer, but rather a work for cash exchange program. Conditional cash transfer programs also require that program recipients satisfy a condition to receive the cash, but the condition is usually related to some type of behavioral change that is valued by the government or donor. However, it is often argued that requiring individuals to exert effort for a cash transfer (as is the case with CFW) could have a psychological effect, and then encourage individuals to use it “more” or use the

voucher program, and corresponding research, in an effort to understand whether these initial concerns were warranted.

## 1.2. The Operational Research Approach

### 1.2.1. The 2011/2012 Concern Program in the Bushani Camp

In 2011, Concern Worldwide included a pilot of a small-scale unconditional cash transfer program as part of its wider emergency response program.<sup>4</sup> The pilot targeted 474 internally displaced households in one informal camp (Bushani) in the Masisi territory of DRC. The program centered around two primary interventions: 1) unconditional cash transfers; and 2) unconditional vouchers. The total value of the income transfer for both groups was 116.800 FC (approximately USD \$130), provided in three separate transfers between September 2011 and February 2012. The timing of the distributions coincided with the seasonal calendar in the Masisi territory, with the bulk of the transfer provided during the “hunger months” (October and November).<sup>5</sup> The cash transfer or voucher was primarily provided to the female household member (either the head of household or the spouse of the household head).<sup>6</sup> A brief summary of each of the interventions appears below.

#### *Unconditional cash transfer program*

The 2011/2012 unconditional cash transfer program provided three unconditional cash transfers between September 2011 and February 2012 to randomly selected households within the Bushani camp. A total of 237 households were selected to receive the unconditional cash transfer. The total value of the 2011 cash transfer was \$USD 130 over three distributions: September 2011 (\$90); November 2011 (\$20) and February 2012 (\$20). Households were also provided with access to an account at a local cooperative (Cooped Bwira in Masisi Centre), which was used to disburse the cash transfer. The transfer was directly deposited into the account at the Cooped office in Masisi Centre, where program recipients had to travel to pick it up. Households were not charged any fees to open the account or to withdraw their cash, and were able to save their transfer in the account (without interest) if they wished.

#### *Voucher*

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cash “more responsibly” (Thaler 1980; Arkes and Blumer 1985)

<sup>4</sup>The unconditional cash transfer and voucher pilot program was embedded in Concern’s wider program (financed by ECHO, USAID/OFDA and Irish Aid). In 2011/2012, Concern attempted to standardize its approach and eliminate the distinction of aid between internally displaced populations and host communities. Consequently, vouchers, seeds and tools and CFW were incorporated into one humanitarian assistance program, whereby program recipients received vouchers (to cover food items, NFIs and seeds and tools) and CFW.

<sup>5</sup>Masisi has a bimodal rainfall system, with rains between September and December (and a harvest in January and March) and a second rainy season between March and May (with a harvest in June through August). Thus, the first transfers coincided with a possible “hungry period”, the period between harvests, when supply might be relatively lower and prices relatively higher, especially for IDPs with limited access to their own agricultural land (Figure 4). (Save the Children 2003).

<sup>6</sup>In the voucher group, 95% of program recipients were women (226 households out of 237). For the cash group, 91% of program recipients were women (215 out of 237).

The 2011/2012 voucher program provided three vouchers between September 2011 and February 2012 to randomly selected households within the Bushani camp. A total of 237 households were selected to receive the voucher. Similar to the cash transfer, the total value of the voucher program was \$USD 130 over three distributions. The first distribution also occurred in September 2011 (\$90) at Masisi Centre, and program recipients could spend the voucher at a closed multisectoral fair in Masisi Centre. The multisectoral fair included over 122 vendors and four primary schools in the area, and program recipients were able to buy dry food goods, NFIs, household items, clothes, school fees, agricultural inputs (seeds and tools), and small animals.<sup>7</sup>

Two additional vouchers were distributed in October 2011 (\$20) and February 2012 (\$20). The second and third vouchers could be spent on food at “open markets”, whereby program recipients could circulate freely among pre-arranged boutiques and kiosks selling foodstuffs in the Masisi Centre market.<sup>8</sup> For all of the voucher fairs, program recipients had to travel to Masisi Centre on a pre-arranged day to receive and spend their voucher.

### 1.2.2. 2011/2012 OR Research Questions

In an effort to better understand the uses and impact of cash versus vouchers in an emergency context, Concern Worldwide, in collaboration with Tufts University, engaged in an operational research approach that sought to answer the following questions:

1. **What is the increase in total household asset dollar value following cash and voucher assistance?**
2. **Do unconditional cash transfers and vouchers have different impacts on recipient households’ food security**, in terms of the number of meals per day and diet variety?
3. **When comparing unconditional cash transfers and vouchers, what assets or services are purchased, what assets are retained and why?**
4. **Do unconditional cash transfers and vouchers exert different effects on household dynamics**, particularly relating to purchasing decisions?
5. **Are unconditional cash transfers more effective than vouchers in terms of man hours and security implications?**

While this research will be able to show the trends in the value of assets in both groups before and after the program (Question 1), this cannot be interpreted as a causal impact of the program. In other words, we cannot conclude that household assets increased only due to the Concern cash transfer or voucher program as opposed to something else. This would have required collecting data from a comparison group, in other words, a group of camp residents who received neither cash nor vouchers. In light of the extreme vulnerability of IDPs in eastern DRC, this would have been unethical. As a

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<sup>7</sup>A full list of items available at the multisectoral fair is available upon request. As no vendors were willing to sell plastic sheeting or mosquito nets, Concern purchased and sold these items at the fair. Program recipients could purchase school fees for either the entire year or on a semester basis.

<sup>8</sup>Eleven food vendors were eligible to participate at the second food voucher fair, and vendors were unwilling to provide palm oil. For this reason, Concern purchased and sold palm oil at local prices at the second food voucher fair. Additional items on the second food fair included sugar, cassava flour, beans, rice, vegetable oil, dried fish and salt. The third food voucher fair included 18 food vendors and the same food items, in addition to potatoes and peanuts.

result, this research will show the trends in the value of assets in both groups before and after the program, as well as the relative impacts of each transfer modality on household well-being.<sup>9</sup>

### 1.2.3. Operations Research (OR) Approach

In order to address the research questions, this OR compares the outcomes of two groups before and after the program. The primary groups include:

- **T1. Unconditional cash transfer:** Targeted households in the Bushani camp received three unconditional cash transfers, for a total value of \$USD 130, between September 2011 and February 2012. Households also had access to a non-interest-bearing account in the Cooped Bwira.
- **T2. Voucher:** Targeted households in the Bushani camp received three vouchers, for a total value of \$USD 130, between September 2011 and February 2012. Households were able to spend the first voucher at a multisectoral fair, and the last two vouchers at food voucher fairs.

Figure 1 provides a graphical (yet hypothetical) representation of the OR analysis strategy, which is also known as a “difference-in-differences” (DD) strategy. The DD strategy compares outcome indicators (such as asset ownership, food security, uses of the transfer) of each group (cash and voucher) both before and after the program. Calculating the difference between the outcomes of these two groups over time measures the different impacts of the two transfer modalities.

A key element of the OR analysis strategy was the assignment of households to receive either cash or vouchers. Households in the Bushani camp were *randomly assigned* to receive either the cash transfer or voucher program.<sup>10</sup> Random assignment ensured that the groups that received cash and vouchers were similar before the program (as is evident by the fact that the two groups are at the same starting point), so that any changes observed after the program are due to the different transfer modality. Yet random assignment in this context also had three additional benefits. First, it ensured that the process was fair for program recipients. This is especially important if program recipients had a preference for either cash or vouchers before the program and might have been unable to express this preference due to their social status in the camp. In fact, program recipients’ preference for vouchers as compared with cash was ambiguous when comparing previous evaluations of Concern’s voucher and CFW programs. Second, since random assignment (if carried out correctly) ensures that program recipients in each group will have similar characteristics before the program, this reduces the need to collect baseline data on all socio-demographic characteristics and indicators before the program. This can reduce the length of time of the baseline survey, which can be critically important when conducting surveys with extremely vulnerable populations and in highly insecure environments. Third, since random assignment ensures that cash and voucher households were similar before the program, it is also possible to use a *simple difference* analysis, whereby we

<sup>9</sup>Nevertheless, since there were no other organizations providing income support within this camp, and the security situation remained stable (or declined) over the course of the study, it is unlikely that any changes in assets and well-being were due to improvements in eastern DRC or other programs.

<sup>10</sup>Through a public lottery in the camp, names of program recipients were drawn from a box and assigned to either the voucher or cash group. The randomization was not stratified by location or any other characteristics (such as village of origin).

compare outcomes between the cash and voucher group after the program (without using the baseline data).<sup>11</sup>

However, since recipient households all live within the same camp, and therefore share goods, services and information, it is inevitable that there will be spillovers between the two groups. These could be positive spillovers (say, for example, if a cash recipient shares her cash with a voucher recipient or a voucher recipient shares her purchases with the cash recipient) or negative spillovers (if a voucher recipient prefers the cash program and therefore decides to no longer participate in the voucher fair, or resentment over not being selected for the cash program decreases social cohesiveness and cooperation). Given the extreme vulnerability of the populations in the camp, refusing to participate in the voucher program is unlikely. However, in light of the importance of inter-household sharing in sub-Saharan Africa, and DRC in particular, it is more likely that cash recipients would share a portion of their cash with voucher recipients (Haver 2009, Jakiela and Ozier 2011).<sup>12</sup> If this were the case, this would underestimate the magnitude of the difference between the cash and voucher groups.

### 1.3. Choosing the Respondent Households

All of the camp residents (474 households) were eligible to participate in the program, and all were registered as program recipients. Among all program recipients, 250 respondent households were randomly chosen to participate in the operations research (a household survey in September 2011, November 2011 and March 2012). There was an equal balance between the cash and voucher households in the sample. The same respondents and households were interviewed during each round. If a respondent was not available for a particular round, then another household member answered household-level questions.

### 1.4. Should we expect to see different impacts of cash versus vouchers on program recipients' purchasing choices and well-being?

Providing transfers to extremely vulnerable populations, regardless of the modality (cash, vouchers or in-kind transfers) could have an impact on household well-being through a variety of channels (Figure 2).<sup>13</sup> First, an income transfer may directly increase household income, thereby enabling

<sup>11</sup>If randomization is used to assign households to different interventions, and the randomization “worked” (ie, ensured that the two groups are statistically similar prior to the start of the program), then a simple difference analysis and a difference-in-differences analysis should give identical results. This is because the indicator of interest is the same (from a statistical perspective) before the program, so the baseline difference between the two groups does not need to be taken into account.

<sup>12</sup>Haver, Katherine. June 2009. “Out of site, out of mind? Reflections on responding to displacement in DRC.” *Humanitarian Exchange*. Issue 43.

<sup>13</sup>This section distinguishes between both objective and subjective well-being, both of which are crucial for development. “Objective” measures of well-being often typically include income and expenditures, asset ownership, food security and nutritional status. Objective indicators can use absolute and relative cutoff points for measures of well-being, meaning that some threshold is defined below which households are unable to meet their basic needs (such as a minimum number of calories, or income sufficient to purchase a food basket). “Subjective” measures of well-being often include perceptions of well-being, such as “Do you and your household have enough?” It can also involve measures of life satisfaction and happiness. (Coudouel et al 2007).



households to increase their purchasing power and purchase more (and different types of) foods and basic needs (e.g., health, water, shelter and education). Second, if the income transfer is targeted to women, this could increase women's bargaining power within the household, perhaps increasing the purchase and consumption of "public goods" (such as health, education and shelter).<sup>14</sup> Whether and how the transfer affects household well-being will also depend upon households' access to infrastructure (e.g., roads and health clinics) and local markets, women's time (which could be negatively affected by traveling to receive the transfer), the amount of the transfer and the level of vulnerability of the targeted population.

While these pathways are possible in theory, they may not always in practice lead to improvements in objective measures of well-being. First, the amount of the income support spent on food and other basic needs depends upon a household's *marginal utility of income*; in other words, when a household receives additional income, they will not necessarily spend all of this transfer on food and basic needs. Second, in the DRC context, providing the income support transfer to women does not necessarily mean that women will be responsible for allocating or spending the additional income, especially if they cannot travel to markets due to the high risk of gender-based violence (GBV).

Beyond the effect of the income transfer on well-being, the key issue for this research is whether the impact of the transfer differs by the transfer modality. While there is a substantial body of literature on the impact of conditional and unconditional cash transfers, and similarly a separate body of literature on the impact of vouchers and in-kind transfers (e.g., food aid), there is very little evidence comparing the relative impacts of cash and vouchers. In addition, any evidence that does exist is primarily in the context of longer-term development programs (Cunha et al 2011, ODI 2011).<sup>15</sup>

In theory, cash and vouchers could have different effects on household subjective and objective well-being. These effects depend upon the objectives of the program and the value of the transfer. In particular:

- **If the objective of the program is to increase households' purchasing power (with no objectives related to food security, nutritional status or asset ownership), then cash transfers will increase program recipients' subjective well-being more than vouchers.** As cash is fungible, providing a cash transfer will allow households to make their own purchasing decisions, investing in goods and services they value the most, which is not the case with vouchers or in-kind transfers.
- **If the objective of the program is not only to increase households' purchasing power, but also to increase program recipients' objective well-being (i.e., nutritional status, food security or asset ownership), then whether the transfer modality has different effects depends on the size of the transfer in relation to overall demand for those goods.**<sup>16</sup>

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<sup>14</sup>Numerous empirical studies have suggested that providing resources to women will increase household expenditures on "public goods", often defined as health and education expenditures for children (for a survey, see Doepke and Tertilt 2011).

<sup>15</sup>For example, while the ODI (2011) manual outlines when cash transfers, vouchers and cash-for-work are appropriate, and provides important case studies, none of these compare cash and vouchers within the same context.

<sup>16</sup>"Basic needs" in this context is somewhat ambiguous, as most IDPs have very little assets, but could be defined as shelter (plastic sheeting, mattresses), education, health expenses (including soap and other sanitation) and other NFIs.

- If the amount of the transfer is less than program recipients' normal food or non-food item expenditures ("underprovided"), then voucher recipients will treat the vouchers just like cash and make similar purchases as the cash households after the program (Figure 3a). In this case, since the amount of the transfer isn't enough to meet the households' full needs, voucher households use the transfer to meet a portion of their total needs and then find other sources of income to meet the rest.
- If the amount of the transfer is greater than program recipients' normal food or non-food item expenditures ("overprovided"), then voucher households may spend more on certain items – specifically, those items sold at the fair -- so that they can use the full value of the voucher. This means that the purchasing decisions of the two groups will differ after the program (Figure 3b), particularly if voucher households cannot trade or sell their vouchers. Nevertheless, it is not clear that these different purchasing patterns will translate into differences in objective well-being. Yet voucher households' subjective well-being will be lower than those of cash households, as they do not have freedom of choice.

A key challenge in this scenario is actually determining whether a transfer is under or overprovided. How can we determine how much households would have spent on food and non-food items without the program? One of the ways this can be done is by comparing food and non-food expenditures of both cash and transfer households before the program, and comparing the value of the transfer with those expenditures (Figure 3c). While imperfect, this gives a general sense as to whether the transfer is over or underprovided. In the context of the Concern program in the Bushani camp, while the total value of the transfer (USD \$130) was less than the value of annual household food and basic needs consumption ("underprovided"), the voucher was "overprovided" for certain goods (namely salt, seeds and rice).<sup>17</sup> This implies that we would expect to see different purchasing patterns between cash and voucher households. However, the impact on objective well-being (as measured by asset ownership, food security and food expenditures) will be ambiguous.

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<sup>17</sup>In terms of total consumption, the total transfer provided by Concern was "underprovided" for virtually all households. That is, no household in the Bushani camp consumes less than \$USD 130 of food and basic needs per year, and no household in the sample consumed less than \$USD 130 on food per year (using baseline data on weekly food expenditures). This assumes that household food and non-food expenditures are constant over time, which might or might not be a valid assumption. However, looking at specific items available on the voucher fairs, there was considerable overprovision of some goods, primarily for salt, seeds and other grains.

## 2. DATA

The data used in this report come from five primary sources. First, Concern Worldwide conducted household-level surveys with 252 households in the Bushani camp in September 2011 (before the program), November 2011 and March 2012 (after the program). These data are used to measure the impact of the cash transfer and voucher program on different outcomes of household well-being.

Second, Concern Worldwide and Tufts University conducted focus groups in March 2012. This dataset is used to provide some insights into the quantitative findings and to develop recommendations.

Third, Concern Worldwide and Tufts University collected price data for food and non-food items in the Masisi Centre market between September 2011 and March 2012. These data are used to measure the value of the assets owned by households in the Bushani camp.

Finally, Concern Worldwide conducted exit surveys at each voucher fair to understand how program recipients used the vouchers, monitored the cash recipients and collected reports from the cooperative on the account usage.

The details of the data collection processes are provided below, with a chart summarizing the data collection activities in Figure 4.

### 2.1. Household-Level Surveys

Concern Worldwide and Tufts University conducted detailed household surveys with cash transfer and voucher households in the Bushani camp. A baseline survey of 252 respondents was conducted in September 2011, with follow-up surveys conducted in November 2011 and March 2012. The household data therefore comprise a longitudinal survey across three rounds. **Table** provides information on the number of households in each group in each survey round.

During the household surveys, data were collected on the household's demographic characteristics (number of household members, ages, and educational levels), income sources and asset ownership, agricultural practices and production, household diet diversity and the number of months of adequate food provisioning, coping mechanisms and the household's use of the cash transfer or voucher.

**Table . Number of Respondents in the Household Survey Sample**

|              | Number of<br>Households<br>(September 2011) | Number of<br>Households<br>(November 2011) | Number of<br>Households<br>(March 2012) |
|--------------|---|--|---|
| Cash         | 126   | 72   | 117                                     |
| Voucher      | 126   | 63   | 120                                     |
| <b>TOTAL</b> | <b>252</b>                                  | <b>132</b>                                 | <b>237</b>                              |

Overall, the prevalence of attrition at the household level was quite high during the November 2011 round (48%). This was because of insecurity and attacks in the area prior to the elections in

November 2011, which forced some households to flee the camp temporarily in October. The rate of attrition in the final round was much lower (6%). Cash and voucher households recorded similar absenteeism in both rounds. This report will use both rounds to measure the impact of the program.

## **2.2. Qualitative Data**

In March 2012, qualitative data were collected from focus groups associated with the program. These different groups included: 1) voucher recipients (only women); 2) cash recipients (only women); 3) the camp organizational committee (men and women); 4) spouses of cash and voucher recipients (men); 5) traders in the Masisi Centre and Nyabiondo markets; 6) representatives of the cooperative; and 7) teachers at the nearby school.

Overall, the focus groups were used to collect data on how and where recipients used the cash transfer or voucher, what difficulties they encountered, the decision-making process involved in making purchases, their preferences and their future needs and opportunities.

## **2.3. Prices of Food and Non-Food Items**

In order to estimate the value of household assets within the household, as well as assess the different prices in the market and voucher fairs, price data were collected from the Masisi Centre market for over 30 food and non-food items in March 2012. Concern also collected price data in the Masisi Centre market at regular intervals between September 2011 and March 2012, which was also used as a comparison.

## **2.4. Voucher Exit Fairs and Cash Transfer Monitoring Reports**

After each voucher fair, Concern Worldwide staff conducted quantitative and qualitative exit surveys with a random sample of program recipients and traders about their experiences. These surveys collected data on program recipients' socio-demographic characteristics, the types of goods (and quantities) purchased, their purchasing priorities, when and how purchasing decisions were made, the amount of time that they had to wait and their general impressions of the voucher fair. Similar questions were also asked to vendors participating in the market.

In addition to these voucher exit fairs, Concern also conducted monitoring of cash transfer recipients' experiences, including how long they had to wait, their purchasing priorities and their general impressions of the cash transfer program. This was primarily conducted in October 2011.

## **2.5. Cooperative Bwira Reports**

Cooperative Bwira provided regular reports on cash program recipients' accounts, including when households "cashed out" their account, the amount that they cashed out and the savings left in the account.

### 3. BASELINE RESULTS

This section compares household and individual-level socio-demographic, economic and food security characteristics of the cash transfer and voucher households before the program. The purpose of these comparisons is to verify that the randomization worked, and that households in each group were similar before the program. Table A1 shows the summary statistics of both groups before the program, whereas Table A2 provides a statistical comparison of a subset of indicators between the cash and voucher households.<sup>18</sup>

Overall, the cash and voucher households had similar household- and individual-level characteristics before the program. Cash households were slightly larger, were more likely to be female-headed, had more income sources and higher diet diversity than voucher households. However, all of these differences were extremely small in magnitude (less than 1 percentage point or .15 food categories, for example) and few of these differences were statistically significant. In all, comparisons were made for over 100 indicators between the cash and voucher households, and few of these indicators showed a statistically significant difference between the two groups. These analyses suggest that the randomization worked. Thus, any differences in well-being and behavior of the two groups after the program should be due to the different transfer modalities, rather than due to differences in household or individual characteristics prior to the program.

#### 3.1. Were household socio-demographic characteristics similar before the program?

Average household size was 5.5, with 42% of households classified as “female-headed” (Panel A, Table A1). None of the differences in socio-economic characteristics were different before the program, with the exception of female-headed households (Table A2); there were relatively more female-headed households in the cash group prior to the program.

#### 3.2. Were household assets similar before the program?

Panels B and C (Table A1) show household economic opportunities prior to the program. Households had very few income-generating opportunities, relying upon 2.8 income sources. Of these, most households relied upon external daily wage labor, either in agriculture or as daily laborers (ie, many women worked as transporters of agricultural products to and from markets). Very few households worked in commerce (6%), artisanal activities (6%), agriculture (6%), forestry (6%) or migration (2%). Overall, this suggests that households in the Bushani camp are highly dependent upon the external informal labor markets to ensure their livelihoods. These results are also consistent with the classification of “poor” households in eastern DRC by household economy assessments (Save the Children 2003).

The degree of poverty among camp residents is also evident when looking at the portion of income spent on food in the past week: households spent over 75% of their weekly expenditures on food.<sup>19</sup> This is well above the threshold for food poverty in developing countries, which classifies households that spend more than 50% of their income on food as extremely poor (Fisher 1997). This is also

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<sup>18</sup>We compared the means of the cash and voucher households for over 100 indicators and found statistically significant differences for fewer than 5 indicators, which is within the normal range for random assignment.

<sup>19</sup>The value of food expenditures before the program was 1815 FC, or \$USD 2 per week. If food expenditures remain relatively constant over the course of the program, this suggests that households would have spent US\$50 on food. This suggests that the value of the income transfer could have been extra-marginal (for most program recipients), but could have been infra-marginal for the wealthiest households (for example, the maximum amount spent on food prior to the program was 48000 FC, or \$USD 48).

similar to the percentage of income spent on food for poor households in other areas of eastern DRC (Save the Children 2003).<sup>20</sup> The differences between the cash and voucher households in these categories are not statistically significant (Table A2).

The results are similar when assessing the types of assets owned (Panel D, Table A1). On average, households owned fewer than .01 durable goods (including bikes, generators, storage facilities or agricultural tools) and 10.98 non-durable goods (including flashlights, mattresses, mobile phones, chairs, radios, utensils and plastic sheeting). Very few households owned mobile phones (fewer than 1%), although many households reported owning mobile phones prior to their displacement. None of these differences are statistically significant between the cash group and voucher households (Table A2). Overall, these results suggest that households had similar wealth levels prior to the program.

### **3.3. Was household food security status similar before the program?**

Panel F (Table A1) presents the baseline food security situation in September 2011, during the beginning of the hunger months. Ninety-nine percent of households reported suffering from food insecurity since the previous harvest (June/July 2011), as measured by the Months of Adequate Household Food Provisioning (MAHFP). Using the household diet diversity score (HDDS), average household diet diversity among both cash and voucher households was 2.90 (out of a total of 12 food categories).<sup>21</sup> This is well below the average HDDS in sub-Saharan Africa (4) and the recommended HDDS (6).<sup>22</sup> Households and children only ate 1.29 meals in the past 24 hours. There were no differences between the cash and voucher households (Table A2).

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<sup>20</sup>Based upon household economy assessments conducted in eastern DRC by Save the Children, “poor”, “middle” and “better-off” households were identified by access to land, the number of small livestock a household owned and the amount of local beer produced for sale.

<sup>21</sup>The household diet diversity score (HDDS) is a 24-hour recall measure of diet diversity. The measure interviews the person responsible for preparing meals within the household and lists 12 different food categories, including grains, tubers, beans, fruits, vegetables, meat, fish, eggs, oils, sugar and condiments. The indicator ranges from 0 to 12, with 12 the highest degree of diet diversity. USAID/FANTA. 2006. *Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide, Version 2.*

<sup>22</sup>For example, Labadarios et al (2011) find that child nutritional status (as measured by weight-for-height z-scores) does not increase until household diet diversity increases past 3 food categories (out of 12), and steadily increases until reaching 7 food categories.

## 4. HOW WERE THE CASH TRANSFERS AND VOUCHERS USED?<sup>23</sup>

### 4.1. When comparing unconditional cash transfers and voucher assistance, what assets or services were purchased and why? (*Operational Research Question 3*)

Before looking at the impacts of cash transfers and vouchers on objective indicators of household well-being, especially asset ownership, it is important to understand how the income transfer was used. One of the main objectives of Concern's voucher programs since 2008 has been to increase household income to purchase and retain food and non-food items, some of which serve as assets for future livelihood security. While this section focuses on how the transfers were used, later sections focus on how these transfers impacted household well-being.

Figures 6a, 6b and 6c show the uses of the cash transfer and voucher in as reported in November 2011 and March 2012. (Program recipients were able to cite more than one use of the cash transfer or vouchers, so the figure represents the percentage of households who used the transfer for that purpose, and can sum to greater than 100%). The data from November 2011 asked questions about the uses of the first two transfers, when an income transfer equivalent to \$USD110 was received by cash and voucher households and voucher households had participated in a multisectoral and food fair. The data from March 2012 asked questions about the last transfer, when households received approximately \$USD 20 and voucher households could only participate in a food fair. Given the higher amount of the first two transfers, as well as the fact that voucher households participated in both multisectoral and food fairs, there should be a greater diversity in the uses of the transfer (cash or voucher) in November 2011, as compared to March 2012.

#### 4.1.1. Uses of the First Two Transfers (November 2011)<sup>24</sup>

Overall, cash households bought 8.44 different food and non-food items with the first two cash transfers (Figure 6a). Cash households used these transfers to purchase foods (including staple grains, other grains, beans, meat, condiments, vegetables, fish and oil); pay school fees (75%); reimburse debts (69%); invest in livestock (25%); and purchase clothing (92%), salt (16%); housing materials (including mattresses, covers and utensils) and metal and plastic sheeting (5% and 7%, respectively). Some of the cash households (fewer than 2%) also purchased a parcel of land (20 m<sup>2</sup>), at a price of \$USD 100, after negotiating with a village resident, and about 9% of cash households were able to save a portion of their transfer. A potentially surprising finding is the amount of money households spent on school fees: despite the cost of primary schooling (USD\$ 11 per year), 75% households used some of the cash transfer to pay for their children's school fees, showing the value displaced households place on education.<sup>25</sup> Households primarily purchased the items for household use, rather than resale or petty commerce. The main exception was salt, which households purchased

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<sup>23</sup>This section partially addresses research question 3 in the original research protocol: "When comparing unconditional cash transfers and voucher assistance, what assets or services are purchased, what assets are retained and why?" The rest of these issues are addressed in Section 5.

<sup>24</sup>As the midterm survey occurred in November, and the first two transfers occurred in September and October, there was a delay between the surveys and the purchases, especially from the first transfer. In order to avoid recall error, the questionnaire did not ask program recipients how much of each item that they purchased, or how much they spent on a specific item (or group of items). Rather, households were asked to list the categories of items on which they spent the transfer. Specific data on amounts were collected after each fair and for some specific items, and information on the most important items for program recipients was collected via focus groups. These data are used to provide an indication of how much was spent on each group of items.

<sup>25</sup>School fees are approximately 11.000 FC per year for primary school, 7.000 FC for the first two semesters and 4.000 FC for the last semester.

with the intention to resell.

Whereas cash households purchased 8.44 different types of food and non-food items, the voucher group bought 6.98 food and non-food items in September and October, a statistically significant difference between the two. Voucher households also used the first two transfers to purchase food (including staple grains, other grains, beans, vegetables, condiments and oil)<sup>26</sup>; pay school fees (64%); reimburse debts (62%); invest in livestock (23%); and purchase clothing (92%), salt (49%), housing materials (including mattresses, covers and utensils) and metal and plastic sheeting (10% and 3%, respectively). Unlike cash households, no voucher households were able to purchase or rent land, as land was not available at the multisectoral fair. Sixty-three percent of voucher households also spent about 10% of the transfer on school fees.<sup>27</sup> Similar to cash households, voucher households purchased most of these items for household use, although reported purchasing salt, rice and cassava flour with the intention to resell in the Nyabiondo market or within the camp.<sup>28</sup>

Overall, cash transfer households used the income support to buy more diverse types of food and non-food items than the voucher households. Yet understanding the differences for specific food and non-food items – primarily using the cash households as a “benchmark” (as they were not constrained in their choices) -- provides some sense of how the voucher program changed households’ purchasing decisions away from their “optimal” choices. Comparing the purchasing decisions of cash households with voucher households for the first two transfers reveals the following statistically significant differences:<sup>29</sup>

- Cash households were 28 percentage points more likely to purchase staple grains (corn)
- Cash households were 18 percentage points less likely to purchase “other” grains, including rice and cassava flour
- Cash households were significantly more likely to purchase condiments, vegetables, meat and oil
- Cash households were significantly less likely to purchase seeds (although only for the first transfer in September 2011)
- Cash households were significantly more likely to purchase housing materials (excluding metal and plastic sheeting)
- Cash households were significantly less likely to purchase salt
- Cash households were more likely to purchase land (although the difference is small in

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<sup>26</sup>Officially, voucher households were unable to purchase meat, condiments and vegetables on the multisectoral or food fairs. The fact that some voucher households reported using their transfer for these purposes could be due to either measurement error, or, equally likely, that they “cashed in” their voucher to purchase these goods or simply traded other goods for these food items once on the market.

<sup>27</sup> The types of purchases reported by voucher fair program recipients largely coincides with those from the voucher exit fair reports. However, there are some important differences (namely for metal and plastic sheeting purchases, which were higher in the voucher exit fair report). This was primarily due to the sample (only 65 voucher participants could be sampled in November, due to insecurity in the region) and the way in which the question about “housing materials” was asked in the midterm survey.

<sup>28</sup>Households were able to purchase a sack or “box” of salt (25 kg) for 9.000 FC at the Masisi market and resell it for 10.000 FC in Nyabiondo or in the camp. Rice could be purchased for 200 FC (for a glass of rice) and resold at 250 FC.

<sup>29</sup>Many of these differences in purchases between the cash and voucher households were more pronounced during the second transfer, when voucher households could only participate in a food voucher fair (rather than a multisectoral fair). The differences in food and salt purchases between the two groups of households followed similar patterns between the cash and voucher households in October 2011 (Figure 6b). However, cash households were also more likely to pay school fees and reimburse debts using the October transfer than voucher households. Cash households also reported buying some specific NFIs during the second transfer in order to replace NFIs that were stolen during the October 2011 looting. There was no difference in seeds and agricultural input purchases between the two groups.



magnitude)

With unconstrained choices, cash households primarily used their first two transfers to purchase **basic foodstuffs** (grains, beans, oils, condiments, meat and vegetables), **pay school fees and purchase clothing and housing materials** (such as casseroles, mattresses, covers and plastic). These priorities were also cited by cash transfer recipients during the cash transfer monitoring mission and focus group discussions. Overall, cash households did not seem to buy “temptation” goods.<sup>30</sup> While these choices and priorities were broadly similar among voucher households, as voucher recipients were more constrained in their choices, they had to shift their purchasing priorities. For example, as voucher households were unable to purchase school fees, land and certain foodstuffs (such as meat, condiments and vegetables) after the first transfer, they increased their purchases of salt, seeds, rice and cassava flour; during focus group discussions, program recipients explained that they purchased these items as a means of generating income to purchase their “preferred” items on other markets (such as Nyabiondo or Loashi).<sup>31</sup> The relatively higher purchases of the voucher group in these categories suggests the degree to which the voucher program “overprovided” these goods; in other words, if voucher households had been able to choose freely, it is likely that fewer households would have purchased these goods.

#### 4.1.2. Uses of the Last Transfer (March 2012)

Figure 6c presents the results for the use of the last transfer, whose value was approximately USD\$ 20. During this time, voucher households could only use the voucher to purchase items at the food fair, unless they unofficially sold their voucher.

The overall pattern of purchases for cash households in February 2012 was generally similar to the pattern of expenditures for the first two transfers. Overall, cash households used the last transfer to purchase staple foods (including grains, other grains, oil, condiments, meat and vegetables); pay school fees (64%); reimburse debts (50%); invest in livestock (6.5%); and purchase clothing (38%), salt (77%), and metal and plastic sheeting (2% and 4%, respectively). As the last transfer represented less than 20% of the value of the first two transfers, the overall percentage of households purchasing in some categories (especially durable and non-durable assets) declined significantly: fewer households reported purchasing clothing, livestock or buying housing materials than during the first two transfers, and no households purchased land. The percentage of cash households purchasing salt increased significantly between November and March, although cash households were primarily purchasing salt in packets (rather than in bulk).

In comparing the purchases of the cash households with those of the voucher households, the differences between the two groups remained largely similar for the last transfer. While cash households purchased 5 different food and non-food categories in February 2012, voucher households only purchased 2.5 different types of food and non-food items. The difference between the number of categories purchased by the two groups is statistically significant. Voucher households used the last transfer to purchase two primary groups of categories: staple foods (including staple grains, other grains, beans, oil, fish, condiments and vegetables) and salt (92%). Unlike cash households, no voucher households were able to purchase meat or clothing, and voucher households who purchased salt primarily did so in bulk (purchasing 1-2 25-kg boxes of salt). Some voucher households reported using the last transfer to reimburse debts, buy seeds and vegetables and pay for

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<sup>30</sup>Temptation goods in this context (as defined by program recipients themselves in the focus groups), include alcohol, cigarettes and cookies for children.

<sup>31</sup>While voucher households could pay for school fees at the fair, some households may not have been able to pay for school fees, as one of the schools used by camp residents did not attend the fair.

school fees, all of which were not available during the voucher fair. This suggests that households were able to either exchange part of their voucher for cash or trade goods purchased at the fair for these items, an issue discussed during the focus groups. Voucher households purchased most of the food items for household use, although reported purchasing salt, rice and cassava flour with the intention to resell.

Comparing the purchasing decisions of cash households with those of voucher households for the last transfer reveals the following statistically significant differences:<sup>32</sup>

- Cash households were 31 percentage points more likely to purchase staple grains
- Cash households were significantly more likely to purchase condiments, vegetables, meat and oil
- Cash households were significantly more likely to pay for school fees
- Cash households were significantly more likely to reimburse debts, buy medicines and purchase clothing
- Cash households were significantly more likely to invest in livestock (although only 6% did so)
- Cash households were significantly less likely to purchase salt

Cash households primarily used their last transfer to purchase basic foodstuffs (grains, beans, oils, condiments, meat and vegetables), pay school fees, purchase clothing and reimburse their debts. They also did not seem to invest in “temptation” goods. The differences between the cash and voucher households were greater during the last transfer, as voucher households were more constrained in their choices, and had to reallocate their spending decisions given the limited options. For example, as vouchers were unable to purchase school fees, certain foodstuffs (such as meat, condiments and vegetables) and clothing at the food fairs, they significantly increased their purchases of salt, rice and cassava flour, primarily as a means of generating income and purchasing these items on other markets. In addition, since some (albeit very few) voucher households were able to purchase items that were not available at the last food fair (ie, school fees), this suggests that some households found ways of exchanging their vouchers for cash, or selling the items purchased with their vouchers. This is discussed in more detail in Section 4.2.

#### **4.1.3. Amount Spent on Categories of Goods**

The fact that cash and voucher households prioritized food items, school fees, debt reimbursement and other non-food items – including clothing, casseroles, plastic sheeting, mattresses and covers – does not tell us about the quantity of these items purchased and the amount of the transfer allocated to each one of these items. Since the surveys did not include a full expenditure module (whereby households were asked to name the number of items purchased and the price paid for each item and for each transfer), this breakdown is impossible. However, data were collected on quantities purchased of certain items (ie, school fees, salt, land), prices and quantities in the household survey, voucher exit fairs and price surveys.

Using data from these various sources, an estimated breakdown of the amount spent on each type of category for all three transfers is provided in Figure 7. While these data are only estimated, they provide some insights into households’ priorities. Of the USD\$130 provided, cash households spent

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<sup>32</sup>Many of these differences in purchases between the cash and voucher households were more pronounced during the second transfer, when voucher households could only participate in a food voucher fair (rather than a multisectoral fair). The differences in food and salt purchases between the two groups of households followed similar patterns between the cash and voucher households in October 2011 (Figure 6b). However, cash households were also more likely to pay school fees and reimburse debts using the October transfer than voucher households. There was also no difference in seeds and agricultural input purchases between the two groups.

38% of the transfer on food items, 35% on non-food items, 11% on education, 12% on salt, and 2% and 1% on clothing and land, respectively. The voucher households spent almost 40% of their transfer on non-food items, 31% on food, 18% on salt, 6% on education and 4% on clothing. This generally supports the previous findings on the uses of the transfer: voucher households purchased more of certain items (household items and salt) to sell, but were not able to substitute without some costs.

#### 4.1.4. Location and Sharing of the Transfers

Figure 8 provides additional information on households' use of the transfer, including whether they shared or saved part of the transfer and where they used the transfer. In addition to spending their transfer, a majority of cash and voucher households shared part of the transfer: while cash households were more likely to share *money* with others (45% of cash households, as compared with 25% of voucher households), voucher households were more likely to share *goods purchased with the transfer* (46% of voucher households, as compared with 32% of cash households). These differences between the two groups are statistically significant. While this figure combines the data from all three transfers, these sharing patterns were largely similar across the first two transfers and the last transfer.<sup>33</sup> This suggests that sharing is an important household coping mechanism within the camp, and program recipients shared primarily to reallocate funds to households with different needs.<sup>34</sup>

Whereas approximately 9% of cash households saved some of their transfer, either in the cooperative or at home, no voucher households were able to save (in cash). The average among cash transfer households, across all three disbursements, was 2500 FC (USD \$2.50).<sup>35</sup> While this might seem relatively low, cash transfer households reported that they did not save more because they needed the cash to meet immediate basic needs. In addition, while the cooperative was in Masisi Centre – a three-hour walk – program recipients reported that the distance was not a constraint to their savings – in fact, they preferred having their savings in the cooperative in Masisi Centre, as compared with Nyabiondo, as it offered them greater security. Finally, cash households were much more likely than voucher households to spread out their expenditures over several purchases (76% of cash households, as compared with 1% of voucher households), rather than purchasing all at once.

All voucher households used their voucher at the fairs in Masisi Centre, whereas none of the cash transfer households did so. This difference can be attributed to the design of the program: vouchers were designed to be used at organized voucher fairs, whereas the cash transfers were unconditional, thereby allowing households to choose where and when to spend their additional income (although technically cash transfer households were unable to participate in the voucher fairs). Among the cash group, most households used the cash transfer in a market outside of the camp, primarily Masisi Centre (20 km from the camp, or three hours' walk) and Nyabiondo (1-2 km from the camp, approximately 30 minutes' walk). Cash households also spent the transfer in health centers and schools.

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<sup>33</sup>While inter-household sharing is an important part of coping strategies among many rural households, especially displaced populations without access to credit, savings or insurance, this sharing can also reduce the impact of the income transfer on program recipients.

<sup>34</sup>While average household size in the camp was 5.5 members, households ranged from 1 to 11 members. Since the size of the transfer was the same regardless of household size, this meant that some households received \$110 per capita, whereas others received \$10 per capita.

<sup>35</sup>Cash households were able to save more after the first transfer. However, this is only among those who saved, which was a very small percentage. If the analysis is conducted on all households, then the average amount saved is US\$ 1.50 (Aker 2012).

## 4.2. Why did the Cash Transfer and Voucher Households Use the Transfer Differently?

The results in Section 4.1 suggest that cash households were able to purchase a more diverse set of food and non-food items than households in the voucher group, save some of the cash transfer and spend the transfer at different times and locations. While voucher households were more likely to spend the transfer on salt (for all transfers) and seeds (primarily for the first transfer), this seems to be related to households' attempts to generate income from salt sales. Overall, however, the uses of the cash transfer do not suggest that households were using the cash transfer to purchase "temptation" goods (alcohol, tobacco), but were rather using the goods to meet immediate household needs and invest in the future.

One of the key questions rising from the results in Section 4.1 is why households used the cash transfer and voucher in different ways, even during the first transfer (when voucher recipients participated in the multi-sectoral fair). The simplest answer is one of choice: while Concern Worldwide worked to ensure that most food and non-food items were available on the fairs (including agricultural inputs, livestock and school fees) and tried to identify program recipients' preferences before holding the fair, some items were simply not available (such as meat, doughnuts or land) or were only available in limited quantities (such as cassava flour). Thus, by the design of the voucher program, voucher program recipients had to purchase different items (especially for the last two transfers) on a particular day, as certain items were simply not offered at the fair. Voucher program recipients cited this during focus groups, specifically mentioning that meat and certain household items (casseroles, beauty cream) could not be purchased on the voucher fairs. At the same time, since voucher households still purchased different items from cash households with the first transfer and managed to buy items that were not technically available at the last two food voucher fairs, this suggests that the availability of items was not the only reason for these differences.

A second explanation often cited by voucher program recipients was that of prices. While Concern worked hard to ensure that the prices on the voucher fairs were comparable with those on the Masisi Centre market for that week -- and monitored activity during the fairs -- very few markets have a "law of one price". In other words, prices across and even within the same market often differ, especially for perishable goods of variable quality. Thus, while Concern used this price information to establish a maximum price for which goods could be sold at the fair, voucher program recipients noted that traders were unwilling to negotiate for items and often cited the maximum price on the market rather than bargaining. While difficult to confirm from actual transaction prices at the voucher fair, this explanation seems reasonable: as voucher recipients had to use the voucher on that particular day at the particular fair (after which the voucher would be invalid), traders had all of the market power.<sup>36</sup> Voucher program recipients also noted that the prices of some items at the fair were more expensive than those on the Nyabiondo market, where they would have purchased these goods if given the choice.

A third explanation for the differences in reported expenditure patterns was time, distance and weight. Given the distance between the camp and the fair, voucher households could not purchase heavy items without arranging transport, as they did not have the opportunity to purchase at a closer market (or make several trips, given the distance between the camp and the fairs).<sup>37</sup> During focus

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<sup>36</sup>For example, program recipients cited that oil cost 5.500 FC at the voucher fair but 4.500 FC on the Masisi market, whereas salt cost 9.000 FC at the fair and 8.500 FC at the Masisi center market. They cited similar price differences for cassava flour and oil, as well as different prices between the Masisi Center and Nyabiondo markets. The potential for collusion among traders was also evident during the second food fair: only eleven food suppliers were eligible to participate in the second fair, and those who did participate were unwilling to sell palm oil (which Concern bought and sold) and tried to impose purchasing restrictions on program recipients.

<sup>37</sup>Transport cost 5-6.000 FC per trip.

group discussions with program recipients, they stated that weight was often a consideration in deciding what to purchase. In an effort to use all of their voucher on the given day and purchase what they wanted, 65% of voucher recipients traveled with family members to the voucher fair in order to aid in transporting newly-purchased items. Those who were unable to travel with family members who could share the burden purchased fewer items (ie, only one box of salt rather than two) or lighter, smaller items which they could carry without paying for transport.

A final explanation for the difference in reported expenditures between the cash and voucher households was simply a loss in the value of the voucher. While cash and voucher households received identical amounts of money during the same time periods, over 98% of program recipients (cash and voucher) reported that they preferred the cash transfer primarily due to the freedom of choice in the timing and location of purchases, as well as the ability to share and save. While exchanging vouchers for cash was in theory forbidden, Concern observed this practice among some program recipients, an observation that was confirmed during focus group discussions. Although it is impossible to gauge the frequency with which this practice occurred, voucher recipients reported that they could exchange their \$USD 20 voucher for approximately \$11.25-\$14.15 at the fair. This suggests that vouchers traded for about 55-70 percent of their face value.<sup>38</sup> For those that traded in their vouchers, this meant that they had less income to spend on food and non-food items, thus changing purchasing patterns between cash and voucher households.

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<sup>38</sup> In particular, voucher recipients reported that they could exchange a voucher worth 18.400 FC for 10.000-13.000 FC at the fair.

## 5. IMPACT OF CASH TRANSFERS AND VOUCHERS ON HOUSEHOLD WELL-BEING

The increased diversity of purchases observed in the cash group suggests that cash households' subjective well-being was higher, as they were able to spend the transfer on their preferred basket of food and non-food items. But did this translate into increased well-being, as measured by objective indicators? Theory suggests that the relative impacts of cash versus vouchers on objective measures of well-being – such as income, expenditures, food security, asset ownership and nutritional status – would be ambiguous.<sup>39</sup> On one hand, cash households could have used the transfer to purchase “temptation” goods, which would suggest that voucher households might be better off. Or, if cash households were able to save a part of their transfer, they might have improved measures of well-being as compared with voucher households. Finally, if voucher households were able to sell their voucher at no cost, then there would be no difference in objective well-being between cash and voucher households. Based upon cash and voucher households' actual purchasing decisions discussed in Section 4, however, cash households did not use the transfer to purchase temptation goods, and voucher households incurred a significant cost in trading in their voucher for cash. For this reason, we would expect cash households to have similar (if not better) levels of objective well-being as voucher households.

This section measures the impact of the transfer on four indicators of well-being: 1) assets, including the total value of household assets and specific asset ownership; 2) food security, as measured by diet frequency and diversity; 3) livestock ownership, as a specific type of asset; and 4) the types of coping strategies used, particularly those that could have negative impacts on future livelihood security.

### 5.1. Asset Value, Accumulation and Ownership

One of the key objectives of Concern's cash and voucher program was to enable households to meet basic needs, while at the same time allowing them to accumulate assets. Since households reported using the transfer to purchase non-food items, especially during the first transfer, there should be an increase in durable and non-durable asset ownership before and after the program. However, due to heightened insecurity in the region during October 2011, some of the items initially purchased with the first transfers were stolen, meaning the initial increase in asset ownership could have been higher than recorded.

#### 5.1.1. What is the change in the total household asset dollar value following cash and voucher assistance? (Research Question 1)

Table 2 and Figures 9a and 9b show the changes in asset ownership (excluding livestock) of cash and voucher households between September 2011 and March 2012.<sup>40</sup> (The full breakdown for each item by survey round is provided in Tables A3 and A4). Despite looting in October 2011, the value of household assets increased significantly for most households after the program. The average value of all household assets (including all categories) in September 2011 was USD\$61.72, ranging from

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<sup>39</sup> Economic theory predicts that providing cash transfers will make households happier, as they are able to make their own choices about what to consume. This will translate into higher subjective well-being. Depending upon the purchasing decisions that those households make, this might not necessarily lead to increases in “objective” measures of well-being, such as income, food security, nutritional status and assets. Psychologists, however, would argue that in some cases, having too many choices can put psychological stress on individuals, actually making them unhappier. These aspects are extremely important, but often discussed in the context of high-income consumer societies with too many choices (see, for example, Sheena Iyengar, 2011, *The Art of Choosing*).

<sup>40</sup> While income and food expenditures increased for all groups as compared with the baseline, this was primarily in November 2011. Weekly income and food expenditures decreased significantly by March 2012.

USD\$3 to \$163 (Figure 9a). Between September and March 2012, the average value of household asset ownership increased by 31 percent, from USD \$61 to USD\$80. While the value of household assets was slightly higher in the voucher households (\$USD 82 in voucher households, as compared with \$USD 79 in cash households), the difference was not statistically significant at conventional levels. Since we do not have data from a comparison group, we cannot conclude that this increase in the value of assets was only due to the Concern program, rather than other factors (such as support from another NGO or an improvement in income-generating opportunities in the area). However, since the only other NGO intervening in the camp during this time provided water and sanitation support, and the security situation (and hence income-generating opportunities) worsened during this time period, it is unlikely that this increase in the value of assets was due to other factors. *Thus, households in the Bushani camp increased the value of their assets by 31 percent between September and March 2012, even after accounting for looting in October 2011. There were similar increases in the value of assets overall in the cash and voucher households.*

**Table 2: Income Sources and Assets of Cash and Voucher Households**

|  | <b>Baseline (Both)</b> | <b>Cash</b> | <b>Voucher</b> | <b>Statistical difference?</b> |
|--|------------------------|-------------|----------------|--------------------------------|
| <b>Panel A: Income Sources</b>           |                        |             |                |                                |
| Number of income sources                 | 2.8                    | 1.51        | 1.472          | No                             |
| Income (FC) the previous week            | 2444.64                | 4515.12     | 3510.35        | No                             |
| Food purchases (in FC) the previous week | 1815.47                | 2473.15     | 2558.62        | No                             |
| Percentage of income spent on food       | 74.3%                  | 80.8%       | 82.6%          | No                             |
| <b>Panel B: Assets</b>                   |                        |             |                |                                |
| Value of all assets (USD)                | 48.92                  | 79.00       | 82.81          | No                             |
| Durable goods                            | 0.007                  | 0.02        | 0.02           | No                             |
| Non-durable goods                        | 10.98                  | 10.94       | 11.03          | No                             |
| <b>Panel C: Household Assets</b>         |                        |             |                |                                |
| Plastic sheeting                         | 41.7%                  | 40.7%       | 49.3%          | No                             |
| Number of plastic sheets                 | 0.42                   | 0.414       | 0.507          | No                             |
| Metal sheeting                           | 0.4%                   | 3.7%        | 6.8%           | No                             |
| Number of metal sheets                   | 0.004                  | 0.148       | 0.397          | Yes                            |
| Sleeping mat                             | 81.0%                  | 78.4%       | 81.5%          | No                             |

|                         |       |        |       |     |
|-------------------------|-------|--------|-------|-----|
| Number of sleeping mats | 0.952 | 1.093  | 1.233 | No  |
| Cover                   | 92.5% | 92.6%  | 91.8% | No  |
| Number of covers        | 1.21  | 1.432  | 1.555 | No  |
| Jerry Can               | 78.2% | 85.2%  | 82.9% | No  |
| Number of jerry cans    | 1.06  | 1.154  | 1.089 | No  |
| Flashlight              | 12.0% | 29.6%  | 26.0% | No  |
| Number of flashlights   | 0.12  | 0.296  | 0.26  | No  |
| Petrol lamp             | 3.6%  | 11.1%  | 11.0% | No  |
| Number of petrol lamps  | 0.035 | 0.167  | 0.11  | No  |
| Basket                  | 33.0% | 36.4%  | 43.2% | No  |
| Number of baskets       | 0.346 | 0.364  | 0.476 | No  |
| Pagne                   | 98.0% | 100.0% | 97.9% | Yes |
| Number of pagnes        | 1.96  | 2.522  | 2.593 | No  |

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**Panel C:  
Agricultural/Prod  
uctive Assets**

|                    |       |       |       |     |
|--------------------|-------|-------|-------|-----|
| Hoe                | 22.7% | 28.4% | 41.1% | Yes |
| Number of hoes     | 0.239 | 0.317 | 0.445 | No  |
| Axe                | 15.9% | 26.5% | 30.1% | No  |
| Number of axes     | 0.159 | 0.267 | 0.308 | No  |
| Machete            | 57.8% | 67.9% | 72.6% | No  |
| Number of machetes | 0.63  | 0.722 | 0.747 | No  |
| Hammer             | 4.4%  | 22.2% | 26.0% | No  |
| Number of hammers  | 0.05  | 0.224 | 0.262 | No  |
| Saw                | 0.4%  | 1.2%  | 0.7%  | No  |
| Number of saws     | 0.003 | 0.012 | 0     | No  |

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**Panel D:  
Communications**



## and Transport

|                         |       |       |       |     |
|-------------------------|-------|-------|-------|-----|
| Bike                    | 0.8%  | 1.2%  | 1.4%  | No  |
| Number of bikes         | 0.007 | 0.043 | 0.014 | No  |
| Radio                   | 5.2%  | 17.3% | 13.1% | No  |
| Number of radios        | 0.055 | 0.179 | 0.123 | Yes |
| Mobile Phone            | 1.2%  | 3.1%  | 4.8%  | No  |
| Number of mobile phones | 0.011 | 0.031 | 0.048 | No  |

Notes: This shows the averages for cash and voucher households in November 2011 and March 2012. The number of items owned is the average among all households, regardless of whether or not they own (a 0 value). For the number of items owned, this represents the average number of that particular item owned at the household level. Statistical significance was determined using 90 percent confidence levels.

### 5.1.2. When comparing unconditional cash transfers and voucher assistance, what assets or services are purchased, what assets are retained and why? (Research Question 3)

Similar to the value of assets owned, there was also an increase in asset ownership for durable and non-durable goods after the program (Panel B). On average, households owned .007 durable asset categories and 10.98 non-durable asset categories before the program, increasing to .02 and 10.99 asset categories after the program.<sup>41</sup> Differences between the number of asset categories owned by cash and voucher households were not statistically significant.

When looking at specific asset items, the trends are somewhat more complex (Figure 9b). Overall, all households increased their ownership of **households goods**, including metal sheeting, cans, flashlights, petrol lamps, clothing and baskets; **agricultural assets**, including hoes, axes, machetes, sickles, hammers and saws; and **radios**. These increases in asset ownership coincide with the uses of the transfer reported by both cash and voucher households (ie, household and agricultural materials). Yet ownership of **plastic sheeting, sleeping mats, clothing and covers** either stayed the same or decreased between September and March 2012 (Figure 9b), despite the fact that households reported purchasing these items in September and October 2011. According to households, these items were the most commonly looted during the attacks in the camp in October 2011. In general, most households reported buying these assets for their personal use (either consumption or income-generating activities), and fewer than 1% of households reported selling any of these assets. Thus, once assets were initially attained in September 2011, they were primarily retained throughout the program period. If asset ownership decreased, it was primarily due to theft.

In general, most of the changes in ownership of specific assets were similar between the cash and voucher households, both in terms of the percentage of households who owned an asset and the number of assets owned. However, there were four assets for which there was a statistically significant difference in ownership between the two groups after the program:

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<sup>41</sup> A **durable good** is a [good](#) that does not quickly wear out, or more specifically, one that is useful over time yields [utility](#) over time rather than being completely [consumed](#) in one use (ie, more than three years between successive purchases). **Nondurable goods** are goods that are immediately consumed in one use or ones that have a lifespan of less than 3 years. The specific items included in each category are the same as those in Section 3.

- Cash households were 12 percentage points less likely to own a hoe than voucher households (ie, more voucher households owned hoes)
- Cash households were 2 percentage points more likely to own clothing than voucher households (ie, more cash households owned clothing)
- Cash households owned .06 more radios than voucher households (ie, cash households owned more radios)
- Cash households owned .25 fewer metal sheets than voucher households (ie, voucher households owned more metal sheets)

While all of these differences are statistically significant, the total value of these combined assets is similar in both groups (the value is USD\$2 higher in the cash group as compared with the voucher group), without a statistically significant difference.<sup>42</sup>

Table 3 shows the impact of the program on livestock-raising, as livestock are an alternative type of asset to non-food items. A graphical representation of these results is provided in Figure 10.

**Table 3: Agriculture and Livestock Activities of Cash and Voucher Households**

|                                      | <b>Baseline (Both)</b> | <b>Cash</b> | <b>Voucher</b> | <b>Statistical difference?</b> |
|--------------------------------------|------------------------|-------------|----------------|--------------------------------|
| Cultivated                           | 10%                    | 16%         | 22%            | No                             |
| Owned or rented land                 | 2%                     | 5%          | 4%             | No                             |
| Number of parcels                    | 1.00                   | 1.15        | 1.09           | No                             |
| Bought land                          |                        | 2%          | 1%             | Yes                            |
| Owned livestock                      | 4%                     | 16%         | 18%            | No                             |
| Number of livestock categories owned | 0.04                   | 0.15        | 0.14           | No                             |
| Cow                                  | 0%                     | 0%          | 0%             | No                             |
| Goats                                | 1%                     | 1%          | 0%             | No                             |
| Sheep                                | 0%                     | 0%          | 0%             | No                             |
| Poultry                              | 3%                     | 12%         | 17%            | No                             |
| Rabbit                               | 0%                     | 3%          | 1%             | No                             |
| Animal by-products (milk, eggs)      | 0%                     | 0%          | 2%             | No                             |

Notes: This shows the averages for cash and voucher households in November 2011 and March 2012. The number of items owned is the average among all households, regardless of whether or not they own (a 0 value). For the number of items owned, this represents the average number of that particular item owned at the household level. Statistical significance was determined using 90 percent confidence levels.

Overall, cash and voucher households increased their likelihood of engaging in agricultural and livestock activities between September 2011 and March 2012. Without a comparison group, it is difficult to know whether this increase was due to the Concern program or seasonal trends in agricultural production and livestock-raising; however, given the limited income-generating opportunities of these households, and the absence of other support in the camp, the likelihood of these effects occurring without the program is small.

A greater percentage of households were involved in agricultural production after the program, increasing from 10% of households in September 2011 to 19% after the program (combining the

<sup>42</sup>The value of a *pagne* is \$4, \$2 for a hoe, \$9 for a radio and \$9 for a metal sheet.

November and March survey rounds). The largest increase was in November, confirming the seasonal element to agricultural production activities. Of these, approximately half of the households rented land, whereas the rest worked on others households' land as laborers. Among those practicing agriculture, they worked on 1.12 parcels of land, with no statistically significant difference between the cash and voucher households. Approximately 1% of voucher households were able to purchase land since September 2011, with slightly higher percentage of cash households purchasing land (2%).

A higher percentage of all households were also engaged in livestock-raising after the program, from 4% of households in September 2011 to 17% of households after the program, a 300% increase. The number of livestock categories owned increased from .04 to .145, without a statistically significant difference between the cash and voucher households. Overall, households did not purchase large ruminants (such as cows, sheep and goats), but primarily invested in poultry and rabbits. The focus on small ruminants is to be expected, as land is limited in the camp, large ruminants would have represented a large percentage of the transfer, and small animals might offer the potential for producing, consuming and selling animal by-products (such as meat and eggs). In addition, smaller animals can be easily transported in the event of an attack and resulting displacement.

The increase in small ruminant ownership was substantial between September and November/March: while no households owned rabbits and less than 3% of households owned poultry in September, over 14% of households owned poultry and 2% owned rabbits after the program. On average, more voucher households owned poultry (17%, as compared with 12% of cash households) and more cash households owned rabbits (3%, as compared with 1% in voucher households).<sup>43</sup> While poultry ownership was higher among voucher households, there was no statistically significant difference between the two groups. Nevertheless, this difference could, in part, reflect different access to and availability of livestock on local markets: while livestock are not available on either the Nyabiondo or Masisi Centre markets (the nearest livestock market is approximately 20 km from Masisi, or 40 km from the Bushani camp), livestock were available on the first multisectoral fair. This appears to have translated into greater production of animal by-products for the voucher households owning poultry, primarily in the form of eggs, although there was no statistically significant difference between voucher and cash households. Most of these impacts occurred in November; between November and March, some households lost their poultry, primarily due to death. This was the opposite for rabbit ownership, which increased between November and March.

## **5.2. Do unconditional cash transfers and voucher assistance have different impacts on recipient households in terms of the number of meals per day and diet variety? (Research Question 2)**

Table 3 shows the impact of the cash transfer on food security status, as measured by the household diet diversity score (HDDS), the consumption of specific food groups, the number of meals consumed per day and the likelihood of having suffered from food insecurity since the previous harvest. A visual representation of these differences is provided in Figure 11.

While households in the camp increased their diet diversity between September and November (from 2.9 food groups in September to 3.36 food groups in November, a 15-percent increase), diet diversity fell again between November and March to lower than baseline levels (2.71). This suggests that there are strong seasonal differences in household diet diversity throughout the year, although perhaps not necessarily in the way that would be consistent with typical agricultural households. For example, since the harvest occurs in July/August and again in January/February, we would have expected higher levels of diet diversity in September and March (as compared with November). At

<sup>43</sup> These figures refer to the percentage of households (out of all households) who owned poultry and rabbits. When looking at poultry and rabbit ownership among those who owned any livestock, over 80% of all livestock owners owned either poultry or rabbits.

the same time, since households in the camp primarily work as agricultural laborers, their food consumption fluctuates with the planting and harvesting needs of host communities.

Overall, there were no statistically significant differences in diet diversity between the cash and voucher households, and the consumption of almost all of the food items was similar between the two groups. The only statistically significant difference in consumption was for eggs, which was 2 percentage points higher in cash households. These results were similar for the November and March surveys.

**Table 4: Food Security Status by Cash and Voucher Households (November and March)**

| <b>Food Security</b>                                   | <b>Baseline (Both)</b> | <b>Cash</b> | <b>Voucher</b> | <b>Statistical difference?</b> |
|--|------------------------|-------------|----------------|--------------------------------|
| Food insecure in past three months                     | 99.2%                  | 82.0%       | 93.0%          | Yes                            |
| Months of Adequate Household Food Provisioning (MAHFP) | 1.22                   | 2.17        | 2.07           | No                             |
| Number of meals per day (household)                    | 1.29                   | 1.41        | 1.41           | No                             |
| Household diet diversity (HDDS)                        | 2.9                    | 2.79        | 2.63           | No                             |

Notes: This shows the averages for cash and voucher households in November 2011 and March 2012. Statistical significance was determined using 90 percent confidence levels.

While there were no differences in diet diversity at the household level, cash households were less likely to report having suffered from food insecurity since the previous harvest as compared with voucher households. Before the program, 99% of all households reported suffering from food insecurity. By March 2012, 88% of all households (cash and voucher) said they had experienced food insecurity, a 10-percent decrease between September 2011 and March 2012. This decrease was relatively stronger among cash households; while only 82% of cash households reported suffering from food insecurity, 93% of voucher households reported suffering from food insecurity, with a statistically significant difference between the two. Similarly, the number of months of household food provisioning (MAHFP) was relatively higher among cash households (and statistically significant in November, but not in March), although the number of meals per day was similar in both groups in both November and March. The differences in food security status were primarily due to differences in November 2011, rather than March 2012.<sup>44</sup>

How can we reconcile the diverse uses of the transfer for food items observed in Section 4 with the fact that there was no difference in diet diversity between the two groups? First, the indicators reflect the food consumption and purchasing decisions from different time periods. While the HDDS asks about food consumption during the previous 24 hours (directly reflecting diet diversity in November 2011 and March 2012), questions about the uses of the cash transfer or voucher refer to an earlier period (September and October 2011 and February 2012). Unless households were able to store the food items purchased with their cash transfers for more than a month, we would not necessarily observe a strong impact on diet diversity. At the same time, the fact that fewer cash households reported being less food insecure suggests that there was a longer-term impact of the cash transfer

<sup>44</sup>The differences in the MAHFP and food insecurity between the cash and voucher households were statistically significant in November 2011, despite the relatively small sample size. While the indicators were generally similar in March 2012 – ie, cash households suffered from less food insecurity and had a higher MAHFP and diet diversity, there was no statistically significant difference between the two groups.

program, as it allowed households to cope with seasonal fluctuations in labor markets, prices and food availability.<sup>45</sup>

### 5.3. Do unconditional cash transfers and voucher assistance exert different effects on household dynamics particularly relating to purchasing decisions? (Research Question 4)

As the transfer program primarily targeted women within the household (over 93% of program recipients were women), the program could have affected household well-being by changing intra-household dynamics or women’s control over resources, particularly related to purchasing decisions. Table 5 shows the effects of the different transfer modalities on intra-household decision-making, as measured by a variety of indicators. A graphical representation of these results is provided in Figure 12.

**Table 5: Intra-Household Decision-Making in Cash and Voucher Households**

|  | Cash    | Voucher | Statistical difference? |
|--|---------|---------|-------------------------|
| <b>Panel A: Decision-Making with Respect to the Transfer</b> |         |         |                         |
| Beneficiary responsible for spending transfer                | 91%     | 94%     | No                      |
| Husband responsible for spending transfer                    | 39%     | 45%     | No                      |
| Beneficiary responsible for spending transfer alone          | 5%      | 6%      | No                      |
| Discussed how to use cash or voucher                         | 78%     | 80%     | No                      |
| Beneficiary implicated in decision                           | 97%     | 94%     | No                      |
| <b>Panel B: Decision-Making on Other Issues</b>              |         |         |                         |
| Husband makes education decisions alone                      | 34%     | 30%     | No                      |
| Husband makes agriculture decisions alone                    | 29%     | 27%     | No                      |
| Husband decides how to share transfer alone                  | 26%     | 23%     | No                      |
| Husband decides how to save alone                            | 33%     | 31%     | No                      |
| <b>Panel C: Clothing Expenditures</b>                        |         |         |                         |
| Children's clothing expenditures (FC)                        | 6423.81 | 6042.74 | No                      |

<sup>45</sup> The OR design was aware of the difference in timing of the data collection. Collecting the data in November (rather than October) was a balance of ensuring enough time between the baseline and midterm survey, as well as ensuring that both cash and voucher households had received their assistance.

|                                    |         |         |    |
|------------------------------------|---------|---------|----|
| Women's clothing expenditures (FC) | 8720.34 | 9282.46 | No |
| Men's clothing expenditures (FC)   | 4650.00 | 5130.66 | No |
| Ratio of women to men's clothing   | 2.26    | 2.32    | No |

Notes: This shows the averages for cash and voucher households in November 2011 and March 2012. Statistical significance was determined using 90 percent confidence levels.

While there are no data on intra-household decision-making before the program, data on different indicators of intra-household dynamics were collected in November 2011 and March 2012. Overall, 91% of female cash program recipients reported that they were responsible for spending the cash transfer, either alone (5%) or jointly (Panel A). In those cases where spending decisions were taken jointly, the program recipient provided part of the transfer to her husband or son. These figures were similar among voucher households, without a statistically significant difference between the two. More than 75% of program recipients discussed how to use the income support with their spouse, and almost all of the female program recipients were implicated in the decision on how to spend the transfer. None of these decisions were statistically different in the cash and voucher households.

Beyond decisions on the use of the transfer, in general, intra-household decision-making within the camp appears to be conducted jointly (Panel B).<sup>46</sup> Men and women within cash households made decisions with respect to children's education, agriculture, inter-household sharing and savings jointly; fewer than 1/3 of cash households reported that the male household head made these decisions alone. Interestingly, males seemed to make decisions alone more frequently when it came to education and savings, as compared with agriculture and inter-household sharing. The structure of intra-household decision-making was similar for voucher households, and remained relatively constant between November and March.

A final indicator of intra-household dynamics is the amount of money allocated to women's, men's and children's clothing. Overall, cash households spent 20,125 FC (\$19-20) on clothing between September and March for all household members.<sup>47</sup> Over 75% of this budget was spent on women and children's clothing, and the value of men's clothing was about half of the value of women's clothing. Similar patterns were observed among voucher households, and none of these differences are statistically significant between the two groups.

Overall, the results in Table 5 suggest that households in the Bushani camp made joint decisions with respect to most household issues, especially with respect to purchasing decisions, and seem to prioritize children and women's goods. The type of transfer modality did not appear to exert different influences on these intra-household decision-making processes.

These quantitative results support the focus group discussions conducted in the camp. While both men and women explained that most household decisions were conducted jointly, they stated that decisions with respect to the use of the transfer differed by each household.

#### 5.4. Do unconditional cash transfers and voucher assistance exert different effects on

<sup>46</sup>This type of decision-making within the camp might differ from the decision-making structure within program recipients' home villages. Program recipients reported that decision-making was "harder" within the camp, as they didn't have the support of their broader extended family network.

<sup>47</sup>The total amount of money spent on clothing for the household can be calculated by summing the average value for each group (men, women and children) in the cash and voucher households and then averaging between the two.



## household coping strategies?

Table 6 shows the impact of the transfer program on a number of commonly-used coping strategies in eastern DRC. While measuring the impact upon household coping strategies was not a specific focus of the operations research, this section focuses on those coping strategies that might have a negative impact on IDPs' current and future livelihood security.<sup>48</sup> A graphical representation of these results is provided in Figure 13.

**Table 6: Coping Strategies of Cash and Voucher Households**

| Coping Strategies               | Baseline (Both) | Cash  | Voucher | Statistical difference? |
|---------------------------------|-----------------|-------|---------|-------------------------|
| One household member migrated   | 3.5%            | 5.5%  | 1.6%    | Yes                     |
| Sold household goods            | 11.0%           | 0.0%  | 2.4%    | Yes                     |
| Reduced number of meals per day | 52.0%           | 27.1% | 28.5%   | No                      |
| Took child out of school        | 16.0%           | 1.4%  | 4.1%    | No                      |
| Found work as daily laborer     | 62.0%           | 21.5% | 15.4%   | No                      |
| CSI                             | 2.54            | 0.72  | 0.77    | No                      |
| CSI (Universal)                 | 0.95            | 0.47  | 0.48    | No                      |

Notes: This shows the averages for cash and voucher households in November 2011 and March 2012.

Over 86% of households in the Bushani camp suffered at least one shock between September and March, primarily illness (54%), the death of a household member (9%), increased local prices (19%) and conflict (57%). Households used a variety of different coping strategies to deal with these shocks, including changing their diet (reducing diet diversity), increasing income via short-term strategies (such as migration, working as a daily laborer, selling off assets or taking children out of school) and rationing food within the household (such as reducing the number of meals per day). Overall, both cash and voucher households decreased their use of these coping strategies between September 2011 and March 2012, with similar patterns for the cash and voucher households. The two exceptions were migration and selling off household assets: as compared with voucher households, cash households were more likely to send a household member to migrate, but less likely to sell off assets. These differences are statistically significant between the two groups. This suggests that cash households might have used part of their cash to send a household member to migrate (which can be quite costly), and perhaps used the remittances to deal with shocks, thereby reducing the need to sell off assets.

A simple comparison of different coping strategies weights each strategy equally. However, some coping strategies can be *harmless and reversible*, whereas others are *harmful and irreversible*. To take these differences into account, we construct a coping strategy index (CSI) to account for different severity and frequency of different coping strategies (Maxwell and Caldwell 2008).<sup>49</sup> We also calculate a modified CSI using a subset of universally-used coping strategies (reducing food

<sup>48</sup>Some of the most commonly used coping strategies by poor non-IDP households in eastern DRC include migration, reducing the quantity and quality of meals, sending one child to school (the male child) and collecting and consuming wild foods (Save the Children 2003).

<sup>49</sup>The CSI tool relies on counting coping strategies that are not equal in severity. Different strategies are “weighted” differently, depending on how severe they are considered to be by the people who rely on them. The frequency answer is then multiplied by a weight that reflects the severity of individual behaviors. Finally, the totals are added.

quality, borrowing money for food and reducing the number of meals per day).<sup>50</sup>

Using a range from 0 (least severe) to 11 (most severe), the average CSI was 2.54 for all households in September 2011, before the start of the program. The CSI dropped significantly for both cash and voucher households between September, November and March, from 2.54 to .75, confirming that households were using fewer (and less severe) coping strategies. The same pattern was observed using the “universal” CSI (comprised of three less severe coping strategies). These differences between the two groups were not statistically significant.

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<sup>50</sup>The weight for reduced quality is 1, borrowed money is 2 and reduced number of meals is 1.



## 6. COST EFFECTIVENESS AND COST-BENEFIT ANALYSIS OF THE TRANSFER MODALITY<sup>51</sup>

### 6.1. Are unconditional cash transfers more effective than vouchers in terms of man hours and security implications? (Research Question 5)

#### 6.1.1. What were the costs of the cash and voucher program for Concern?

While the cash transfer program provided program recipients with greater choice and seemed to result in similar (or higher) levels of well-being, a key consideration for practitioners and donors are how these different transfer modalities compare in terms of costs. There are two aspects to costs: the costs from the perspective of the implementing agency, including staff time, security, travel and other fees; and the costs from the perspective of the program recipient.

Figure 14 shows the costs of each transfer modality (cash or voucher) per program recipient. These costs include the staff time (for developing the vouchers, implementing the voucher fairs, planning and monitoring the cash distributions); materials (printing of vouchers and fair materials); and security, travel and account fees (primarily for the cash transfer). The total costs for designing and implementing the voucher program were more expensive than the cash program (\$4,889 as compared with \$2,688), although the costs relate to one day of the voucher fair, which has the capacity to deliver assistance to a higher number of program recipients than are represented in this study.<sup>52</sup> When looking at the costs per program recipient, the voucher program costs USD \$14.35 (per recipient), whereas the cash program costs USD \$11.34 (per recipient), about USD \$3 cheaper per program recipient. Overall, the cost breakdown shows that staff time represents the largest percentage of costs for both modalities, followed by transport and voucher printing (for the voucher intervention) and account-opening fees (for the cash intervention). Yet since the account-opening fees are a one-time, fixed cost, if Concern were to continue cash transfers with existing beneficiaries, the cost per cash program recipient would have only been USD \$6, a significant cost difference.

In addition to the cost difference, an important consideration is *leakage*. “Leakage” is defined as the likelihood that cash or vouchers intended for program recipients were lost or stolen, either by the implementing agency or after the transfer has been provided to the program recipients. Based upon focus group discussions and data collected from the voucher fairs, the cash transfer program reported zero leakage (i.e. no theft or loss by Concern, the cooperative or after the transfer), but found a leakage of USD \$35 for the voucher program; in other words, Concern staff received vouchers worth \$35 less than had been recorded as distributed to program recipients. Nevertheless, this amount is quite small (less than .04% of the value of the program), and there are several potential explanations for this – such as printing errors in the voucher booklets, counting errors during voucher reconciliation and the loss of vouchers by traders or program recipients. Nevertheless, on average, the cash transfer program was cheaper for Concern, both in terms of overall (and per program recipient) costs, staffing costs and leakage.

#### 6.1.2. What were the costs of the cash and voucher program for program recipients?

While the cash transfer program was less expensive for Concern, an important question is whether the transfer modalities were similar in terms of their costs for program recipients. For both the cash

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<sup>51</sup> This section addresses research question 5 in the original research protocol: “Are unconditional cash transfers more effective than vouchers in terms of: 1) Man hours and cost of each approach? and 2) Security implications of each approach?”

<sup>52</sup> Even if the number of voucher recipients were doubled (from 237 to 500), the cost per voucher program recipient would be about the same as the cost per cash program recipient.

and voucher program, program recipients had to travel to Masisi Center to obtain their transfer, a significant time cost for program recipients (over three hours). Thus, while the travel time was similar for both, there are two additional considerations for program recipients: waiting time (for registration and distribution) and security costs.

Cash transfer recipients were able to obtain their cash from the cooperative during certain days or times, thereby spreading out the number of program recipients on a particular day. For the first cash transfer, all program recipients arrived at the cooperative at the same time, so that many program recipients had to wait the entire day. For the second and third transfers, however, program recipients were scheduled for certain time blocks, which significantly reduced the waiting time. Based upon the cash transfer monitoring report conducted in October 2011, the average waiting time was 1 hour and 45 minutes, with less than 25% of program recipients waiting more than three hours. If transfers were provided over longer periods, or program recipients did not need them urgently, the waiting time could have been reduced even further.

While cash recipients could have travelled to the cooperative at different times, voucher recipients had to first wait in line for their vouchers (primarily for verification). For the first multisectoral fair, the average waiting time was 2 hours, with 30% of program recipients waiting for more than 3 hours. For the last two voucher fairs, the waiting time was closer to 1 hour and 30 minutes. Thus, the waiting and travel time was similar for both cash and voucher program recipients, and none of the recipients mentioned this as an issue either during the voucher exit fairs, the cash transfer monitoring report, the surveys or the focus group discussions.

A final cost when comparing the cash and voucher program, especially in a highly insecure environment such as eastern DRC, is one of security. For example, even if cash transfers are preferred to vouchers in terms of costs, benefits and program recipients' preferences, a voucher program might offer greater security to the implementing agency and program recipients.<sup>53</sup>

In general, there are several key security issues to consider when comparing the security of each transfer modality:

- **The observability of the transfer.** If outsiders can easily observe a certain transfer modality, then this could make program recipients easier targets for thieves or looters.
- **The location of the transfer distribution.** If a certain transfer modality requires longer travel or wait times to distribute the transfer, or requires grouping large number of program recipients to distribute the transfer, this could put program recipients at greater risk, especially if situated in an insecure location.
- **The location and transport of purchases.** If a certain transfer modality requires program recipients to spend the transfer at certain locations, or to transport purchases from locations, this could put program recipients at greater risk.

Table 7 outlines these issues for each transfer modality. These were identified via observation, discussions with staff and focus group discussions with program recipients and other key informants. In terms of *observability*, both cash and vouchers are easy to hide, and cash program recipients reported that it was easy to conceal the cash while traveling or within the camp.<sup>54</sup> However, since voucher recipients had to use their voucher at the voucher fair, and then transport these goods back to

<sup>53</sup> In addition to the security of program recipients, there is also the security related to the implementing agency. For cash transfer programs, implementing agencies often have one of two choices: 1) distributing the cash transfer themselves, whereby they assume most (if not all) of the risk, depending upon where the transfer is distributed; or 2) distributing the cash transfer via the private sector or a quasi-public partner (such as a trader or cooperative). In the latter context, risk is transferred from the implementing agency to the distribution partner. In both cases, the amount of risk incurred by the program recipients depends upon where and how the cash is distributed, and what happens in the event of theft.

the camp, voucher program recipients were relatively easier to identify – and therefore at potentially greater risk – when traveling from Masisi Centre to the camp.

In terms of the *location of the transfer distribution*, both the cash and vouchers were distributed at Masisi Centre, requiring a three-hour walk from the camp. As previously mentioned, the waiting time for both types of transfer modalities was relatively similar, so both program recipients experienced similar levels of risk. However, in theory, cash program recipients could travel to the cooperative when they chose; if this had been spread out over several days, then the waiting time would have been less. This would not have been possible with the voucher program, however, as the vouchers needed to be spent in pre-arranged voucher fairs. The only way to reduce the wait time for the voucher program would be to issue vouchers that were redeemable for several days, at pre-arranged vendors, and spread out the registration process over a longer time period.

In terms of the *location and transport of items purchased with the transfer*, in this case, cash recipients were clearly at less risk, as they could choose when, where and how to purchase (and transport) their goods. This could be either within the camp, at nearby markets or at Masisi Centre. Cash recipients could also choose to make purchases on days with relatively greater security. Voucher recipients did not have this choice, by the design of the program, and therefore had to make purchases at Masisi Centre and transport them to the camp. Voucher recipients could have reduced this risk by potentially storing their goods at the Masisi market, and arranging for transport at a later time, but both of these options would have incurred additional costs.

It is important to note that program recipients only raised these issues as *potential* – rather than actual – risks in the household surveys and focus groups. This is surprising, given the high level of insecurity in the region and attacks in the area in October 2011. Nevertheless, the issue of security was raised indirectly by both cash and voucher program recipients when asked about the advantages and disadvantages of future programs. As one cash program recipient stated, “With cash, I can purchase when I want, where I want and how I want...I can hide the cash and share it with my husband.” Another cash recipient stated that “Even though we can encounter problems (on the road to Masisi), I prefer to travel to Masisi (Centre) to get my cash and save it there; I don’t want to go to (the cooperative) at Nyabiondo.” Voucher recipients, for their part, stated, “It would be better if (future) voucher fairs could be closer to home...in the camp or in Nyabiondo.” While none of these remarks speak directly to program recipients’ concerns over their own security, they are well aware of the security issues and risks, and view cash as a way to more effectively manage those risks.

**Table 7: Risk Considerations of Cash versus Voucher Distributions**

| Elements of Risk/Security                       | Cash Transfers   | Voucher Program   |
|---|--|---|
| Ability of recipients to hide the transfer      | Easy to hide and spend in small amounts in different areas, although few places to save (other than cooperative)                                     | Can hide voucher but more difficult to conceal goods purchased from transfer if large/bulky   |
| Ability of recipients to transport the transfer | Easy to transport, light   | Must purchase goods and transport goods with transfer, can lead to additional transport costs and targeting by armed groups   |
| Location of distribution                        | Cash distribution in Masisi, but purchases can occur anywhere; this allows households to choose locations that are more secure at particular periods | Voucher distribution and purchases in Masisi; while Concern would not hold voucher fair if there were insecurity in the territory (ie, either at Masisi Center or along road), it is difficult to gauge whether populations will be targeted between Bushani and Masisi |
| Redeemability of the                            | Perfectly fungible; if cash stolen, anyone can   | Voucher is non-fungible, if stolen, someone else  |

<sup>54</sup> It is also important to note that other CFW programs implemented in the area did not report higher levels of theft among CFW program recipients as compared with voucher recipients.

|  |  |  |
|--|--|--|
| transfer by non-recipients                           | use it   | (in theory) could not use it   |
| Armed groups are able to identify program recipients | Difficult to identify individual program recipients, although distributing cash to all recipients at same place make them easy to identify as a group and target | Difficult to identify individual program recipients, although distributing vouchers to all recipients at same place make them easy to identify as a group and target |

## 6.2. Was the cash or voucher program more cost-effective?

A comparison of the per-recipient costs of the two interventions is useful and suggests that the *cash transfer program is cheaper as compared with the voucher program*. Nevertheless, a key question for Concern Worldwide is whether the investment in the new transfer modality is *cost effective*. This not only means comparing the financial cost per program recipient for each modality, but also comparing those costs with potential benefits for program recipients. A simple cost analysis might suggest that one transfer modality is more expensive, but not account for additional benefits. While it is difficult to assign monetary value to the benefits, this section provides a “back of the envelope” calculation by looking at the value of the program for cash and voucher recipients for two specific items.

While the value of assets of all households increased after the program, there were no differences in the value of assets owned between cash and voucher households. Nevertheless, there were three key differences well-being between the cash and voucher households: 1) cash households had increased savings as compared with voucher households; 2) cash households had lower levels of food insecurity as compared with voucher households; and 3) voucher households were more likely to own poultry as compared with cash households (although this difference was not statistically significant at conventional levels). While it is difficult to put a monetary value on food insecurity, the additional value of the savings was USD \$2.5 for cash households, while the additional value of the poultry was \$1 for voucher households (using market prices in Masisi Centre). This suggests that cash households gained USD \$1.5 more from the program.

By dividing the costs (per program recipient) by the benefits (per program recipient), we can calculate the cost benefit ratio. For this program, a conservative estimate of the cost benefit ratio is 4.5, meaning that an additional dollar spent on the cash program (as compared to the voucher program) would yield \$4.5 additional dollars in benefits for cash program recipients (as compared with voucher program recipients).<sup>55</sup> This cost-benefit ratio for the cash program is probably higher, as account fees are only levied at the beginning of the program, and cash program recipients had the same or better outcomes using other indicators. In addition, cash program recipients were able to use the money when, how and where they wanted, yet still achieved the same (or better) levels of well-being. This suggests that previous concerns that program recipients would use transfers to consume “temptation” goods were not warranted in this context. This could also be partially attributed to the extreme level of vulnerability of these populations, the total amount of the transfer (which was less than households’ normal food and basic needs expenditures) and the timing of the cash transfers (which were divided in three smaller transfers, thereby spreading out purchases). Yet both male and female program recipients said that they preferred this distribution system to a larger lump sum transfer, stating, “While we would like more money, a large (lump-sum) transfer will make us ‘go crazy’ ....”

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<sup>55</sup> The cost-benefit ratio simply takes the difference in costs between the cash and voucher households (USD \$3) and divides this by the difference in benefits between the cash and voucher households (\$1.5).

## 7. CONCLUSION AND RECOMMENDATIONS

This report summarizes the results of an operational research program designed to assess the different costs and benefits of cash transfers versus vouchers in eastern DRC. The results show that cash households purchased a more diverse set of food and non-food items than voucher households. These diverse purchases also resulted in some differences in household well-being between the two groups: Cash transfer households were able to save a portion of their transfer and were less likely to suffer from food insecurity than voucher households. While there were also some differences between the two groups in terms of individual asset ownership, most of these differences were not statistically significant. In addition, there were no differential impacts statistically in terms of diet diversity, overall asset ownership, agricultural production or intra-household decision-making.

Overall, these results suggest that the cash transfer gave households greater freedom to spend the cash the way in which they wished, and that these choices improved well-being (slightly) as compared with the voucher group. In addition, program recipients reported that there was greater security associated with the transfer and a better ability to spend the cash transfer in smaller purchases.

***Recommendation #1. If the goal of the current program is to improve the purchasing power of internally displaced populations to meet their basic needs (food and non-food items), which is the primary objective of the majority of emergency cash and voucher programs, a cash transfer program provides similar (or greater) benefits at lower costs than a voucher program.*** The cash program provides greater flexibility to vulnerable populations, and cash is more fungible than vouchers. This also led to some additional investments (savings) in the short-term, and potentially might be more secure. In addition, concerns over using the cash transfer for “temptation” goods were not realized in this context. Cash transfers were also strongly preferred by all program recipients and some voucher recipients were willing to forego up to half of the value of the voucher in order to receive cash. This implies that cash transfers can efficiently and effectively allow households to meet their basic needs, as well as accumulate some basic household assets. At the same time, this recommendation also realizes that certain conditions must be in place, in particular, a functioning market with a reliable supply of goods.

- ***In the context of a social protection program, smaller, more regular cash transfers might be preferred to a larger lump-sum payment in order to allow households to better plan their spending and deal with the seasonal fluctuations in income, prices and school fees.*** The size of the cash transfer in 2011/2012 was approximately \$130, spread unequally across three installments. Research on lump sum payments in other in other contexts has been ambiguous. While some research suggests that lump sum payments can be effective in post-emergency contexts (ODI 2009), other research suggests that lump sum payments can lead to increased spending on non-essential items, especially in areas where there are no secure savings mechanisms for cash (as is the case in DRC). Overall, program recipients seemed to prefer smaller, more regular cash disbursements to larger lump sum payments.<sup>56</sup> Providing more regular cash transfers could allow households to better plan and save if the primary objective of the program is social protection.

***If cash transfer programs are not politically or operationally feasible for Concern (because the Cooperative stops functioning, or Concern cannot transport and distribute cash), then vouchers could achieve the same objectives (but at a higher cost and some losses to***

*program recipients). Nevertheless, Concern and other NGOs could make some changes that could allow voucher program to be a bit more flexible and similar to cash transfers.*

While Concern has done an excellent job in ensuring that a wide variety of goods have been available during the voucher fair, a main constraint to voucher households was one of choice and the “expiration date” of the vouchers. If possible, it would be useful to ensure that a totality of articles (food and non-food items), such as those purchased by the cash recipients, were available to households in sufficient quantities at the fairs. Second, to avoid forcing program recipients to use the voucher in one day, Concern could allow the voucher fairs to last for a longer period, or, alternatively, allow vouchers to be redeemable for a particular period at certain kiosks or over several market days in Masisi Centre. These two objectives could be achieved by allowing households to “redeem” their vouchers at different vendors within the Masisi market, on different market days, over several weeks. This would, of course, raise additional security issues (related to fraud or counterfeiting).

***Recommendation #2: If the goal of the current program is to improve the purchasing power of internally displaced populations to meet their basic needs (food and non-food items), as well as invest in larger assets (and land), a cash transfer program would be preferred to a voucher program. However, whether this type of cash transfer program should be provided as a large lump-sum payment or as smaller, more frequent transfers is an area of future research.*** The size of the cash transfer in 2011/2012 was approximately \$130, but spread unequally across three installments to enable households to purchase larger assets (ie, housing materials) up-front. Even though the 2011/2012 program only provided limited USD \$130), 9% of households were able to save part of the cash transfer. In addition, some of these households used the transfer to purchase a parcel of land from the host community (within the camp boundaries). Purchasing this land effectively meant not spending the transfer on other items. While a large, lump-sum transfer would enable households to purchase larger assets all at once, their needs might change over time, so they might be unwilling to spend the transfer (or hesitant about saving). Similarly, while smaller, more frequent transfers might not allow households to purchase larger assets right away, if they were assured of receiving a regular monthly cash transfer, then they could potentially save over time to purchase more expensive assets. Research on lump sum payments in other in other contexts has been ambiguous. While some research suggests that lump sum payments can be effective in post-emergency contexts (ODI 2009), other research suggests that lump sum payments can lead to increased spending on non-essential items, especially in areas where there are no secure savings mechanisms for cash (as is the case in DRC).

***Recommendation #3:*** This research highlighted the potential value of long-term social protection in the context of eastern DRC to livelihood security and poverty reduction.

***Yet meeting households basic needs, while at the same time allowing such households to improve current and future income-generating opportunities – as well as improve other dimensions of well-being (such as education and health), requires a more holistic and longer-term livelihood security program.*** While this short term intervention of cash transfers and vouchers improved households’ access to food and non-food items during a specific period, and allow a few households to invest in income-generating assets (such as land and livestock), IDPs in eastern Congo face multiple and ongoing constraints to their livelihoods that cash transfers cannot address. First, while cash transfers increase households’ income in the short term, they do not necessarily offer future income-generating opportunities for a majority of households – even if the amounts are sufficient to invest in productive assets. Second, even with this income, households do not have access to basic infrastructure (clinics, roads, telecommunications and security) that are required for such income-generating activities to be sustainable. And finally, given the high rates of illiteracy within the camp, focusing on primary education – while important – will not meet the short-term needs of many of these households. The constraints are extremely complex, and unfortunately, finding sustainable income-generating opportunities for internally displaced populations in the present conflict is very difficult.

Interventions could involve camp-specific income-generating opportunities (i.e, selling goods or services to host communities that are not locally available), or joint host community-IDP income-generating activities (such as agriculture, livestock and trainings). All activities can and should involve the host populations. However the provision of longer-term social protection in the form of smaller, more regular and predictable cash transfers could be preferable to one-off or irregular payments for meeting their basic needs and building some resilience in the longer term. They would enable households to better plan their spending, save, and deal with the seasonal fluctuations in income, prices and school fees.

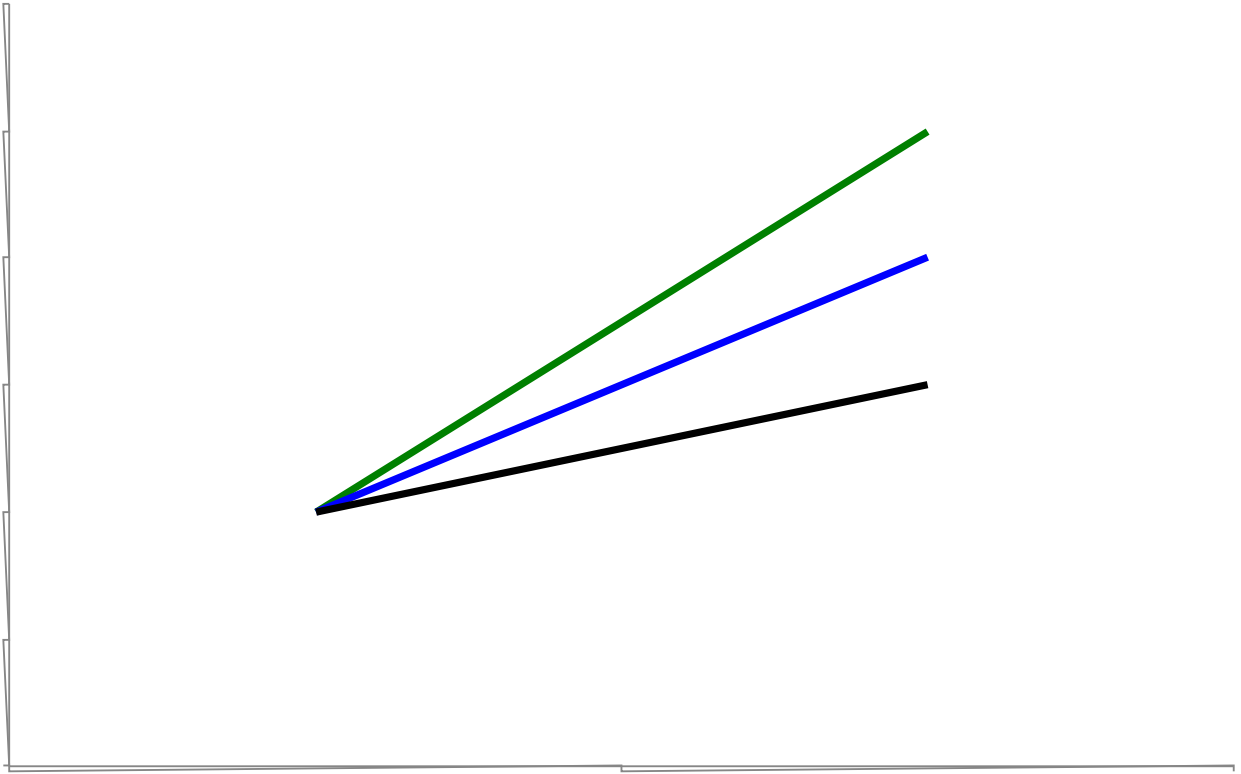
***Recommendation #4. While targeting women as program recipients could potentially allow women to have greater control over how income transfers are spent, this needs to be balanced with the security risks facing women in this context.*** Providing additional income via transfer modalities (cash or vouchers) did not have different impacts upon intra-household decision-making. While substantial empirical literature suggests that targeting women (as opposed to men) could increase household spending on health, food and education, this has not been specifically tested in the DRC context. More importantly, by targeting women for these programs, such programs could be putting women at additional risk, especially in light of the travel distances and the issue of gender-based violence in DRC. At a minimum, Concern needs to carefully monitor how its programs (regardless of the transfer modality) might put women at risk of sexual-based violence. In the future, and if the situation in DRC becomes more stable, Concern could consider conducting research on the impact of targeting men or women on household well-being.



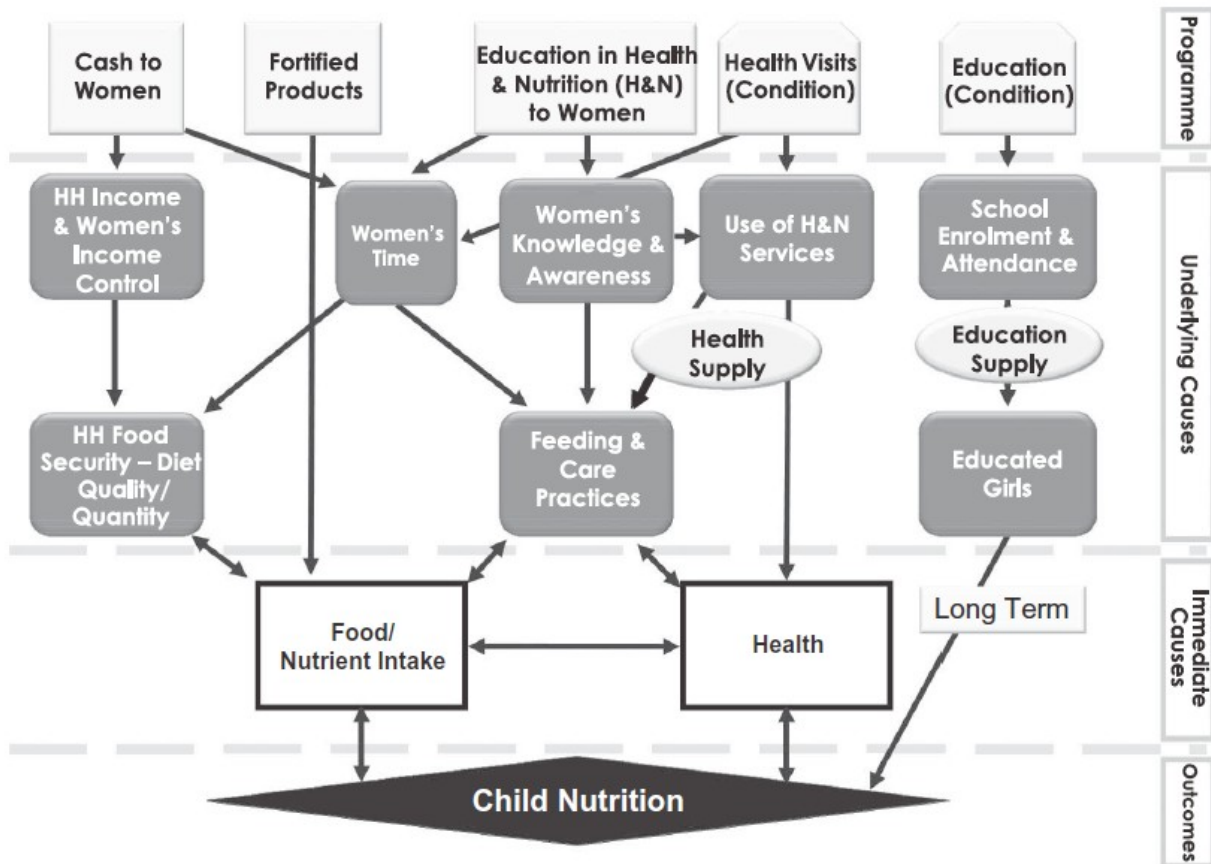
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**Figure 1. Operational Research Approach**



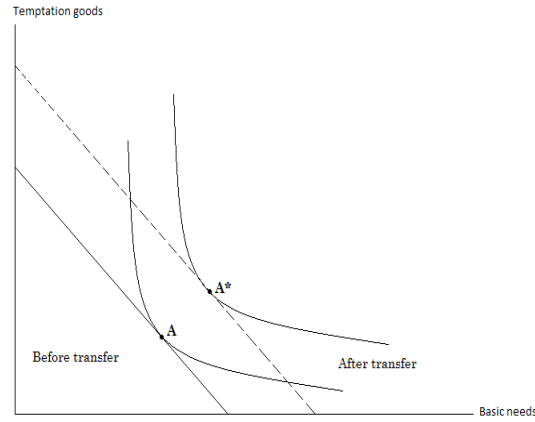
**Figure 2. Mechanisms by which Income Support Programs may Affect Household Well-Being**



**Source:** This figure is reproduced from the article by Leroy et al, 2009.

### Figure 3. Impact of Cash and Voucher Transfers on Households' Purchase Decisions and Subjective and Objective Well-Being

#### a. Under-Provided Income Transfer



#### b. Over-Provided Income Transfer

**Notes:** These two figures show the ways in which vouchers can shift spending as compared with cash. In Figure 3a, the value of the transfer (cash or voucher) is less than normal household spending on basic needs. So, voucher recipients will treat the transfer just like cash, and spending patterns will be the same in both groups. In Figure 3b, the transfer is more than households' normal spending on basic needs. In this case, then, the voucher will cause households to consume more food and basic needs so they can use all of the voucher (that is, the voucher will change households' choices). This results in lower levels of "happiness" for voucher households and inefficiencies for the program and households, and may (or may not) have different effects on household well-being.

**Figure 3c. Under or Over-Provision of the Voucher**



*Notes:* This figure shows the percentage of households with weekly household food expenditures (pre-transfer) for the cash transfer group. The red line shows the average value of the transfer for the last two transfers (which could only be spent on food items).

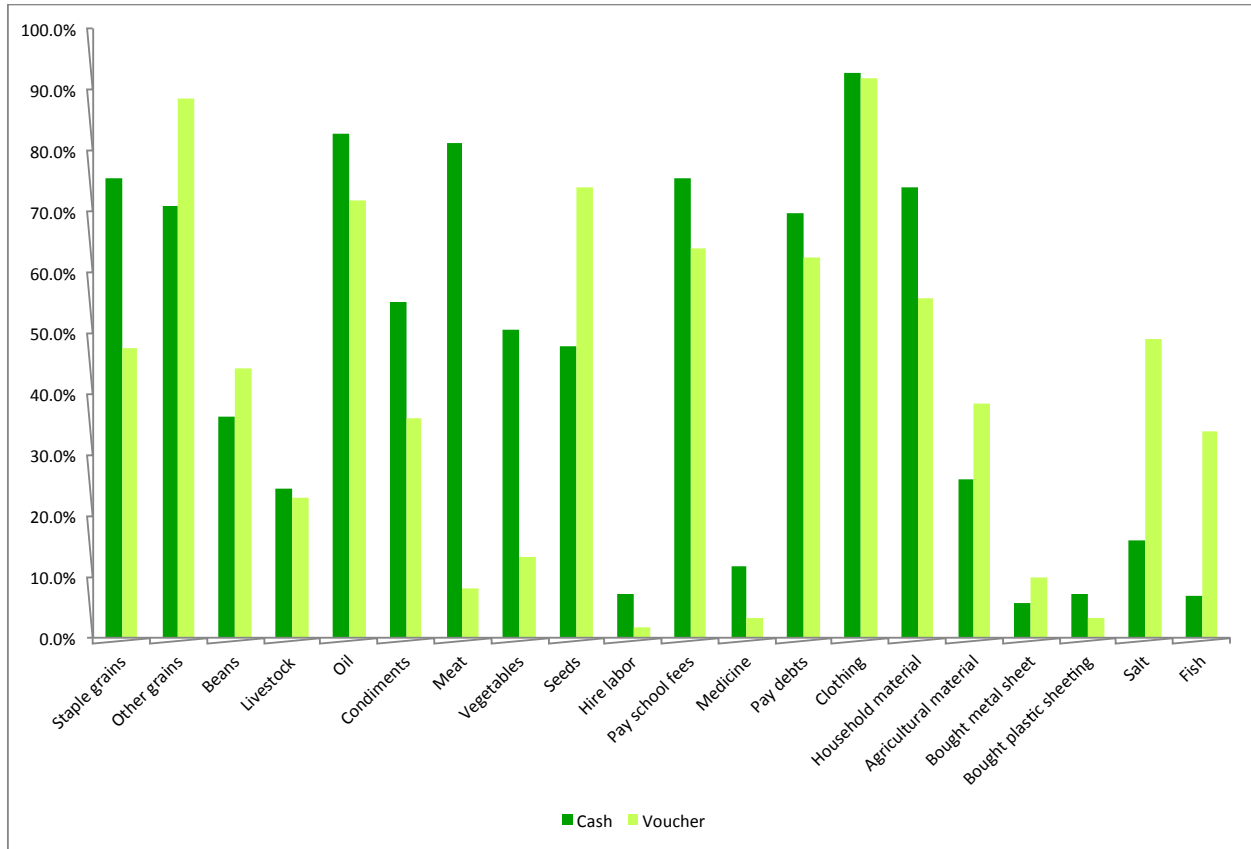


Figure 5. Seasonal Calendar in North Kivu

|                                      | Jan  | Feb   | March   | April   | May  | June    | July  | Aug  | Sept   | Oct     | Nov                                   | Dec     |
|--------------------------------------|--|---|---|---|--|---------|---|--|--|---------|---------------------------------------|---------|
| Rains                                |  |   |   |   |  |         |   |  |  |         |                                       |         |
| <b>Agricultural Production</b>       |  |   |   |   |  |         |   |  |  |         |                                       |         |
| Land Clearing                        |  |   |   |   |  |         |   |  |  |         |                                       |         |
| Land Preparation                     | - Cassava<br>- Sweet Potato<br>- Taro<br>- Bananas<br>- Sugar Cane | Ditto   |   | All Crops   | - Beans<br>- Maize<br>- Sorghum<br>- Groundnut<br>- Soya |         |   |  |  |         |                                       |         |
| Planting                             |  |   | - Beans<br>- Maize<br>- Groundnut<br>- Soya<br>- Vegetables | - Beans<br>- Groundnut<br>- Cassava<br>- Sweet Potato<br>- Potato<br>- Taro |  |         |   |  | - Beans<br>- Sorghum<br>- Groundnut<br>- Maize | - Beans | - Potato<br>- Taro<br>- Sweet Potato  |         |
| Weeding                              |  |   |   |   |  |         |   |  |  |         |                                       |         |
| Harvest                              | - Beans<br>- Groundnut   | - Beans<br>- Groundnut<br>- Maize<br>- Potato | - Beans<br>- Sorghum<br>- Groundnut<br>- Maize              |   |  | - Beans | - Beans<br>- Groundnut<br>- Maize<br>- Potato | - Beans<br>- Groundnut<br>- Maize<br>- Potato<br>- Sorghum |  |         |                                       | - Beans |
| <b>Commercial Activities</b>         |  |   |   |   |  |         |   |  |  |         |                                       |         |
| Sale of Harvest (% carried out)      | 80 %   | 50 %  | 80 %  | 50 %  | 50 %   | 50 %    | 100 %   | 80 %   | 80 %   | 30 %    | Esp. Manioc/<br>Other Products<br>20% | 40 %    |
| Sale of Livestock                    | Most Livestock   | Most Livestock/<br>Agriculture Inputs         | Ditto   | Ditto   |  |         |   |  |  |         |                                       |         |
| Sale of Wood (% commercial activity) | 40 %   |   |   |   |  |         | 30 %  |  |  | 80 %    | 80 %                                  | 60 %    |
| Construction                         |  |   |   |   |  |         |   |  |  |         |                                       |         |

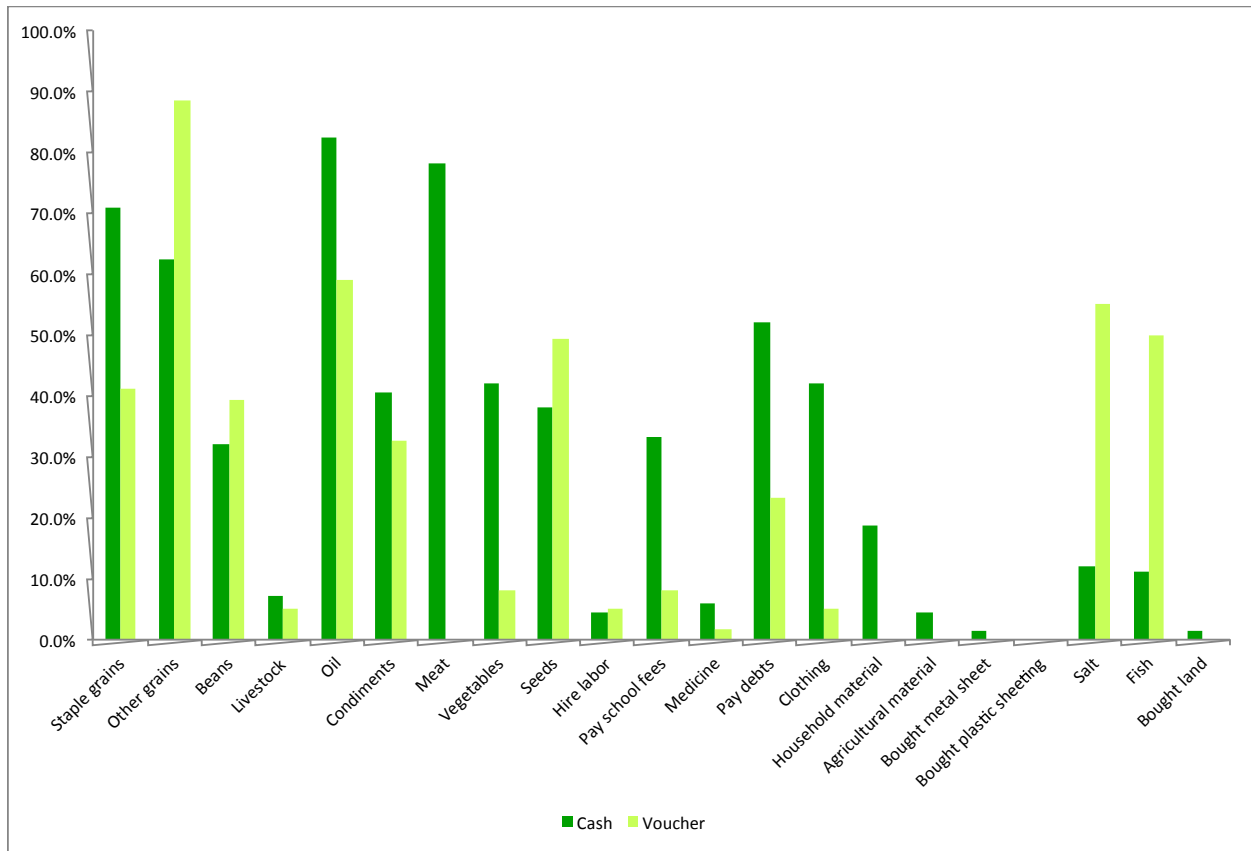
Source: Save the Children 2003.

Figure 6a. Uses of the First Two Transfers (September and October 2011)

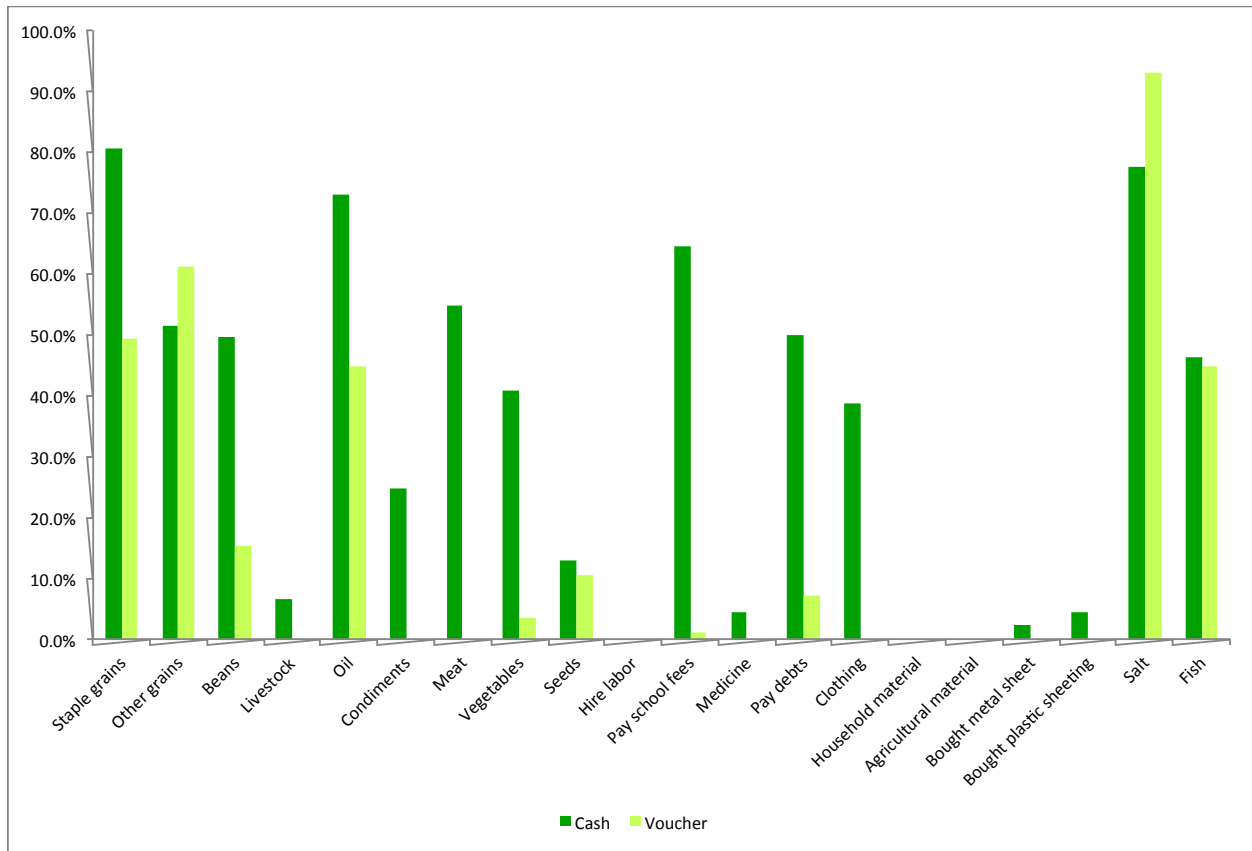




**Figure 6b. Uses of the Second Transfer Only (October 2011)**

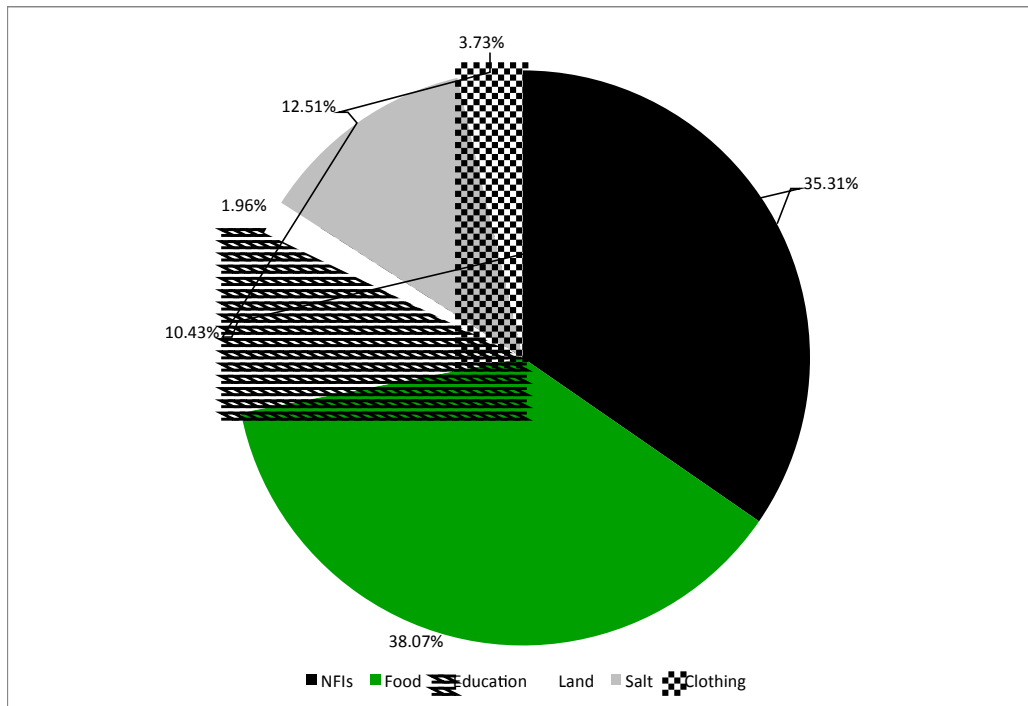


**Figure 6c. Uses of the Third Transfer (February 2012)**

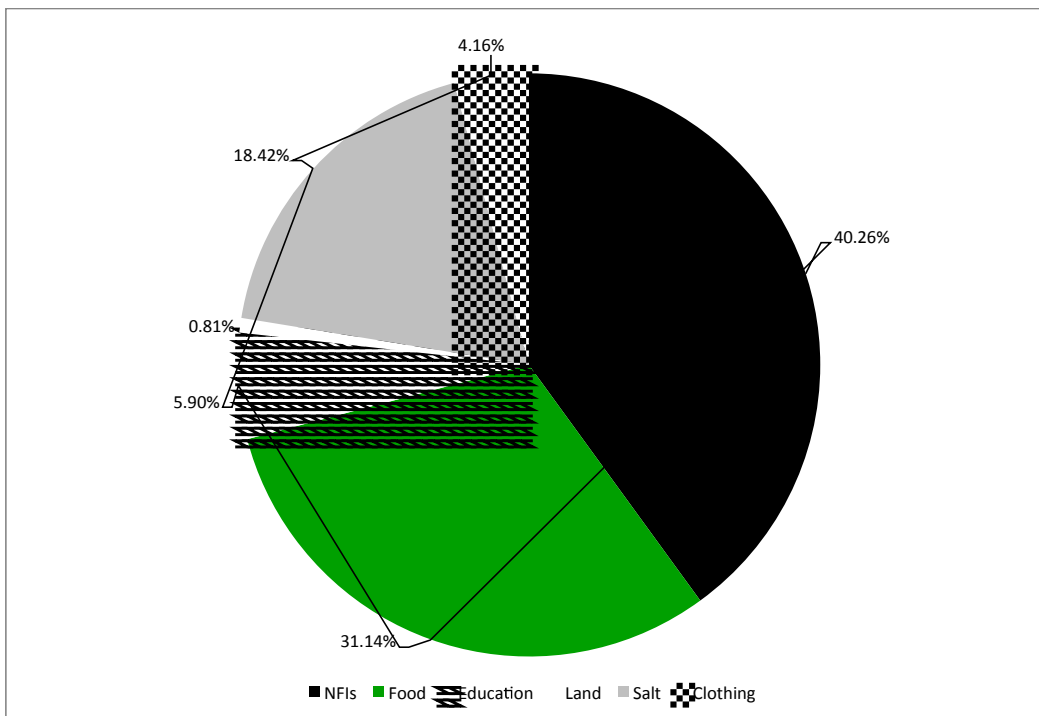


**Figure 7. Percentage of Transfer Spent on Different Categories**

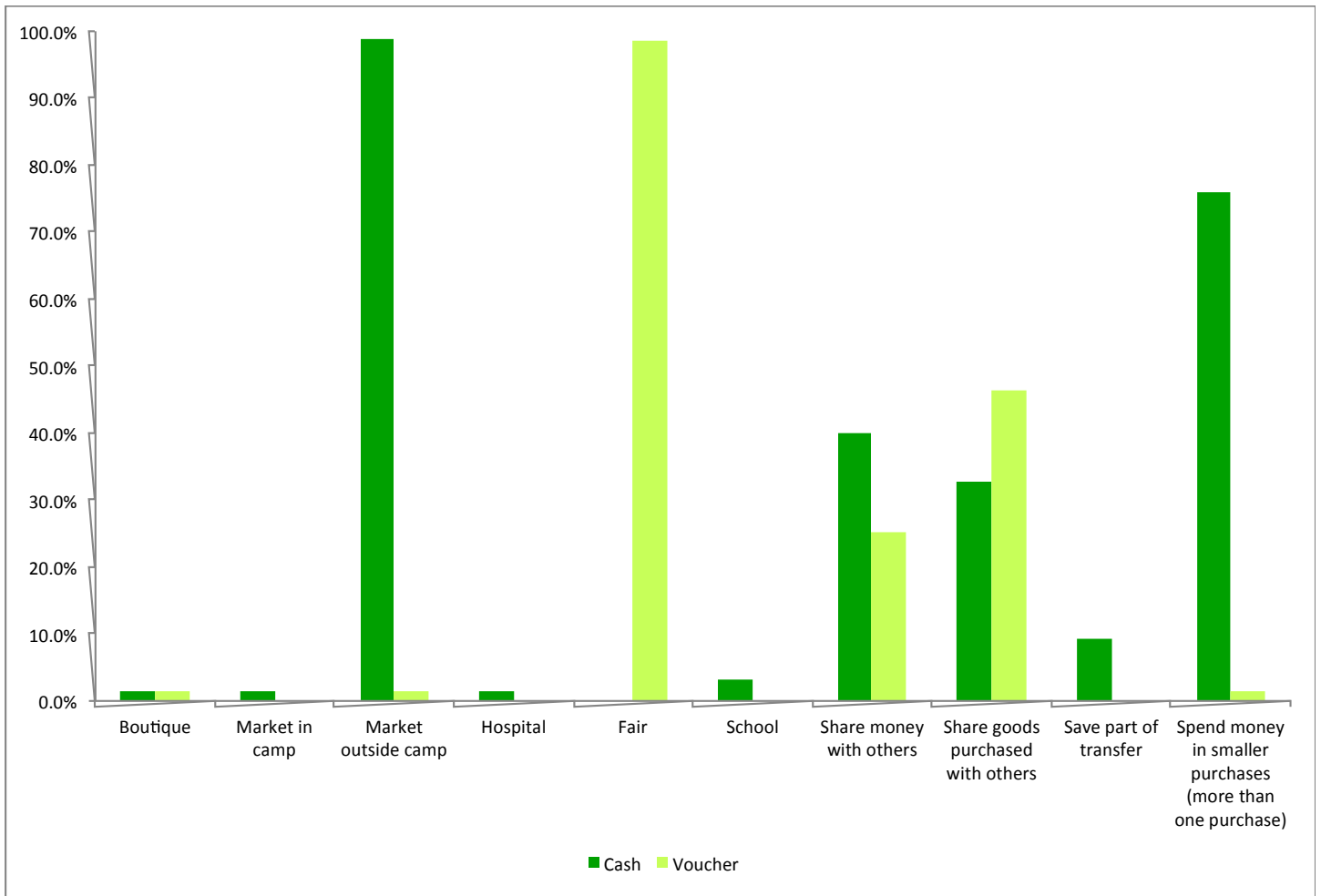
**Cash Households**



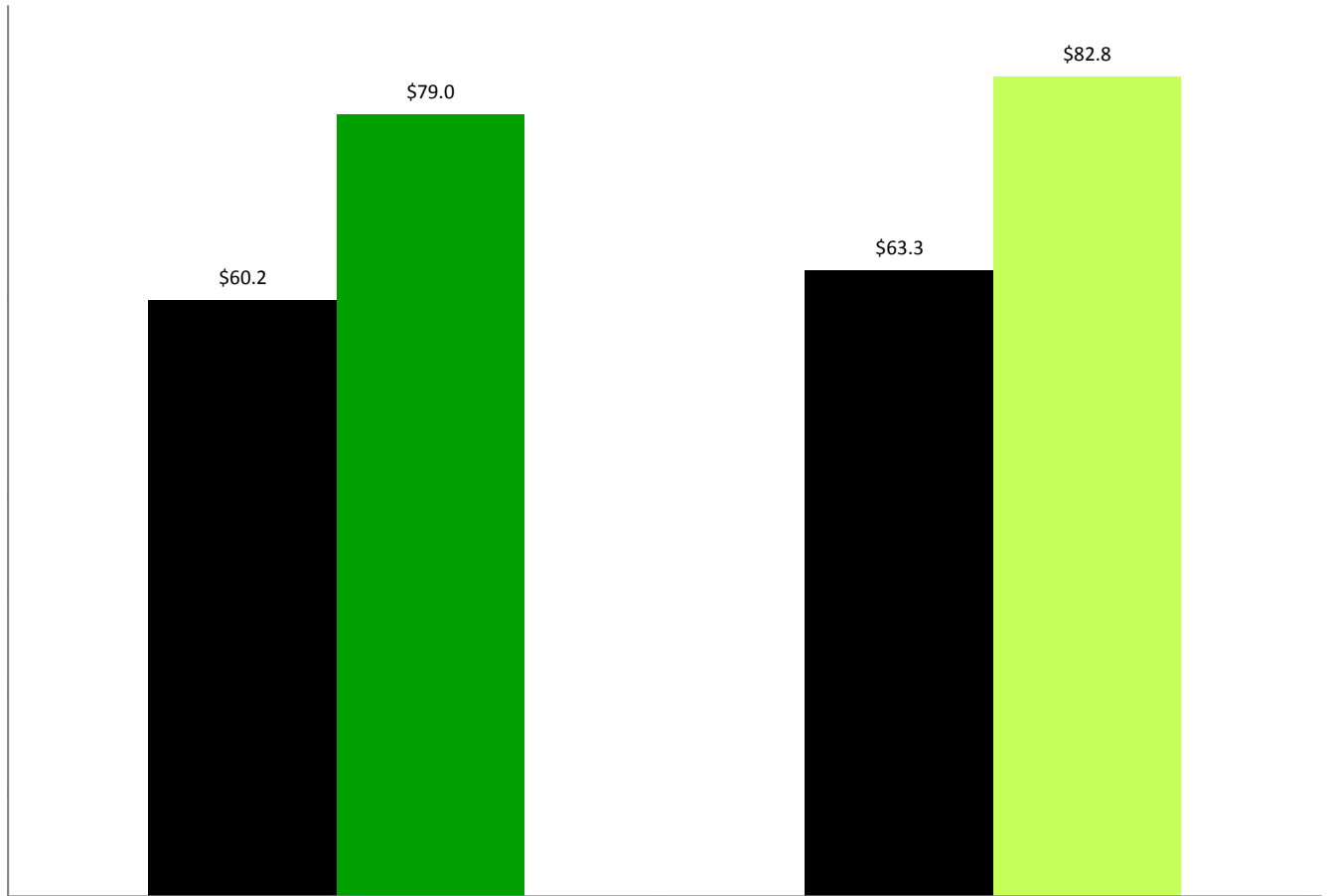
**Voucher Households**



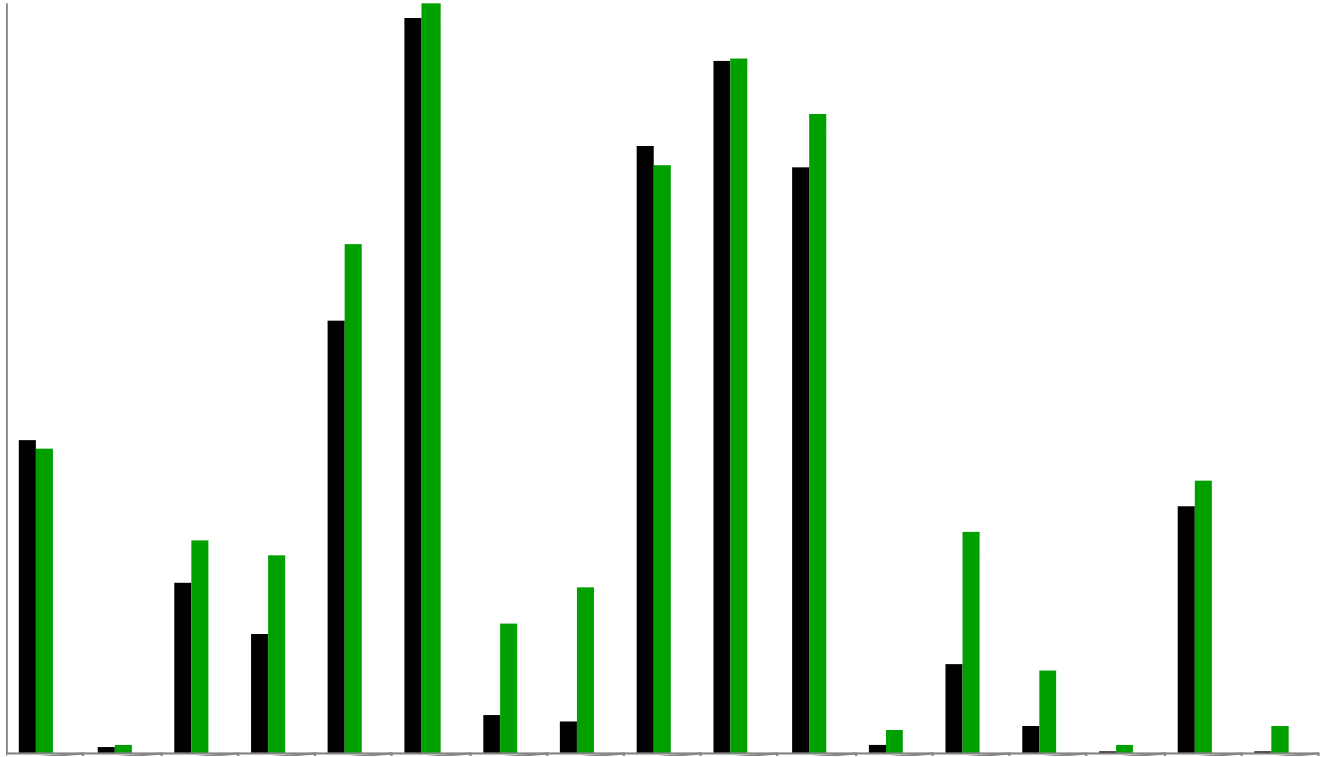
**Figure 8. Location of Purchases and Sharing of the Cash Transfer and Vouchers**



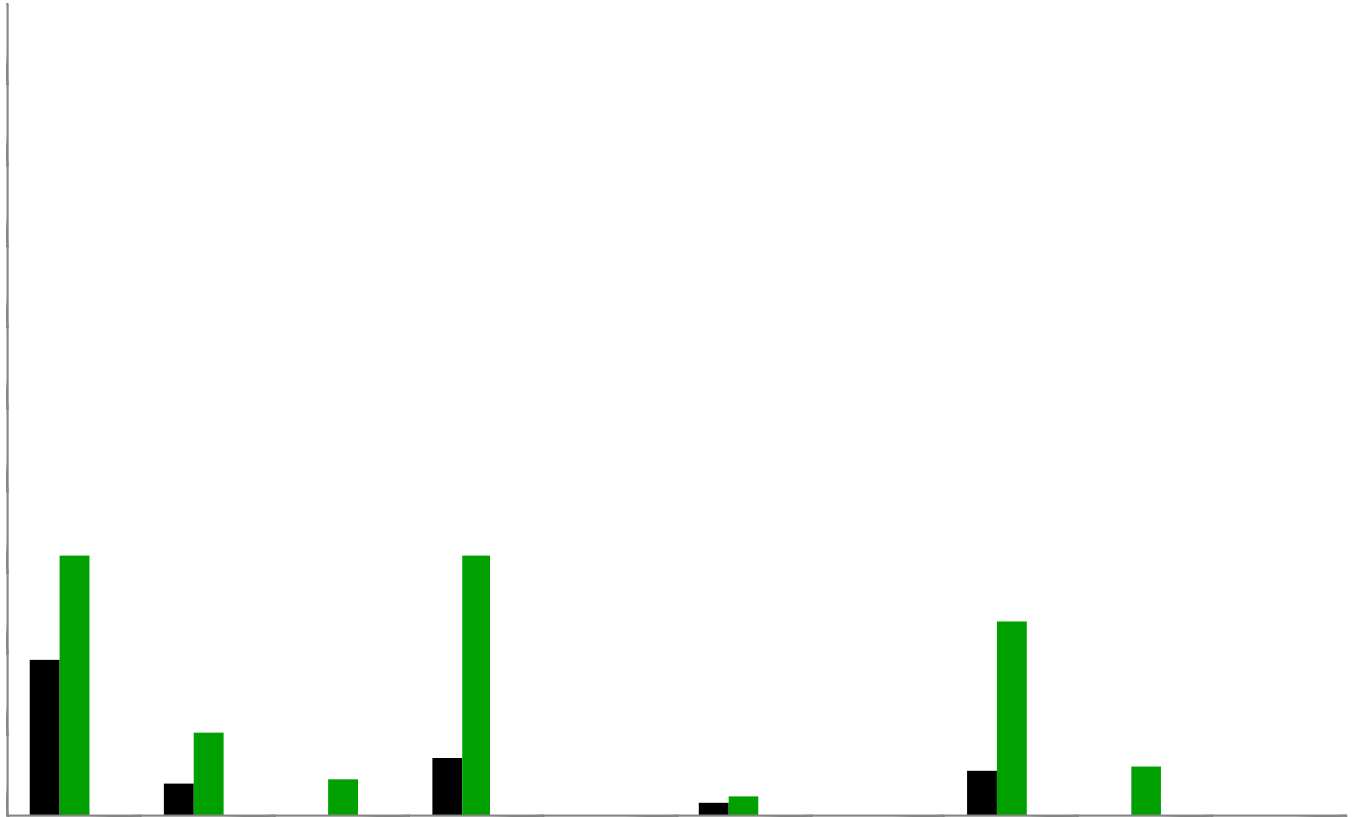
**Figure 9a. Value of Household Assets Before and After the Program**



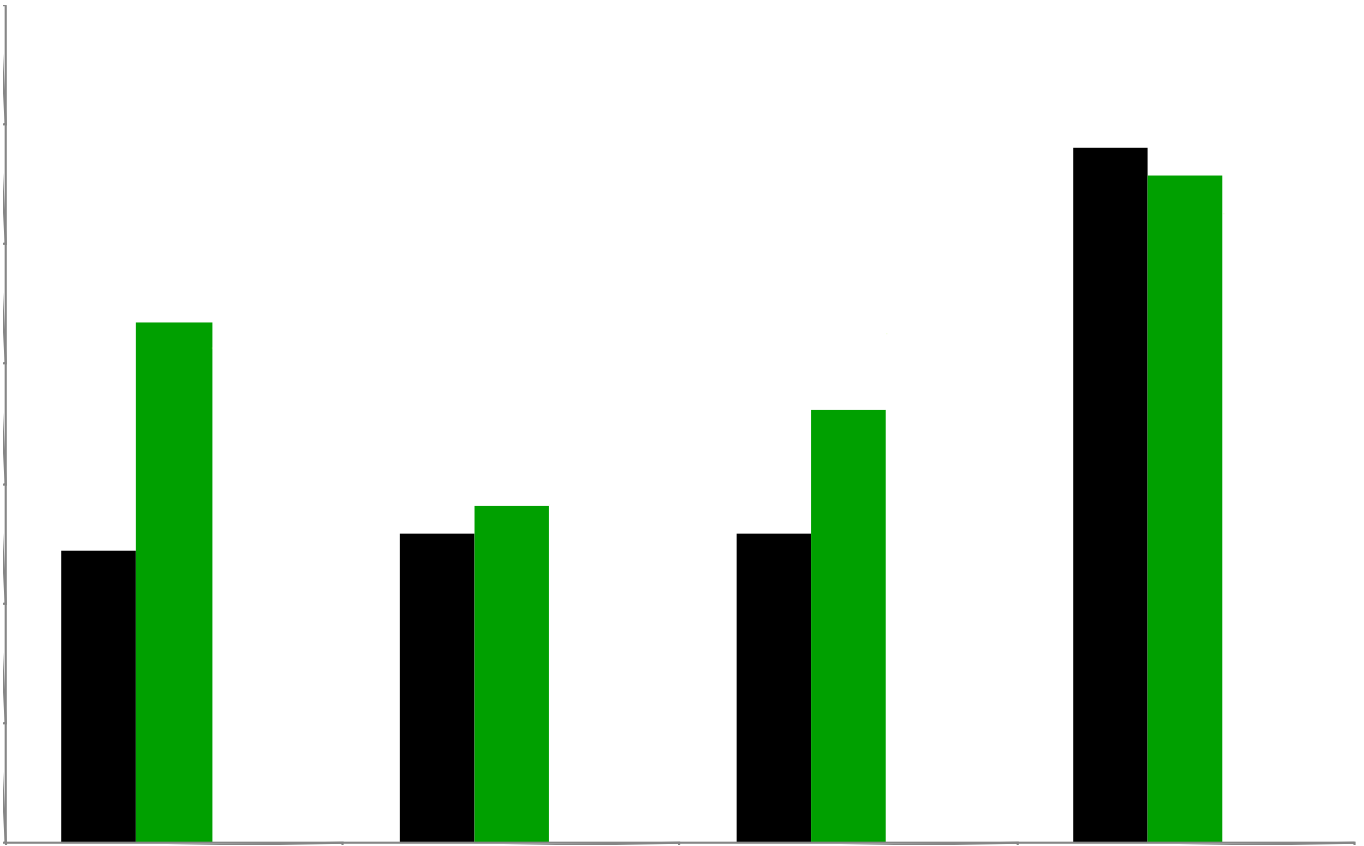
**Figure 9b. Asset Ownership of Cash and Voucher Households**



**Figure 10. Agricultural Production and Livestock Raising of Cash and Voucher Households**

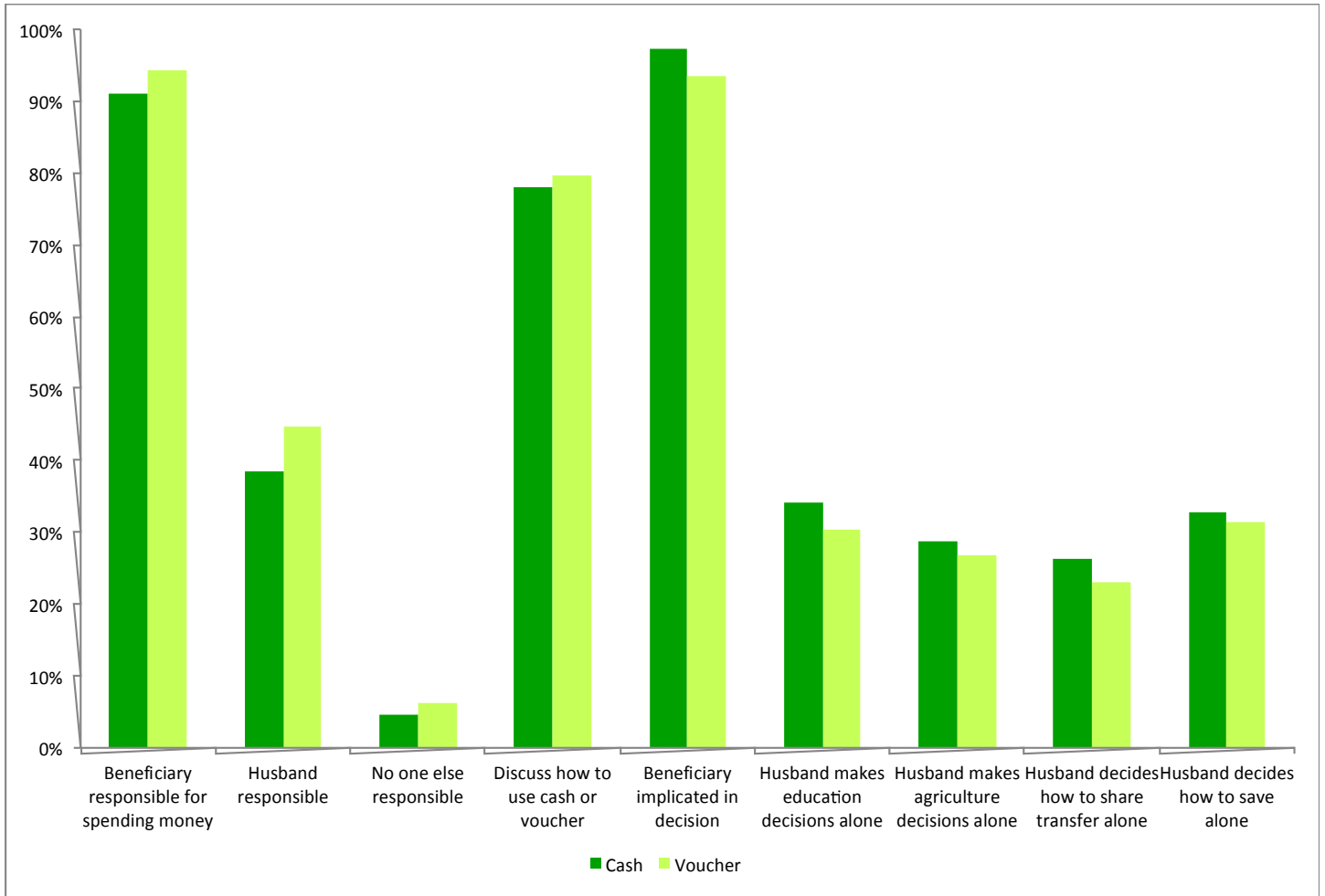


**Figure 11. Food Security Status of Cash and Voucher Households**

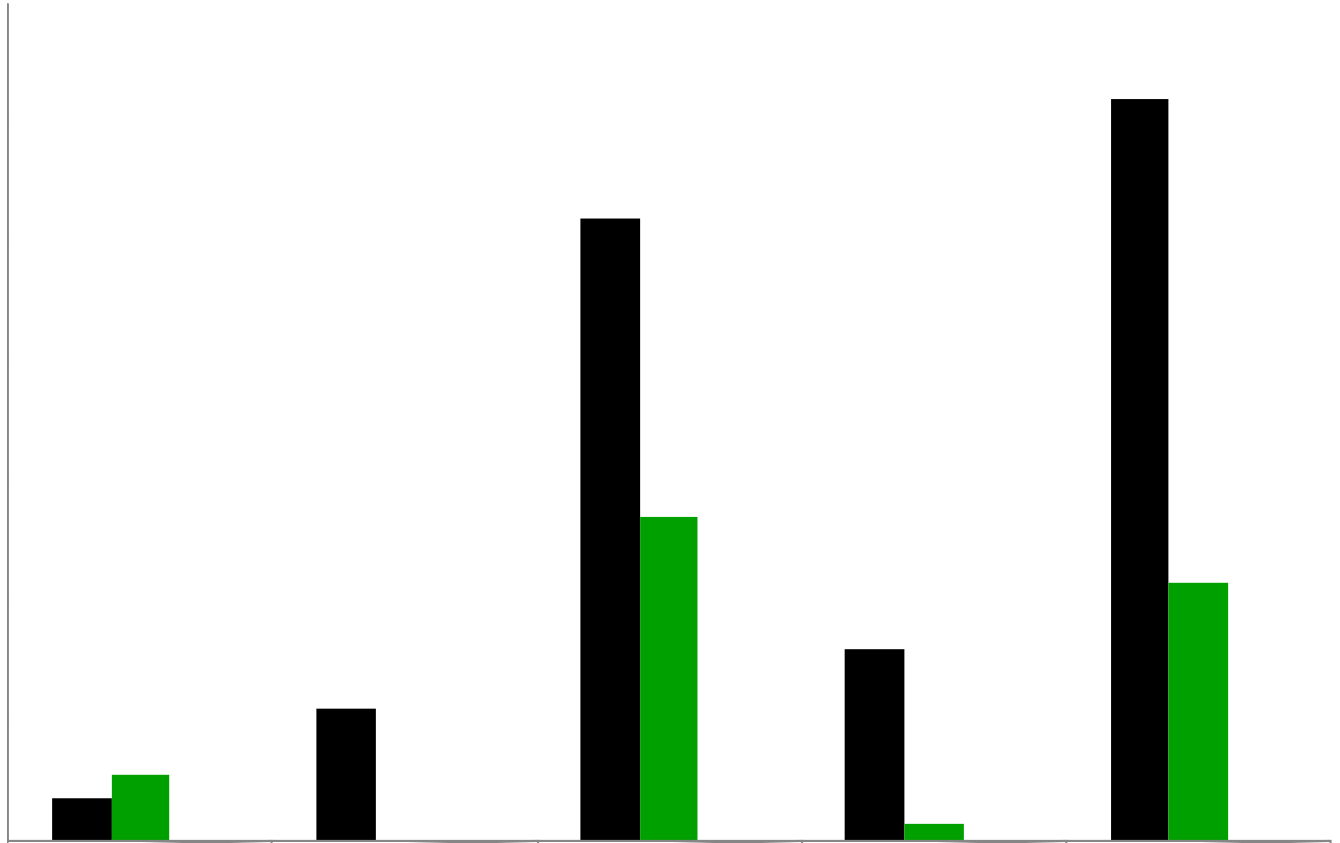




**Figure 12. Intra-Household Decision-Making of Cash and Voucher Households**



**Figure 13. Coping Strategies of Cash and Voucher Households**



**Figure 14. Cost per Program Recipient of the Cash and Voucher Program**

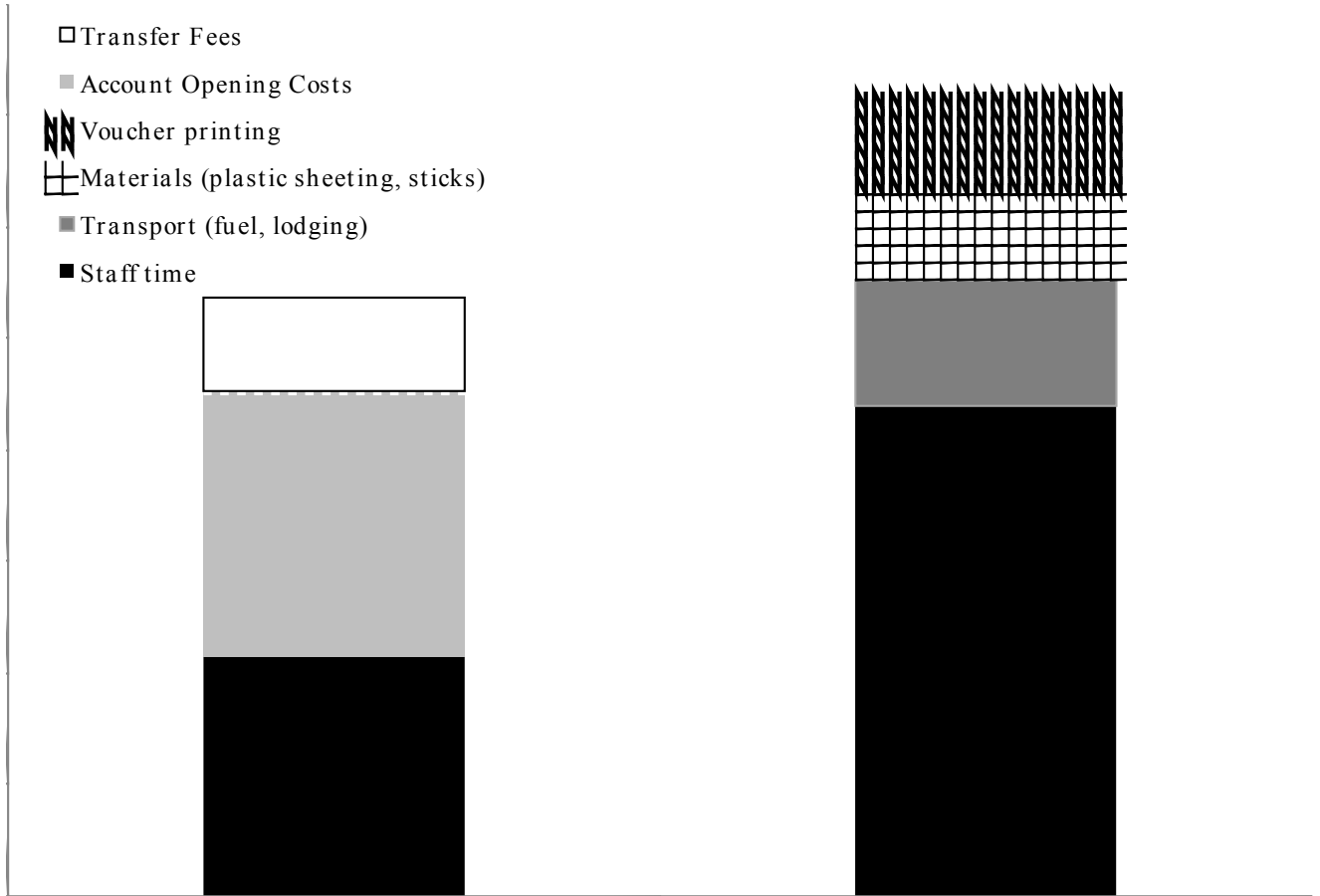


Table A1. Full Sample Baseline Summary Statistics

| Variable  | Obs | Mean    | Std. Dev. | Min | Max   |
|---|-----|---------|-----------|-----|-------|
| <b>Panel A: Socio-Demographic Characteristics</b> |     |         |           |     |       |
| Household size                                    | 252 | 5.5     | 1.9       | 1   | 11    |
| Female-headed household                           | 252 | 42%     | 0.5       | 0   | 1     |
| <b>Panel B: Income Sources</b>                    |     |         |           |     |       |
| Number of income sources                          | 252 | 2.8     | 0.86      | 1   | 6     |
| <i>Had salaried work</i>                          | 251 | 2%      | 0.15      | 0   | 1     |
| <i>Daily agricultural salaried work</i>           | 252 | 58%     | 0.49      | 0   | 1     |
| <i>Daily salaried work (other)</i>                | 252 | 78%     | 0.41      | 0   | 1     |
| <i>Trade</i>                                      | 252 | 6%      | 0.23      | 0   | 1     |
| <i>Artisanat</i>                                  | 252 | 6%      | 0.23      | 0   | 1     |
| <i>Agricultural production</i>                    | 252 | 6%      | 0.23      | 0   | 1     |
| <i>Searching for fuelwood</i>                     | 252 | 2%      | 0.13      | 0   | 1     |
| <i>Animal fodder</i>                              | 251 | 0%      | 0.06      | 0   | 1     |
| <i>Food storage</i>                               | 252 | 0%      | 0.00      | 0   | 0     |
| <i>Pastor/religious</i>                           | 252 | 3%      | 0.18      | 0   | 1     |
| <i>Traditional healer</i>                         | 251 | 0%      | 0.00      | 0   | 0     |
| <i>Traditional birth attendant</i>                | 252 | 0%      | 0.06      | 0   | 1     |
| <i>Found work outside of the camp</i>             | 252 | 18%     | 0.39      | 0   | 1     |
| <i>Found work outside of DRC</i>                  | 252 | 1%      | 0.09      | 0   | 1     |
| Total revenue earned during the past week         | 252 | 2444.64 | 4717.58   | 0   | 50600 |

|  |     |         |         |   |       |
|--|-----|---------|---------|---|-------|
| Part of revenue used for food from the past week | 252 | 1815.47 | 3327.93 | 0 | 48000 |
|--|-----|---------|---------|---|-------|

**Panel C: Agricultural Production**

|  |     |      |      |   |   |
|--|-----|------|------|---|---|
| Cultivated crops during last agricultural season | 251 | 10%  | 0.29 | 0 | 1 |
| Household owns land                              | 252 | 2%   | 0.15 | 0 | 1 |
| # of plots used for cultivation                  | 252 | 0.13 | 0.45 | 0 | 4 |
| Grew cereals last season                         | 252 | 5%   | 0.21 | 0 | 1 |
| Grew tubers last season                          | 252 | 7%   | 0.25 | 0 | 1 |
| Grew beans last season                           | 252 | 7%   | 0.26 | 0 | 1 |
| Grew fruits last season                          | 251 | 1%   | 0.09 | 0 | 1 |
| Grew vegetables last season                      | 252 | 4%   | 0.20 | 0 | 1 |
| Produced food for animals last season            | 252 | 0%   | 0.00 | 0 | 0 |
| Raised animals in the past year                  | 252 | 4%   | 0.19 | 0 | 1 |
| Types of animals raised:                         |     |      |      |   |   |
| <i>Cows</i>                                      | 252 | 0%   | 0.00 | 0 | 0 |
| <i>Goats</i>                                     | 252 | 1%   | 0.09 | 0 | 1 |
| <i>Sheep</i>                                     | 252 | 0%   | 0.00 | 0 | 0 |
| <i>Poultry</i>                                   | 252 | 3%   | 0.16 | 0 | 1 |
| <i>Rabbit</i>                                    | 252 | 0%   | 0.00 | 0 | 0 |
| Produced animal by-products                      | 252 | 0%   | 0.00 | 0 | 0 |
| <i>Meat</i>                                      | 252 | 0%   | 0.06 | 0 | 1 |
| <i>Eggs</i>                                      | 252 | 0%   | 0.06 | 0 | 1 |

|               |     |    |      |   |   |
|---------------|-----|----|------|---|---|
| <i>Milk</i>   | 251 | 0% | 0.00 | 0 | 0 |
| <i>Cheese</i> | 252 | 0% | 0.00 | 0 | 0 |

**Panel D: Asset Ownership**

|  |     |       |       |   |    |
|--|-----|-------|-------|---|----|
| Number of durable asset categories owned     | 252 | 0.01  | 0.09  | 0 | 1  |
| Number of non-durable asset categories owned | 252 | 10.98 | 3.53  | 2 | 22 |
| Household owns mobile phone                  | 252 | 1%    | 0.101 | 0 | 1  |
| Household owns flashlight                    | 251 | 12%   | 0.33  | 0 | 1  |

**Panel E: Social Capital**

|                             |     |     |       |   |   |
|-----------------------------|-----|-----|-------|---|---|
| Member of a community group | 252 | 20% | 0.431 | 0 | 2 |
|-----------------------------|-----|-----|-------|---|---|

**Panel F: Food Security**

|   |     |      |       |   |   |
|---|-----|------|-------|---|---|
| Household diet diversity score (out of 12)                | 252 | 2.9  | 1.75  | 0 | 9 |
| Household has experienced food insecurity since June 2011 | 250 | 99%  | 0.089 | 0 | 1 |
| Number of meals eaten in the past 24 hours                | 252 | 1.29 | 0.53  | 0 | 3 |
| Number of meals eaten by children in the past 24 hours    | 252 | 1.29 | 0.54  | 0 | 3 |

Note: Durable asset categories include a bike, generator and storage facility. Non-durable asset categories include chairs, radios, mattresses, utensils.

**Table A2. Comparison of Baseline Household-Level Characteristics by Cash and Voucher Groups**

| Variable | Mean of Cash Group | Mean of Voucher Group | Cash-Voucher difference | Number of observations | Statistically Significant |
|----------|--------------------|-----------------------|-------------------------|------------------------|---------------------------|
|----------|--------------------|-----------------------|-------------------------|------------------------|---------------------------|

|   |       |       |         |     | difference? |
|---|-------|-------|---------|-----|-------------|
| Household size                              | 5.52  | 5.41  | 0.111   | 252 | No          |
| Female headed households                    | 49%   | 34%   | 0.144** | 252 | Yes         |
| Number of income sources                    | 2.83  | 2.77  | 0.066   | 252 | No          |
| Cultivate crops                             | 10%   | 9%    | 0.013   | 251 | No          |
| Access to land                              | 0.02  | 0.02  | 0.008   | 252 | No          |
| Number of durable asset categories owned    | 0.01  | 0.01  | 0.0001  | 252 | No          |
| Number of non-durable good categories owned | 10.96 | 11.00 | -0.039  | 252 | No          |
| Number of community group                   | 21%   | 20%   | 0.005   | 252 | No          |
| Household diet diversity score (out of 2)   | 2.98  | 2.83  | .144    | 252 | No          |

Note: Durable asset categories include a bike, generator and storage facility. Non-durable asset categories include chairs, radios, mattresses, utensils.

**Table A3: Income Sources and Assets of Cash and Voucher Households: November 2011**

| Assets                           | Cash  | Voucher | Statistical Difference |
|----------------------------------|-------|---------|------------------------|
| <b>Income</b>                    |       |         |                        |
| Number of income sources         | 1.68  | 1.76    | No                     |
| Income earned previous week (FC) | 4123  | 3721    | No                     |
| Percent of income spent on food  | 82%   | 82%     | No                     |
| <b>Overall Assets</b>            |       |         |                        |
| Value of all assets (USD)        | 66.67 | 73.58   | No                     |
| Durable goods                    | 0.03  | 0.05    | No                     |
| Non-durable goods                | 11.29 | 11.81   | No                     |
| <b>Household Goods</b>           |       |         |                        |
| Plastic sheeting                 | 19%   | 36%     | Yes                    |
| Number of plastic sheets         | 0.20  | 0.38    | Yes                    |
| Chairs                           | 72%   | 75%     | No                     |
| Number of Chairs                 | 1.23  | 1.33    | No                     |
| Table                            | 4%    | 3%      | No                     |
| Number of Tables                 | 0.06  | 0.03    | No                     |
| Sleeping mat                     | 68%   | 77%     | No                     |
| Number of sleeping mats          | 1.00  | 1.08    | No                     |
| Bike                             | 1%    | 3%      | No                     |
| Number of bikes                  | 0.01  | 0.03    | No                     |

|                              |      |      |    |
|------------------------------|------|------|----|
| Flashlight                   | 28%  | 28%  | No |
| Number of flashlights        | 0.28 | 0.28 | No |
| Petrol lamp                  | 7%   | 10%  | No |
| Number of petrol lamps       | 0.07 | 0.10 | No |
| Basket                       | 39%  | 43%  | No |
| Number of Baskets            | 0.38 | 0.45 | No |
| Metal Sheet                  | 6%   | 8%   | No |
| Number of Metal Sheets       | 0.25 | 0.46 | No |
| Cover                        | 86%  | 80%  | No |
| Number of covers             | 1.14 | 1.26 | No |
| Soap                         | 18%  | 23%  | No |
| Number of Soap               | 0.18 | 0.23 | No |
| Bucket                       | 22%  | 25%  | No |
| Number of Buckets            | 0.22 | 0.31 | No |
| Mobile Phone                 | 3%   | 2%   | No |
| Number of mobile phones      | 0.03 | 0.02 | No |
| Radio                        | 13%  | 8%   | No |
| Number of radios             | 0.14 | 0.08 | No |
| <b>Income Earning Assets</b> |      |      |    |
| Seeds                        | 7%   | 10%  | No |
| Number of Seeds              | 0.10 | 0.15 | No |
| Hoe                          | 32%  | 34%  | No |
| Number of hoes               | 0.34 | 0.39 | No |
| Axe                          | 23%  | 28%  | No |
| Number of axes               | 0.24 | 0.28 | No |
| Machete                      | 65%  | 70%  | No |
| Number of machetes           | 0.71 | 0.70 | No |
| Sickle                       | 0%   | 2%   | No |
| Number of sickles            | 0.00 | 0.02 | No |
| Pagne                        | 100% | 97%  | No |
| Number of pagnes             | 2.55 | 2.43 | No |
| Granary                      | 42%  | 35%  | No |
| Number of Granaries          | 0.43 | 0.35 | No |
| Hammer                       | 14%  | 18%  | No |
| Number of hammers            | 0.15 | 0.18 | No |
| Saw                          | 1%   | 2%   | No |
| <b>Kitchen Assets</b>        |      |      |    |
| Can                          | 81%  | 80%  | No |
| Number of cans               | 1.13 | 1.11 | No |
| Casserole                    | 94%  | 98%  | No |
| Number of Casseroles         | 2.12 | 2.28 | No |
| Cup                          | 80%  | 84%  | No |
| Number of Cups               | 1.49 | 1.34 | No |
| Plate                        | 91%  | 90%  | No |
| Number of Plates             | 3.00 | 3.03 | No |



|                   |      |      |    |
|-------------------|------|------|----|
| Fork              | 6%   | 7%   | No |
| Number of Forks   | 0.10 | 0.11 | No |
| Spoon             | 43%  | 49%  | No |
| Number of Spoons  | 0.93 | 1.21 | No |
| Mortar            | 26%  | 18%  | No |
| Number of Mortars | 0.26 | 0.18 | No |
| Pestle            | 23%  | 18%  | No |
| Number of Pestles | 0.28 | 0.23 | No |

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**Table A4: Income Sources and Assets of Cash and Voucher Households:  
March 2012**

| <b>Assets</b>                    | <b>Cash</b> | <b>Voucher</b> | <b>Statistical Difference</b> |
|----------------------------------|-------------|----------------|-------------------------------|
| <b>Income</b>                    |             |                |                               |
| Number of income sources         | 1.4         | 1.31           | No                            |
| Income earned previous week (FC) | 4805        | 3357           | No                            |
| Percent of income spent on food  | 78%         | 82%            | No                            |
| <b>Overall Assets</b>            |             |                |                               |
| Value of all assets (USD)        | 88.14       | 89.07          | No                            |
| Durable goods                    | 0.01        | 0.00           | No                            |
| Non-durable goods                | 10.73       | 10.62          | No                            |
| <b>Household Goods</b>           |             |                |                               |
| Plastic sheeting                 | 57%         | 59%            | No                            |
| Number of plastic sheets         | 0.57        | 0.60           | No                            |
| Chairs                           | 89%         | 86%            | No                            |
| Number of Chairs                 | 1.47        | 1.65           | No                            |
| Table                            | 5%          | 4%             | No                            |
| Number of Tables                 | 0.05        | 0.04           | No                            |
| Sleeping mat                     | 86%         | 85%            | No                            |
| Number of sleeping mats          | 1.16        | 1.34           | No                            |
| Bike                             | 1%          | 0%             | No                            |
| Number of bikes                  | 0.06        | 0.00           | No                            |
| Radio                            | 20%         | 16%            | No                            |
| Number of radios                 | 0.20        | 0.15           | No                            |
| Cover                            | 98%         | 100%           | No                            |
| Number of covers                 | 1.65        | 1.76           | No                            |
| Bucket                           | 30%         | 39%            | No                            |
| Number of Buckets                | 0.32        | 0.40           | No                            |
| Soap                             | 19%         | 40%            | Yes                           |
| Number of Soap                   | 0.20        | 0.44           | Yes                           |
| Granary                          | 48%         | 56%            | No                            |
| Number of Granaries              | 0.48        | 0.69           | No                            |
| Mobile Phone                     | 3%          | 7%             | No                            |
| Number of mobile phones          | 0.03        | 0.07           | No                            |
| Flashlight                       | 31%         | 25%            | No                            |
| Number of flashlights            | 0.31        | 0.25           | No                            |
| Petrol lamp                      | 14%         | 12%            | No                            |
| Number of petrol lamps           | 0.24        | 0.12           | No                            |
| Basket                           | 34%         | 44%            | No                            |
| Number of Baskets                | 0.35        | 0.49           | No                            |
| Metal Sheet                      | 2%          | 6%             | No                            |
| Number of Metal Sheets           | 0.08        | 0.35           | No                            |
| <b>Income Earning Assets</b>     |             |                |                               |
| Seeds                            | 15%         | 12%            | No                            |
| Number of Seeds                  | 0.73        | 1.18           | No                            |

|                       |      |      |     |
|-----------------------|------|------|-----|
| Hoe                   | 26%  | 46%  | Yes |
| Number of hoes        | 0.30 | 0.48 | Yes |
| Axe                   | 29%  | 32%  | No  |
| Number of axes        | 0.29 | 0.33 | No  |
| Machete               | 70%  | 74%  | No  |
| Number of machetes    | 0.73 | 0.78 | No  |
| Sickle                | 0%   | 1%   | No  |
| Number of sickles     | 0.00 | 0.01 | No  |
| Pagne                 | 100% | 100% | No  |
| Number of pagnes      | 2.50 | 2.71 | No  |
| Hammer                | 28%  | 32%  | No  |
| Number of hammers     | 0.28 | 0.32 | No  |
| Saw                   | 1%   | 0%   | No  |
| <b>Kitchen Assets</b> |      |      |     |
| Can                   | 88%  | 85%  | No  |
| Number of cans        | 1.17 | 1.07 | No  |
| Casserole             | 100% | 100% | No  |
| Number of Casseroles  | 2.68 | 2.85 | No  |
| Cup                   | 95%  | 93%  | No  |
| Number of Cups        | 1.59 | 1.68 | No  |
| Plate                 | 99%  | 100% | No  |
| Number of Plates      | 4.06 | 4.59 | No* |
| Fork                  | 15%  | 19%  | No  |
| Number of Forks       | 0.41 | 0.45 | No  |
| Spoon                 | 56%  | 67%  | No  |
| Number of Spoons      | 1.60 | 1.72 | No  |
| Mortar                | 19%  | 20%  | No  |
| Number of Mortars     | 0.22 | 0.20 | No  |
| Pestle                | 20%  | 19%  | No  |
| Number of Pestles     | 0.23 | 0.25 | No  |