Humanitarian Cash Transfers in the Democratic Republic of the Congo: Evidence from UNICEF's ARCC II Programme

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Contributors

This research on the results of UNICEF's Alternative Assistance for Communities in Crisis (ARCC) II programme is being conducted by American Institutes for Research (AIR) under contract to UNICEF. The principal investigators for the overall research are Juan Bonilla (AIR) and Eleonora Nillesen (United Nations University – MERIT, Amsterdam, the Netherlands). The team leaders of this report are Juan Bonilla and Eleonora Nillesen, but many others made important contributions and are listed below by institutional affiliation (in alphabetical order within institution). Gabriele Erba (Monitoring Specialist) and Steven Michel (Emergency Specialist), from UNICEF's Democratic Republic of the Congo country programme, contributed significantly to the writing, analysis and editing of the study.

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All authors of this research declare to the best of their knowledge not to have any conflict of interests such as financial interests or other personal considerations which may compromise, or have the appearance of compromising, their professional judgment with regard to in this research.

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List of acronyms

AAP	Accountability to Affected Populations
AIR	American Institutes for Research
ARCC	Alternative Responses for Communities in Crisis
AVSI	Associazione Volontari per il Servizio Internazionale
CBA	Cash-based assistance
CDF	Congolese franc (920 CDF = 1 USD)
CRM	Complaints response mechanism
DART	Disaster Assistance Response Team
DFID	United Kingdom Department for International Development
DRC	Democratic Republic of the Congo
FAO	Food and Agriculture Organization
FCS	Food Consumption Score
FGD	Focus group discussion
HFIAS	Household Food Insecurity Access Scale
HHI	Household Hunger Index
IDI	In-depth interview
IDP	Internally displaced persons
KII	Key informant interview
MFI	Microfinance institution
MNO	Mobile network operator
NFI	Non-food item
NGO	Non-governmental organization
OCHA	Office for the Coordination of Humanitarian Affairs
OFDA	Office of U.S. Foreign Disaster Assistance
PIM	Post-intervention monitoring
PSM	Propensity score matching

RCT	Randomized controlled trial
RIMA	Resilience Index Measurement and Analysis Model
SSI	Semi-structured interview
UNICEF	United Nations Children's Fund
UCT	Unconditional cash transfer
UKaid	United Kingdom Department for International Development
VSLA	Village Savings and Loans Association

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Humanitarian Cash Transfers in the Democratic Republic of the Congo: Evidence from UNICEF's ARCC II Programme

Abstract

From March 2013 to September 2015, UNICEF and three partner organizations (Concern Worldwide, Mercy Corps, and Solidarités International), collaborated to deliver what was at the time the single-largest unconditional cash transfer programme for humanitarian response in the Democratic Republic of the Congo (DRC). Funded primarily by UKaid from the United Kingdom government, UNICEF's Alternative Responses for Communities in Crisis (ARCC II) programme reached 23,480 displaced families, host families, and returning displaced families in eastern DRC. Based on an analysis of extensive quantitative and qualitative data collected by the ARCC partners, as well as additional qualitative data collection in the field, AIR and UNICEF used evaluation methods to investigate the effects of the ARCC II programme. The theory behind the ARCC approach is that conflict-affected families in the DRC confront a wide variety of needs depending on the specific events they have experienced, the geography of their place of refuge or return area, the use of adaptive coping mechanisms, and individual family circumstances. ARCC also believes that markets in eastern DRC have adapted to the ongoing crisis and are dynamic and responsive in providing communities access to basic needs. As such, flexible cash-based response can be an effective alternative to in-kind based humanitarian relief programming. The ARCC approach is based on the hypothesis that families who receive unconditional voucher and cash assistance will make purchases that will increase access to basic goods, services, and livelihood opportunities, ultimately enhancing their well-being and resilience. We find evidence to support this hypothesis. Using detailed analysis of participant families purchasing patterns, this paper shows that cash was used by recipients in line with ARCC II objectives. Furthermore, drawing from quasi-experimental methods, we show that ARCC has contributed significantly across the board to improvements in well-being, reductions in vulnerabilities and use of negative coping mechanisms, and ultimately to increased resiliency at the household level.

1. Introduction

This paper provides a summary of the main findings of American Institutes for Research's (AIR) study of UNICEF's Alternative Responses for Communities in Crisis (ARCC) II programme in the Democratic Republic of the Congo (DRC). AIR and UNICEF-DRC partnered to compile and analyse lessons learned about the ARCC II programme.

This study of the ARCC II programme addressed three key research questions. First, we looked at whether cash-based interventions contributed to the programme's overall objective of improved well-being and reduced vulnerability for children and households in humanitarian and transition settings. When investigating this question, we examined if programme beneficiaries had increased access to essential goods and services and livelihood opportunities, which ultimately required an understanding of the purchasing patterns of programme beneficiaries. We also explored a broad scope of indicators reflecting well-being and food, material and financial vulnerability.

ARCC II did not include an overall programme objective of improving resilience, but UKaid, UNICEF and partners were interested in exploring the extent to which cash assistance might affect household resilience. For this reason, our second research question investigated whether programme beneficiaries increased their resiliency level as a result of the programme in ways that supported economic and social development. To answer this research question, we constructed a resilience index at the household level based on multi-sectoral quantitative indicators, which contributed to measuring household resilience levels and household perceptions of vulnerability and absorptive and adaptive capacity. We also looked at other household-level welfare outcomes that are highly correlated with household resiliency.

Our third research question looked at the relative effects of variations in programme implementation. In particular – drawing on experimental data collected by two implementing partners – we looked at whether purchasing patterns and other relevant outcomes varied when beneficiaries received the transfer in a single instalment rather than in three instalments, and if programme impacts varied depending on the gender of the registered beneficiary. In addition to these research questions, we used qualitative research to conduct an exploratory process evaluation that deepened our understanding of beneficiary preferences regarding transfer plans, as well as perceived impacts of the programme. We also qualitatively explored ARCC II's programmatic and operational processes and procedures, as well as beneficiaries' experiences of these processes.

We found that ARCC II beneficiaries spent money on items in line with the programme's objectives and were able to increase multiple well-being dimensions, reduce vulnerabilities and increase resiliency levels. In particular, the programme increased food security and overall consumption, and it enabled households to engage in positive coping strategies (such as increasing savings) that could reduce the impact of future shocks. We also found that ARCC II generated positive increases in school enrolment and children's access to health care, led to expanded agricultural activity, increased ownership of agricultural assets (such as livestock) and strengthened farm and non-farm income. This combination of impacts improved indicators related to households' overall resiliency in terms of managing and coping with shocks. These benefits were observed during the period between disbursement of the cash transfer and administration of the household-level surveys, which ranged from one to four months. The increase in income generated through on- and off-farm labour, the impact on livestock ownership and the increase in savings demonstrated that beneficiaries

used the transfer in productive ways to generate greater benefits. The increased food security, school enrolment, access to health care for children and resiliency of beneficiary households also demonstrated that the transfer had protective benefits.

This paper is organized as follows. We begin by providing information about the programme's background, the theory of change and the research questions. We then describe the quantitative and qualitative data sources used in the different analyses, and we present the research design for the process evaluation, the estimation of programme impacts and the differential effects of some key variations in programme design. Next, we present the results of the exploratory process evaluation and the main quantitative and qualitative findings of the study. Lastly, we provide some conclusions and recommendations.

2. Evidence on cash transfers: A literature review

This section provides a brief summary of some of the existing literature around cash transfer programming in sub-Saharan Africa. These papers provided the theoretical foundation for the ARCC programme. Although the use of cash transfers in social safety programming in Africa is relatively well documented, existing evidence on the use of cash transfers for humanitarian aid purposes in Africa is limited. This paper aims to contribute towards addressing the knowledge gap on humanitarian cash transfer programming in countries like the DRC.

At least 120 cash transfer programmes[1] were implemented between 2000 and mid-2009 in sub-Saharan Africa, the majority of which were unconditional cash transfers (UCTs) (Garcia & Moore, 2012) that formed part of development or social safety net programmes. Additional programmes have been implemented since 2009, but the current number of programmes is unknown. UCTs have shown positive effects on a wide array of outcomes among vulnerable populations in non-humanitarian settings. Specifically, the existing evidence suggests that UCT programmes have reduced child labour, improved child health and nutrition, and increased schooling (Case, Hosegood & Lund, 2005; Duflo, 2003; Edmonds, 2006; Edmonds & Schady, 2009). A recent systematic review also demonstrated that UCTs are highly effective in increasing school enrolment and attendance (Baird, Ferreira & Woolcock, 2013), while a randomized controlled trial (RCT) of a UCT programme in Kenya found positive effects (of 0.14–0.18 standard deviations) on psychological well-being (Haushofer & Shapiro, 2013). Finally, AIR's evaluations of cash transfer programmes in Zambia provide evidence of positive effects on a wide array of outcome measures, such as consumption, diet diversity and subjective assessment of one's well-being (American Institutes for Research, 2013a, 2013b).

The main forms of cash-based assistance (CBA) in emergency settings include UCTs, cash-for-work programmes and voucher programmes. The appropriateness of various cash-based programming depends on a number of contextual factors, including the availability of local goods and services, local markets and logistical constraints (Jaspars, Harvey, Hudspeth, Rumble, & Christensen, 2007). Operating in complex emergency settings can pose a suite of additional challenges, ranging from disrupted markets and supply chains to insecurity, and from lack of infrastructure to corruption (Jaspars et al., 2007).

Although there has been less experience with UCTs in Africa, particularly in humanitarian settings, they are among the more promising options for delivering assistance. Indeed, the existing evidence indicates that providing cash in humanitarian crises may be a favourable way of helping people and stimulating markets. It also represents value for money compared with in-kind alternatives (ODI, 2015). First, cash transfers give beneficiaries greater choice and control over the way in which they meet their own needs, allowing them to access the goods and services that they prioritize and value most. This stands in clear contrast to in-kind approaches, where goods or relief supplies are typically provided based on a 'one-size-fits-all' or standard-package approach. Although these goods or relief supplies should be determined based on the outcomes of needs assessments and gap analysis among affected populations, they can sometimes be determined merely by aid agencies' perceptions of what affected communities might need (Jaspars et al., 2007). Second, cash transfers allow recipients to address needs that are difficult to address through an in-kind or service delivery

[1] This figure includes both humanitarian cash transfer programmes and social safety net programmes. The term 'cash transfer programme' is used to refer to both voucher programmes and cash transfers, unless otherwise noted.

programme, such as making down payments on land or housing or repaying debts. Third, UCTs can make limited humanitarian aid go further, as it generally costs less to provide people with money than with in-kind or voucher assistance, which incurs transportation and storage costs (Cabot Venton, Bailey & Pongracz, 2015). For example, a study in multiple countries that compared cash transfers with food aid found that 18 per cent more people could be assisted at no extra cost if programme beneficiaries received cash instead of food (Margolies & Hoddinott, 2014). In summary, humanitarian cash transfers can have a positive impact on people's welfare, are typically less costly to deliver, provide greater choice and dignity for recipients, and create more opportunities for programme transparency.

A limited but strong body of evidence has emerged that supports the idea that cash-based approaches can work well in humanitarian settings. For example, an experimental evaluation of a UCT programme in northern Uganda demonstrated that average earnings rose by almost 50 per cent over a four-year period following the introduction of the programme (Blattman, Fiala & Martinez, 2013). Additionally, an evaluation of the cash-for-work programme implemented by the Office of U.S. Foreign Disaster Assistance (OFDA) and the Disaster Assistance Response Team (DART) during a severe drought in Ethiopia (2002–2003) found that the programme was 40 per cent more cost-efficient for donors and non-governmental organizations (NGOs) than distributing imported grain. The programme was also found to reduce dependency on food aid while stimulating local markets (Brandstetter, 2004).

The positive effects of cash transfers are also not limited to economic outcomes. In Liberia, for example, cash transfers reduced violent behaviour among Liberian ex-fighters and mercenaries (Blattman & Annan, 2015). Hedlund, Maxwell, and Nicholson (2012) also found that UNICEF's UCT and voucher response in southern and central Somalia had a measurable effect on reducing hunger, improving food security and enabling a more rapid recovery for beneficiaries. Furthermore, this intervention did not result in food price inflation. Finally, an evaluation of the 2008–2009 drought response projects in Kenya – funded by the Directorate-General for European Civil Protection and Humanitarian Aid Operations – found that voucher schemes were rated very highly by beneficiaries because they provided choice and added value to the local economy.

Most of the experimental studies on CBA have compared different types of interventions – such as providing cash instead of vouchers – or have compared the effects of transferring cash in different ways, including cash transfers via mobile phone (e.g., Gilligan, Margolies, Quiñones & Roy, 2013; Hidrobo, Hoddinott, Margolies, Moreira & Peterman, 2012; Hoddinott, Sandström & Upton, 2014). The overall conclusion of these studies is that cash can be a good alternative or complement to in-kind assistance in humanitarian contexts, provided that markets can respond well and quickly to the increasing demand for goods from the assisted populations. In the DRC, previous research managed by Concern Worldwide as part of UNICEF's UKaid-funded ARCC I programme highlights positive effects. Aker (2014) showed that, relative to vouchers in fairs,[2] cash transfers were more cost-effective in increasing food, education and health expenditures. Although some organizations (including UNICEF partners) have invited schools and health centres to voucher fairs and encouraged the use of vouchers in multi-sectoral fairs to pay for services such as school fees and health care credit, vouchers are not the most effective way to access such services.

[2] The vouchers beneficiaries received were 'value vouchers', which had a set monetary value and were redeemable at a voucher fair or artificial market organized by Concern Worldwide, with limited purchasing options. All vouchers had to be spent during the day of the fair.

Although studies comparing delivery modalities for CBA in humanitarian settings provide valuable insight into the use of cash transfers and vouchers in different emergency and post-emergency settings, our review of the literature found few rigorous examinations of the impact of cash transfer programmes on beneficiary families and communities in humanitarian contexts. As a result, uncertainty persists about the types of cash transfer interventions that are most effective, and information on the effect of transfer frequency on household outcomes remains extremely limited.

This limited evidence may explain why there is some scepticism among humanitarian practitioners about using cash in humanitarian contexts. However, most of these concerns can be effectively mitigated. For instance, concerns regarding insecurity, misuse and corruption are generally not borne out in practice, and these risks can be minimized through good programme design (Gordon, 2015). There is also no reason to believe that cash transfers are more likely to be subject to corruption and diversion risks than other forms of aid. Indeed, cash transfers can be distributed more discreetly than in-kind distributions, particularly when people can receive payments electronically. In the evaluation of UNICEF's UCT and voucher programme in Somalia, corruption and diversion of funds was an acknowledged risk, and there were identified issues of misuse of funds. However, the evaluation found that a better risk analysis and greater preparedness could have reduced the cases of misused funds (Hedlund et al., 2012). With regard to the risk of misusing assistance, literature on cash transfers shows that cash recipients spent transfers on essential goods rather than items such as alcohol or tobacco (Evans & Popova, 2014; Blattman et al., 2013). These findings indicate that understanding the implementation context is important in order to minimize potential unintended consequences of a given modality. Of course, UCTs do have limitations. They cannot replace the need for adequate services including sanitation, education and health services (Jaspars et al., 2007), nor can they create long-term sustainable livelihoods on their own. In humanitarian environments, recipients of UCTs often face recurring and prolonged shocks, making it challenging to foster sustainable livelihoods and creating a need for longer term social protection programmes (Oxfam GB, 2006).

UNICEF's aim in collaborating with AIR on this study was to help fill the evidence gap on cash transfers in humanitarian settings. As ARCC II was the single largest unconditional multi-purpose cash transfer programme at the time, with activities implemented by three partners in response to different types of population movement crises, it provided a rich and varied subject that allowed us to address the gaps in the literature on the use of cash in humanitarian settings.

3. The ARCC programme

The humanitarian context in the DRC

For more than two decades, eastern DRC has been host to one of the world's most prolonged humanitarian crises, with multiple waves of violence and population displacements spreading across several provinces. The conflict continues to be characterized by the killing of civilians, looting and the destruction of homes and property, human rights violations, sexual violence, population displacement, family separation, the recruitment of children into armed groups and the loss of livelihoods. During the ARCC II implementing period alone, 69 active armed groups were operating in eastern DRC (Stearns & Vogel, 2015). The region remains caught in a cycle of insecurity, displacement and poverty for hundreds of thousands of civilians, for whom fighting and violence are often part of daily life. The Office for the Coordination of Humanitarian Affairs (OCHA) estimates that there were 0.9 million new returnees in eastern DRC in the 18 months between the beginning of 2015 and June 2016, when there were over 1.7 million displaced persons in the DRC. As relative stability returns to some areas, returnees are restarting their lives and recovering from the losses and disruption caused by displacement. The humanitarian consequences of conflict-related hardship are often aggravated by structural factors, such as limited access to and/or the absence of basic services (e.g., health care, education, safe water and sanitation facilities). The situation is further exacerbated by abysmal transport infrastructure, which cuts off large portions of the population from services, information and markets.

The ARCC programme

For over two decades, UNICEF and NGO partners have been working together to assist families in eastern DRC affected by the ongoing cycle of conflict and relative stability, as well as the consequent waves of population displacement and return. To respond to these situations, UNICEF and its partners developed different context-specific approaches to best address children's and families' needs, while also looking to take advantage of different opportunities offered by non-traditional humanitarian partners (including the private sector) in order to improve assistance to conflict-affected populations. UNICEF's first attempts to use CBA began in 2008. The initial pilots were modelled after the successful seed voucher fair approach, which food security actors in the DRC and throughout the world had been using since the 1990s and early 2000s. In 2008, UNICEF initiated use of the cash voucher fair method as an alternative to traditional non-food item (NFI) relief kit distributions, which are a core component of UNICEF and partners' humanitarian response.

The NFI fair approach was quite simple, but it relied on a dynamic private sector that was able to procure and move NFI to areas where affected populations were living. Instead of distributing standard NFI relief, UNICEF and partners provided families with cash-valued vouchers and invited them to an 'NFI fair', where dozens of selected vendors would sell NFI in exchange for the cash-valued vouchers. The NFI fair allowed affected families to choose their own assistance, and it also helped to revitalize the local economy of affected areas. Since the success of the early pilots, UNICEF has used its role as cluster lead agency for NFI and shelter in the DRC to promote learning and innovation about the NFI fair approach, not only among its own partners but among all humanitarian actors in the NFI sector. Today, nearly all NFI actors in the DRC are using the NFI cash voucher fair approach (in addition to traditional distributions) as part of their humanitarian response programmes. Since 2013, well

over half of all families receiving NFI assistance in the DRC have been reached through voucher fairs, including 58 per cent in 2015 (CaLP Case Study, 2011).

The NFI fairs have had great success in offering families greater flexibility in addressing their most important needs, but they do have limitations. For example, although many partners permit vendors to sell a wide range of items including shelter materials and items linked to livelihood activities (such as tools and fishing nets), NFI fairs still focus primarily on a single sector. Some organizations have attempted to include the sale of services at the fairs – including health care credit and school fees – but voucher fairs may not be the most effective way to address the need for basic services.

In the interest of pushing towards even greater flexibility, UNICEF initiated its first pilots in 2011 to test multi-purpose unconditional cash approaches. This was the beginning of the ARCC programme, funded by UKaid. The first cycle of the ARCC programme (ARCC I) primarily focused on adapting the NFI fair approach to include new areas and beneficiary groups, but it also included three pilot projects: one pilot exploring the use of vouchers in existing markets (rather than in fairs) with Solidarités International in Orientale province;[3] and two pilots using UCTs—one with Concern Worldwide in North Kivu and another with the *Associazione Volontari per il Servizio Internazionale* (AVSI) in South Kivu. Although these three cash pilots were successful in helping to explore the opportunities and limitations of making cash transfers through private-sector financial institutions, they were conducted on a relatively small scale: 1,200 families participated in the Solidarités International pilot, 237 families participated in the Concern Worldwide pilot and 1,000 families participated in the AVSI pilot.

UNICEF and UKaid continued their partnership to create the ARCC II programme, based on the success of (and learning from) the ARCC I pilots. ARCC II was a two-and-a-half year programme (March 2013 to September 2015) that focused on expanding UNICEF and its partners' use of CBA as a way to provide humanitarian and transition assistance in the DRC.

The ARCC II programme had four different components/outputs, each of which aimed to assist a specific population group through the use of CBA. The first and main component was CBA for families affected by the humanitarian consequences of conflict. The other three components looked at CBA as part of assistance programmes for families with children suffering from severe acute malnutrition; conditional cash grants to schools in conflict areas; and CBA as part of socio-economic reintegration programmes for survivors of sexual violence. This study focuses on the first component of the programme, which was executed in partnership with three international NGOs: Concern Worldwide, Mercy Corps and Solidarités International. (UNICEF and partners have already produced learning papers and studies on the other components.)

ARCC II's primary aim was to meet the diverse needs of conflict-affected households and to reduce vulnerabilities and improve family well-being as a result of increased access to basic goods, services and livelihood opportunities through continued use of multi-sector CBA. Although ARCC II focused on humanitarian response, UNICEF, UKaid and the

[3] When ARCC II started, Orientale was still a province. In 2015, the DRC government commenced a process of sub-dividing most provinces. (This process did not involve North Kivu, which was originally part of a larger 'Kivu' province. The larger 'Kivu' province was sub-divided into three provinces in the 1980s). Dungu territory, where Mercy Corps worked, is now in Haut Uélé province. Djugu territory, where Solidarités International worked, is now in Ituri province. For purposes of this paper, we continue to use the term 'Orientale province', which existed at the time of ARCC II's initial design.

implementing partners were also interested in understanding how flexible multi-sector CBA could contribute to improving resilience at the household level.

ARCC II's first component (output 1) was implemented in two phases in order to capitalize on lessons learned during a mid-programme review. In Phase 1 (February to September 2014), UNICEF and partners assisted 11,572 households affected by conflict-created humanitarian crises in Nord Kivu and Orientale provinces. In Phase 2 (October 2014 to April 2015), 11,908 households received assistance. Although all beneficiary families received roughly the same amount of assistance (US$110–US$135 during Phase 1 and US$110–US$120 during Phase 2),[4] transfer modalities, delivery mechanisms and transfer plans varied.

ARCC II used two different transfer modalities[5]: unconditional cash and value vouchers.[6] Voucher beneficiary transactions with providers of goods and services then occurred either in organized artificial markets called 'fairs' or in open markets. All cash transfer transactions took place in open markets. For the value vouchers, two delivery mechanisms were used – paper vouchers and electronic vouchers (or 'e-vouchers') – although for the open market vouchers, partners only used the paper voucher delivery mechanism. In general, the voucher-based transfer modalities were used in contexts where markets were less dynamic, and families used paper or electronic vouchers in multi-sector fairs or in open markets.

Delivery mechanisms for cash also varied depending on the context and the market dynamism. ARCC partners disbursed cash to beneficiary families using five different delivery mechanisms: through mobile network operators (MNOs) via cellular phones; through local savings and loan cooperatives or microfinance institutions (MFIs);[7] through private-sector money transfer organizations; directly through the implementing NGO (cash in envelopes); and in some instances through local traders. Particularly during Phase 1, ARCC II was interested in exploring a multitude of transfer modalities, delivery mechanisms and transfer plans. In some cases, a combination of vouchers and cash was used for different transfer instalments. Although this mix of transfer modalities, delivery mechanisms and transfer plans was complicated, it was critical to understanding how these differences limited or facilitated families' opportunities for purchases (*see Table 3.1*).

During the mid-programme review, UNICEF, UKaid and the implementing partners made a decision to narrow their focus and limit the different transfer modalities, delivery

[4] Note that these different transfer values were linked to different context analysis by implementing partners. ARCC did not modify the transfer value per household based on the number of household members.
[5] For the ARCC programme, UNICEF and its partners distinguished between three components of CBA: transfer modalities, delivery mechanisms and transfer plans. The transfer modality refers to the method used to transfer the value of the transfer to the beneficiary—that is, through value vouchers or cash. The delivery mechanism is the specific way in which the money or voucher value is physically delivered to the beneficiary family. For vouchers, possible delivery mechanisms are paper vouchers or e-vouchers. For cash, there are numerous delivery mechanisms, including cash in envelopes, cash via mobile money, cash via banks, cash via local cooperatives and money transfer agencies, etc. The transfer plan has four elements: the total amount of the transfer, the number of instalments/transfers made, the amount of these instalments and the timing of these instalments (i.e., the interval of time between different instalments).
[6] Value vouchers have a set monetary value and can be exchanged for goods or services of that value. Value vouchers are distinct from commodity or service vouchers, which can be exchanged for a set commodity or service (e.g., five kilograms of beans or a medical consultation). ARCC only used value vouchers.
[7] In this paper, the term 'MFIs' refers to financial cooperatives or organizations providing financial services, including savings, credit and money transfers. Their strength lies in the fact that they reach areas that are not covered by the formal banking sector in the DRC.

mechanisms and transfer plans. With regard to transfer modalities, the ARCC II consortium decided to focus on direct unconditional cash during Phase 2, instead of multi-sector voucher fairs or vouchers in open markets. This decision was made primarily because the programme's main objective was to provide maximum flexibility to families where possible. (Although the multi-sector vouchers included options to exchange vouchers for services, purchase options were still limited.) Secondly, the consortium wanted to continue exploring MNOs and MFIs as delivery mechanisms where possible, although this was largely limited by the options that existed in the intervention area. Finally, the consortium decided to focus on only two transfer plan options in order to better explore the differences between the two approaches: a single transfer of the full value and three transfers spread over two months (with beneficiaries initially receiving 50 per cent of the total value, followed one month later by 25 per cent of the total value, followed by the remaining 25 per cent one month after receipt of the second transfer).

In total, the ARCC II programme delivered US$2,781,660 in UCTs or multi-sector vouchers to 23,480 households (117,400 people)[8] in North Kivu and Orientale provinces. Of these 23,480 families, 14,848 (63 per cent) received all of their transfers in cash (although through different delivery mechanisms); 2,980 (13 per cent) received all of their transfers through vouchers (paper vouchers and e-vouchers in fairs and/or open markets); and 5,652 (24 per cent) received their transfers through a combination of cash and vouchers.

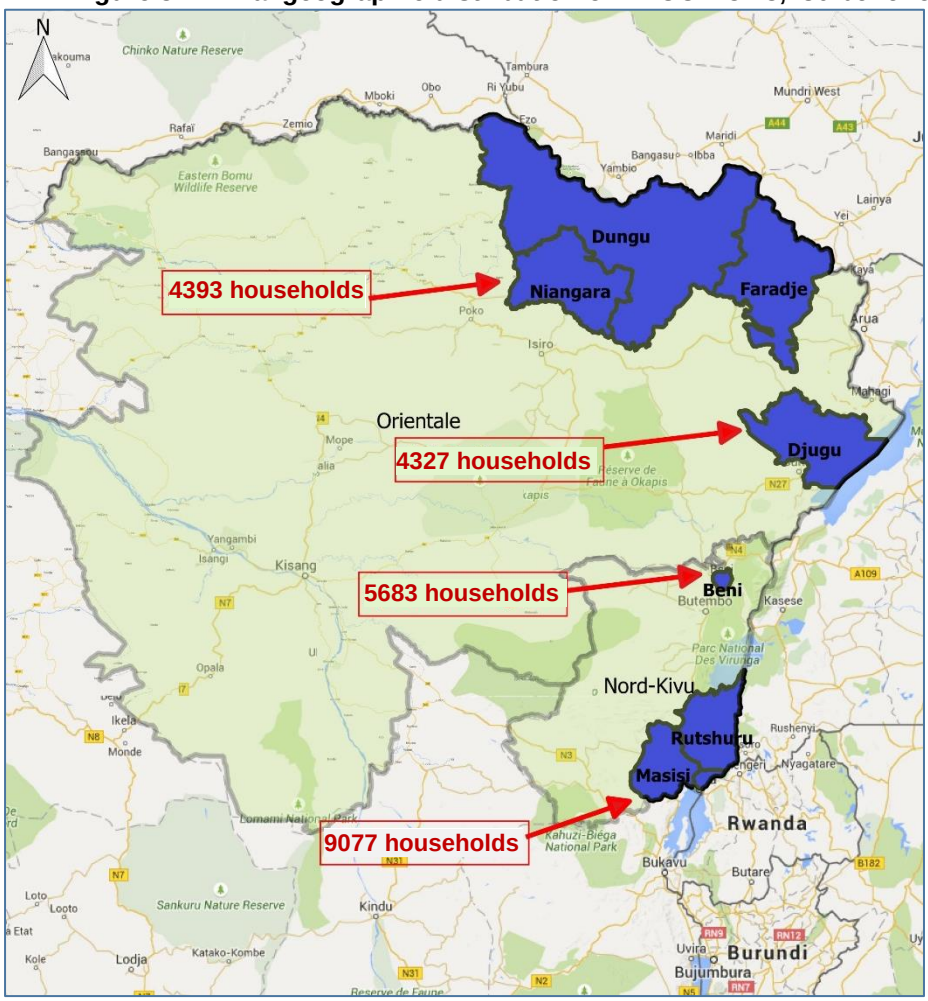
As mentioned, the ARCC II programme used multiple transfer plans, which varied the frequency and timing of the transfers, as well as the gender of the registered beneficiary. Transfer plans and modalities varied considerably across geographic zones and partners. For this reason, a summary of different delivery mechanisms and transfer plans is provided below, along with a reference map (*see Table 3.1 and Figure 3.1*).

Table 3.1: ARCC II household beneficiaries by territory and delivery mechanism (Phase 1 and 2 combined)

Delivery Mechanism	Transfer Plan (number of instalments)	North Kivu				Province Orientale		%		Transfer Modality
		Masisi	Nyira-gongo	Rutshuru	Beni	Djugu	Dungu			
Cash in Envelopes	Single	789						10%	63.5%	Cash Only
	Multiple	1,611								
Mobile Money	Single			1,036			153	24%		
	Multiple		1,379	1,890			1,167			
Microfinance	Single				5,681		607	29%		
	Multiple						587			
Open Market + Cash in Envelopes	Multiple	2,391						10%	28.5%	Cash and Voucher
Open Market + Cash Local Traders	Single					4,309		18%		
Voucher	Single						486	2%	8%	Voucher Only
e-Voucher	Single						1,394	6%		
N (%)		14,777 (63%)				8,703 (37%)		23,480 (100%)		

[8] This is an estimation based on the average number of family members (five), which is used in the DRC by the humanitarian community.

Figure 3.1: Final geographic distribution of ARCC II's 23,480 beneficiary households



4. Theory of change

Policy-relevant research should be built on a theory of change that maps the causal chain across activities, outputs, outcomes and impacts, as well as the assumptions that underlie the theory of change (White, 2009). The ARCC programme's theory of change, developed by UNICEF, is based on the idea that CBA can contribute to improving the well-being and reducing the vulnerabilities of households affected by conflict and displacement, while also potentially contributing to their resilience in coping with possible future shocks. In this section, we provide an overview of the main aims of the ARCC II programme, which serve as a benchmark when discussing the main findings for the programme. In addition, we discuss the theory of change for two specific features of the ARCC II programme design: (1) single versus multiple tranches, and (2) exogenous variation in gender of the registered recipient.

UNICEF's initial hypothesis and justification for using cash transfers to assist families affected by population movement in eastern DRC was as follows: Individual families have a wide array of needs that can differ significantly from one family to another, which means that an assistance programme that offers maximum flexibility in allowing families to meet their most urgent needs is the most appropriate. Cash transfer approaches provide this flexibility.

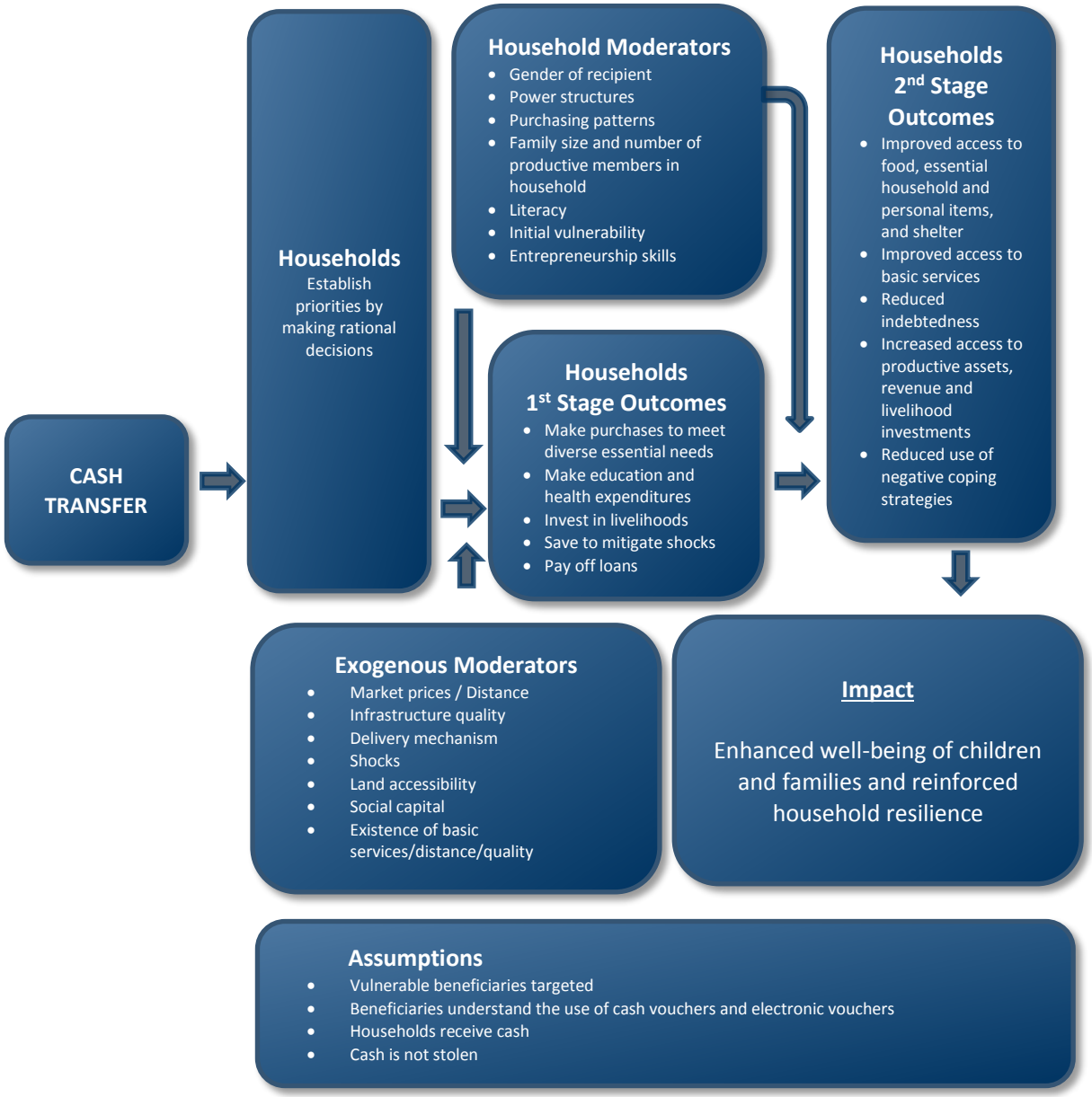
UNICEF and partners decided to provide cash transfers to participant conflict-affected households to improve their well-being across a broad spectrum of need areas, allowing the families to allocate the resources to areas where their deprivations or vulnerabilities were perceived to be the most acute. This was expected to contribute to a reduction in households' use of negative coping strategies, particularly those affecting children. The overall improved situation was also expected to contribute to families' resilience in terms of future adverse shocks.

In addition to this overall expected impact, UNICEF believed that variations in programme design could result in some differences in impact. First, differences in transfer plans – specifically, the number of instalments – could have differential outcomes for beneficiaries. For example, single transfers of the entire transfer amount could be seen as 'windfall gains', leading to fewer expenditures of higher value (and potentially different final outcomes) than in families receiving smaller amounts in three instalments. Second, differences in the gender of the registered beneficiary could lead to different spending patterns and, as a result, different overall outputs and final impacts. It could also influence intra-household relationships.

The two main activities of ARCC interventions included: (1) identifying the target beneficiary families through a participatory process in each targeted community affected by conflict through the shock of displacement or return, and (2) delivering the cash transfers through one of the three implementing partners (Concern Worldwide, Mercy Corps and Solidarités International) using variations of two main transfer modalities: multi-purpose cash voucher fairs/open markets and direct UCTs. According to the USAID definition of output, an implementing partner's control ends at the moment it delivers the cash (USAID, 2011). We therefore considered the moment cash was delivered to the identified families as an output for unconditional cash programmes. The core of the ARCC theory of change is that an increase in purchasing power at the household level would subsequently generate outcomes related to purchases of (access to) needed goods and services, including food and NFIs; debt repayment and savings; agricultural inputs; investments in (productive) assets (e.g., livestock); housing; education (i.e., school fees); and health care. These outcomes would then influence the desired impact: enhanced well-being and resilience of beneficiary households as a result of the programme (*see Figure 4.1)*.

A number of key assumptions underpinned the mechanisms that linked CBA to improvements in well-being, reduced use of negative coping mechanisms and (ultimately) increased resilience among conflict-affected households. In particular, it was assumed that the intended beneficiaries would receive the transfer, none of the cash would be stolen, and households would have a favourable attitude toward cash transfers and would use the cash for productive purposes and/or to meet/access basic needs and services.

Figure 4.1: Theory of change



5. Research questions

The theory of change motivated the research questions for this study, which fall into two categories: overall impacts and programme process.

5.1 Overall impacts

According to the theory of change, the cash needed to be spent or invested in order to realize the ultimate goals of the programme—that is, to generate protective and productive impacts. We divided the overall impacts of the programme into two stages. The first-stage outcomes were those directly related to how beneficiaries used the transfer (e.g., for food, household items, savings, paying off debt, purchasing farm inputs). The second-stage outcomes were higher order outcomes affected by use of the transfer, such as food security, education, health, household decision-making, productivity and resilience. Analysing spending patterns helped to indicate where the programme was most likely to generate impacts in the second stage. The second-stage research questions looked at whether cash-based interventions contributed to improved well-being, reduced vulnerability and increased resilience for children and households in the DRC humanitarian and transition settings.

First-stage research questions:

1. Does the ARCC II programme affect household spending on first-stage outcomes (e.g., expenditures on food, education, health care, household items, farm inputs)? If yes, to what extent? We investigated both positive categories (such as education) and negative categories (such as alcohol and tobacco). The analysis used the post-intervention monitoring (PIM) data collected by the partners to investigate expenditure patterns (i.e., money spent in different pre-determined expenditure categories) and the proportion of families who spent at least some amount of money in these different categories.

2. Does the ARCC II programme affect the amount of income, savings, debt and assets of beneficiary households? If yes, to what extent?

Second-stage research questions:

1. Does the ARCC II programme improve beneficiaries' food security, ownership of essential household assets and access to basic services, such as health and education? If yes, to what extent?

2. Does the ARCC II programme improve household resiliency, including households' ability to cope with future shocks? If yes, to what extent?

3. Does the ARCC II programme improve household productivity by enhancing livelihood activities, affecting ownership rates of productive assets (e.g., livestock) or income sources? If yes, to what extent?

4. Does the ARCC II programme affect decision-making in the household? If yes, to what extent?

5. Does the ARCC II programme affect intra-household or community relations? If yes, to what extent?

We also investigated differential impacts of the programme in the following two areas:

1. Do the programme's impacts differ by the primary recipient's gender? If yes, to what extent? We investigated the effect on household decision-making, in addition to the first-stage and second-stage outcomes.

2. Do the programme's impacts differ when beneficiaries receive the same transfer amount, but in different instalments? If yes, to what extent?

These research questions about the process, overall impacts and differential impacts motivated the design of the study.

5.2 Process

The ability of cash transfer programmes to achieve their goals and generate positive impacts is dependent on beneficiaries receiving the cash as intended by the programme design. For this reason, we also investigated the processes involved in implementing the ARCC II programme as part of our research. In addition to learning what works and identifying areas for improvement, the process evaluation helped to explain why the programme achieved certain impacts but not others. The process evaluation investigated three primary questions:

1. How do beneficiaries perceive the programme targeting and selection process?

2. How do beneficiaries perceive payment delivery under ARCC II (including preferences for certain delivery mechanisms, timeliness of transfers, transfer amount and problems receiving payments)?

3. How could the programme processes be improved, based on beneficiary, non-beneficiary and key informant perceptions?

We addressed these questions as part of a deeper discussion of the key ARCC II implementation processes, which include: (1) targeting, (2) transfer conditions and timeliness, (3) amount of cash, (4) problems faced and (5) management of feedback and complaints.

1. Targeting is arguably the most critical component of a cash transfer programme, as it determines both how beneficiaries are selected and the extent to which communities accept the programme. We investigated the community's understanding and acceptance of the targeting process used by the different implementing partners, including how selection committee members were identified and the role of the selection committee. It should be underlined, however, that targeting was not a priority area for UNICEF, which prioritized the delivery of CBA and programme outcomes for learning. UNICEF's programme design therefore did not focus on harmonizing a standard targeting approach across the three ARCC partners. Although UNICEF tracked and advised partners on the targeting strategy used, each partner chose a different approach to identify the vulnerable villages in their target areas and the vulnerable households within those villages that would receive assistance.

2. Transfer conditions, particularly regular and timely payments, are the cornerstone of a successful cash transfer programme. Recipients need to know that they can depend on the cash to make decisions and change behaviours, especially in the case of multiple

payment instalments. We investigated whether payments were made according to the planned disbursement calendar, and whether beneficiaries experienced delays such as waiting in line or long travel times when attempting to receive their payment or participate in a voucher fair. We also investigated whether beneficiaries were able to understand different voucher delivery mechanisms and successfully use them to purchase goods and services.

3. We investigated whether recipients received the intended amount of cash or vouchers (planned for in the programme) and whether this amount aligned with their expectations.

4. We investigated any problems implementing partners and beneficiaries faced in the process of delivering the programme.

5. A well-understood and functional feedback and complaints mechanism is a critical component of any cash transfer programme. The lack of an effective feedback and complaints mechanism can reduce accountability and transparency and ultimately undermine the acceptability of the programme. These components were key features of the design of ARCC II. We investigated whether the implementing partners followed the standard procedure for filing grievances and managing complaints and whether these processes were interpreted and applied consistently.

6. Data

AIR designed a mixed-methods evaluation of the ARCC II programme, using a combination of quantitative and qualitative data collected from Phase 1 and Phase 2 programme recipients. UNICEF provided all of the quantitative data and some of the qualitative data, and AIR collected additional qualitative data. The data provided by UNICEF were gathered by the three implementing partners, under UNICEF supervision, based on standard tools developed in workshops with UNICEF. UNICEF cleaned and consolidated these data before sharing them with AIR. The availability of the data collected determined AIR's design of the quantitative portion of the research. In the following sections, we discuss the sources of the quantitative and qualitative data used for the research, including who collected them, what was collected, when they were collected and the sample size. We discuss some data limitations in Appendix 1.

6.1 Quantitative sources

UNICEF provided AIR with quantitative datasets from both Phase 1 and Phase 2 of the ARCC II programme. Each phase contained three quantitative datasets: a baseline dataset, a PIM survey including detailed purchasing pattern data, and an endline dataset. UNICEF and its partners designed the surveys and the implementing partner for each region collected the data. The surveys, sample sizes, location and timing differed between the two phases. We present information about the datasets by each phase to show the differences and similarities between datasets.

6.1.1 Phase 1 (February to September 2014)

Partners collected data from beneficiary households on three occasions during Phase 1: a baseline survey was conducted after beneficiaries were selected but before the transfer programme began, a PIM survey was conducted three weeks after each transfer, and an

endline survey was conducted approximately three to four weeks after beneficiaries received their last transfer. The baseline and endline surveys contained the same questions and were administered to the same beneficiary households, making the survey longitudinal.[9] The PIM survey collected different and more detailed information on household expenditures and was administered to a different sample of beneficiary households from those who took part in the baseline/endline surveys.

Baseline survey (Phase 1)

The implementing partners collected the baseline survey data using the same instrument to ensure comparability. The baseline survey focused on indicators at the household level and the individual level from beneficiary households and included only information relating to: demographics, their crisis-affectedness profile (displaced, host family,[10] returnee, etc.), consumption, savings, debt, household and personal NFIs, housing conditions, food security, health and education for children, household decision-making, and coping strategies. The implementing partners collected the Phase 1 baseline data over a three-month period from March to May 2014.

The Phase 1 baseline sample included 1,185 households, representing a randomly selected 10 per cent subsample (approximately) of beneficiary households per region. Concern Worldwide collected 332 household surveys in North Kivu province's Masisi territory,[11] Mercy Corps collected 355 household surveys in Orientale province's Dungu territory and North Kivu's Nyiragongo and Rutshuru territories, and Solidarités International collected data on 498 beneficiary households in North Kivu's Beni territory and Orientale province's Djugu territory.

Post-intervention monitoring survey (Phase 1)

The implementing partners conducted PIM surveys between May and July 2014, shortly after beneficiaries received their cash transfer. The PIM survey included beneficiary households selected independently from the Phase 1 baseline sample. The survey covered different topics from those covered in the baseline survey, collecting detailed purchase and expenditure data and asking about satisfaction with the transfer plan and delivery mechanisms.

Endline survey (Phase 1)

At the end of the study, the implementing partners attempted to survey 100 per cent of the beneficiary households that were surveyed at baseline. Partners conducted the Phase 1 endline surveys over a five-month period from June to October 2014. This phase lasted for five months due to the staggered times at which assistance to beneficiaries was fully completed. Concern Worldwide was able to find and survey 285 (85.8 per cent) of the original 332 beneficiary households. Mercy Corps completed surveys with 325 (91.5 per

[9] A longitudinal survey is a correlational research study that involves repeated observations of the same variables on the same sample over periods of time.

[10] A 'host family' is a resident family hosting within their dwellings or compound another family without shelter, either because that family has been displaced or because the family has returned following displacement. An estimated 80 per cent of internally displaced persons in the DRC do not live in collective sites or camps, but with host families in their area of refuge. Some internally displaced person returnees also live with host families until they are able to repair or rebuild their own homes.

[11] In the DRC, the next administrative sub-division after province is called a territory, or '*territoire'* in French. The word 'territory' refers to a specific administrative sub-division with specific borders.

cent) of the original 355 baseline beneficiary families. Solidarités International completed surveys with 261 (52.4 per cent) of the 498 baseline beneficiary families. In addition to these 871 longitudinal surveys, there were 189 endline surveys with no beneficiary ID numbers, which are needed to match baseline to endline data. In total, there were 1,060 endline surveys. However, due to the missing beneficiary IDs, only 871 surveys could be treated as truly longitudinal.

Table 6.1.1: Summary of Phase 1 data collection – number of households surveyed

Phase 1	Concern WW	Mercy Corps	Solidarités	Total	No ID	Total
Baseline	332	355	498	1,185		
Endline	285	325	261	871	189	1,060
%	85.8%	91.5%	52.4%	73.5%		

Note: Baseline data for Phase 1 were collected from March to May 2014 and endline data were collected from June to October 2014.

6.1.2 Phase 2

As in Phase 1, the implementing partners collected data for Phase 2 using a baseline survey conducted a month before the transfer, a PIM survey conducted three to four weeks after each transfer, and an endline survey conducted three to four weeks after the last transfer. Unlike in Phase 1, the same households answered all three surveys, including the PIM, making each survey part of a longitudinal sample.

Baseline survey (Phase 2)

Based on the lessons learned during Phase 1, UNICEF and partners designed a modified version of the Phase 1 survey to use at baseline and endline in Phase 2. UNICEF calculated the sample size for Phase 2 using margin-of-error calculations. This process resulted in another sampling rate of roughly 10 per cent. The implementing partners collected the data over a five-month period from October 2014 to March 2015.

The Phase 2 baseline sample consisted of 1,177 randomly selected beneficiaries. Concern Worldwide collected 205 baseline surveys in North Kivu's Masisi territory, Mercy Corps collected 532 surveys in North Kivu's Rutshuru territory and Solidarités International collected 440 surveys in North Kivu's Beni territory and Orientale's Djugu territory.

Post-intervention monitoring survey (Phase 2)

The implementing partners conducted a PIM survey with each beneficiary household approximately one month after they received each of their transfers. The PIM survey was conducted for all available baseline respondents. As in Phase 1, this round of surveys focused primarily on households' appreciation of the transfer and delivery mechanism, as well as their use of the money. Concern Worldwide collected 165 PIM surveys, Mercy Corps collected 524 PIM surveys and Solidarités International collected 322 surveys.

The PIM survey provided detailed information on household purchasing patterns. Beneficiaries identified their purchases in each of 116 expenditure groups. As shown in Appendix 7, each group was aggregated into one of 15 larger expenditure categories:

livestock, agricultural inputs, non-agricultural productive assets,[12] land, housing, furniture, household goods, clothing, personal items,[13] food, utility items,[14] hygiene items,[15] anti-social goods and activities,[16] services[17] and other goods.[18]

Endline survey (Phase 2)

Each implementing partner again administered an endline survey to all beneficiaries surveyed at baseline they could find. They used the same survey that was used for the baseline in Phase 2. Concern Worldwide surveyed 160 of 205 beneficiaries (78.0 per cent), Mercy Corps surveyed 463 of 532 beneficiaries (87.0 per cent) and Solidarités International surveyed 265 of 440 beneficiaries (60.2 per cent). Of the 1,177 beneficiaries surveyed at baseline, 888 beneficiaries completed the survey again at endline and 289 beneficiaries were not found, which represents a 24.6 per cent attrition rate.

Table 6.1.2: Summary of Phase 2 data collection

Phase 2	Concern WW	Mercy Corps	Solidarités	Total
Baseline	205	532	440	1177
PIM (Longitudinal)	165	524	322	1011
	80.5%	98.5%	73.2%	85.9%
Endline (Longitudinal)	160	463	265	888
	78%	87%	60.2%	75.4%

Note: Baseline data for Phase 2 were collected from October 2014 to March 2015 and endline data were collected from January to May 2015.

6.2 Qualitative data

Our qualitative analysis used qualitative data collected by AIR in North Kivu's Rutshuru and Beni territories, as well as information collected during Phases 1 and 2 by UNICEF's ARCC implementing partners.

ARCC II's implementing partners collected qualitative data at various stages throughout Phases 1 and 2 of the programme. UNICEF developed the qualitative data-collection tools with the implementing partners in order to ensure that they were standardized across the implementing partners. Partners collected qualitative baseline data from beneficiary households from March to May 2014 during Phase 1 and from October 2014 to March 2015 during Phase 2. PIM data were collected from July to August 2014 during Phase 1 and from February to April 2015 during Phase 2. Endline data were collected from June 2014 to January 2015 during Phase 1 and from January to May 2015 during Phase 2. Baseline focus group discussions (FGDs) produced data on numerous issues, including shocks and adaptation mechanisms, social protection networks and access to savings and credit. Post-intervention FGDs focused on immediate perceptions after the delivery of cash transfers,

[12] Includes items such as sewing machines, carpentry tools, solar panels, charcoal, fuel, etc.
[13] Bags, belts, hairbrushes, jewelry, watches, etc.
[14] Batteries, candles, mosquito repellents and shoe wax/polish.
[15] Soap, toothbrushes, beauty products and other sanitary products.
[16] Alcohol, cigarettes and gambling.
[17] School fees, health care expenditures, telephone communications, transportation, ceremonies, savings, debt payments, recreation, etc.
[18] 'Other goods' refers to any purchased item not identified by the household as falling into one of other categories.

including purchases and purchasing patterns, social dynamics, NGO activities in the intervention and neighbouring areas, and confidence in local institutions. At endline, information was again collected on shocks and adaptation mechanisms, community dynamics and access to credit, as well as political representation. Post-intervention data included FGD data on targeting, cash transfers, purchasing, preference for modalities, social dynamics and security, as well as semi-structured interview (SSIs) data from different key informants on perceptions of the programme, effects on services and the market, and social dynamics.

The majority of data collection by the implementing partners took place after the intervention: there were four baseline FGDs, 12 post-distribution FGDs, 26 endline FGDs, and 54 SSIs and 44 FGDs conducted during the PIM. The implementing partners conducted FGDs with a variety of groups including mixed (male and female) beneficiaries together, female beneficiaries only and non-beneficiaries. The implementing partners conducted SSIs with local authorities and community leaders, shop owners and vendors, school directors, health centre officials and payment agents. Altogether, ARCC implementing partners collected 140 pieces of qualitative data (*see Table A1.1*).

The existing qualitative data were used as a foundation for AIR's additional qualitative data collection. An initial audit of these data, as well as an analysis of the different programme components across the implementing partners, informed our selection of additional data-collection sites, as well as the development of our data-collection protocols.

Our qualitative analysis drew primarily upon additional data collection conducted by AIR in December 2015. AIR data collection included in-depth interviews (IDIs), FGDs and key informant interviews (KIIs) with beneficiaries, non-beneficiaries and relevant key informants (such as community leaders, local partners[19] and the implementing partners) in North Kivu's Rutshuru and Beni territories. We did not differentiate between Phase 1 and Phase 2 in the data. The data collected and their limitations are summarized in Appendix 2 (*see Table A2.2*).

7. Design

7.1 Design of overall Phase 1 impact evaluation

7.1.1 Quantitative methods

To conduct a valid assessment of the impact of the ARCC II programme, we needed to establish a clear counterfactual. This required a rigorous methodology that would enable us to address the question of what would have happened to programme participants in the absence of the intervention, which ultimately required a control (or comparison) group. In the absence of an experimental design, comparison groups can be constructed using quasi-experimental methods. In this section, we discuss how we constructed a comparison group for evaluating the impact of ARCC II using the information that UNICEF and the implementing partners collected.

Construction of a comparison group

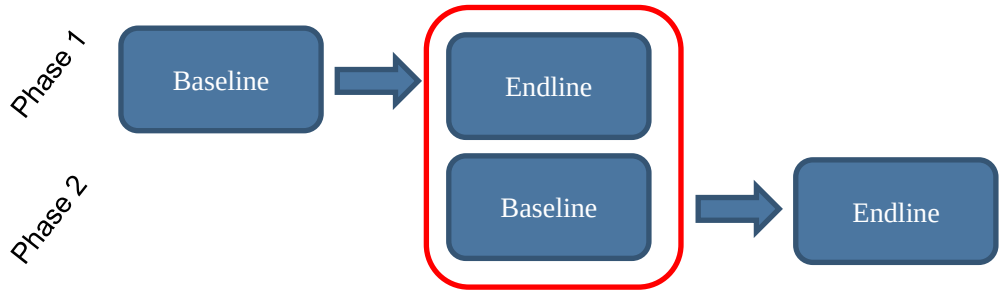
Evaluating the impacts of the ARCC II interventions was challenging because the implementing partners collected data only for programme beneficiaries (the 'treatment

[19] ARCC implementing partners had partnerships with local NGO partner organizations to assist them in certain steps of the project cycle (e.g., community mobilisation).

group'), which meant that a control group was not readily available. This was a deliberate decision taken by the programme consortium, primarily because it was considered unethical to withhold assistance from families who met criteria for inclusion in the programme in order to construct a comparison group. Establishing control groups for research on the impact of humanitarian programming is often a challenge due to these ethical considerations.

This does not mean that it is impossible to use other approaches to construct a comparison group and analyse programme impacts. Our analysis employed a single difference comparison between Phase 1 beneficiaries at endline (who, at the time of the survey, had already received the entire transfer amount) and Phase 2 beneficiaries at baseline (who, at the time of the survey, had not received any transfers). Data from these two surveys (Phase 1 endline and Phase 2 baseline) were collected between one and three months apart. Phase 2 beneficiaries at baseline were used as a comparison group in order to estimate how Phase 1 beneficiaries might have changed over time had they not been beneficiaries of a CBA programme—an untestable condition known in the evaluation literature as the parallel trend assumption. This condition is key to our identification strategy for estimating programme impacts for Phase 1. The empirical design for estimating programme effects used baseline data from Phase 2 to determine what would have happened to programme beneficiaries had they not received the transfer in Phase 1 (*see Figure 7.1.1*).

Figure 7.1.1: Design to estimate the impact of Phase 1



One consequence of this design was that we were unable to construct a credible counterfactual to estimate the effects of the programme for Phase 2 because no data were available for non-beneficiaries at the Phase 2 endline. In order to estimate the impacts of Phase 2 using a strategy similar to the one used to estimate the impacts of Phase 1, we would have needed baseline data for a new group of eligible recipients collected at around the same time as the Phase 2 endline survey.

In addition to the parallel trend assumption, we relied on a matching design to increase the comparability of the treatment (Phase 1 endline) and comparison (Phase 2 baseline) groups. Matching involves pairing treatment and comparison units that are similar in terms of their observable characteristics. Matching methods can yield an unbiased estimate of the treatment impact whenever potential outcomes are not correlated with unobservable personal characteristics that determine programme participation (Dehejia & Wahba, 2002). Using programme beneficiaries from Phase 2 to construct the comparison group for Phase 1 enabled us to address some of the potential ethical concerns about not having a comparison group, because ultimately households in both groups were programme beneficiaries. The parallel trend assumption would be less credible if, for example, the comparison group had been selected from people located in non-eligible programme communities.

Nevertheless, for the identification assumption to hold, it must be the case that Phase 1 beneficiaries changed over time in the same way as Phase 2 beneficiaries—an assumption that cannot be tested because we did not observe Phase 1 beneficiaries at endline who did not receive the transfer. Phase 2 beneficiaries may also not constitute a good comparison group if they received the intervention after Phase 1 because Phase 1 beneficiaries were ultimately more vulnerable and needed to be assisted sooner than Phase 2 participants. In that case, the estimated programme impacts would be upwardly biased. However, the available evidence indicated that ARCC II's Phase 2 beneficiaries were middle- to long-term conflict-affected households characterized by largely comparable vulnerability levels, just like Phase 1 participants.

Estimating the impacts of Phase 1

The first step in our methodological design was to use propensity score matching (PSM) techniques to estimate the probability that a given observation belongs to the treatment group (i.e., Phase 1). PSM matched Phase 1 and Phase 2 households on the basis of exogenous household and community characteristics that were constant or slowly evolving over time. We used province and implementing partner fixed effects, as well as head-of-household observable characteristics (i.e., dummies[20] for single parents, the elderly, widows, people with disabilities, people who were chronically ill). We present the results of the PSM estimation in Appendix 4, where we also provide further technical details on the methodology. Overall, the estimated results showed that the propensity scores for both the treatment and comparison groups overlapped, which meant that we were able to find Phase 2 households that were observably similar to Phase 1 beneficiaries, enabling us to construct a comparison group.

We therefore used the estimated predicted probabilities obtained in step one as weights when comparing the outcomes between the treatment group (Phase 1 beneficiaries at endline) and the comparison group (Phase 2 beneficiaries at baseline). Households in one group that were very similar to households in the other group received large weights, meaning that they played a greater role in determining the impact estimates than households with smaller weights.

Formally, we used the following specification to test the effect of the cash transfer on Phase 1 beneficiaries

$$Y_h = \gamma_{\mathrm{i}} + \gamma_{\mathrm{p}} + \beta_1 T_h + \beta_2 X_h + \varepsilon_h \qquad (1)$$

where Y_h is the outcome of interest for household h, γ_{i} is a fixed effect for implementing partner, γ_{p} is a fixed effect for province p, X_h is a set of household characteristics, ε_h is an unexplained error term, and T_h is an indicator variable that equals 1 if the household received the transfer (Phase 1) and 0 otherwise (Phase 2 baseline). The parameter of interest is β_1, which measures the difference between the treatment and comparison groups in the outcome of interest. As discussed, each observation in the regression was weighted by the inverse of the predicted probability generated by the PSM. It was important to include additional

[20] Dummy variables are those that take the value 0 or 1 to indicate the absence or presence, respectively, of some categorical attribute. For example, the single-parent dummy equals 1 if the person is a single parent and equals 0 otherwise.

variables in the regression, X_h, to control for any remaining differences between the treatment and comparison groups despite the PSM weighting.

A potential limitation of the identification strategy was that the PSM design did not account for unobserved factors that determined whether a household was included in Phase 1 or Phase 2 of the programme. To the extent that these unobserved factors also determined the outcomes of interest of the programme, not being able to control for them could bias the estimated impacts of the intervention. For example, if Phase 1 households received the programme before Phase 2 households because they needed the assistance more urgently, using households from Phase 2 to construct the comparison group may not yield unbiased programme estimates. However, as the unobserved characteristics used to select programme beneficiaries were similar in both Phases 1 and 2, the strategy enabled us to identify the impacts of the programme.

7.1.2 Qualitative methods

We used qualitative data to better understand beneficiary perceptions of the impact of the ARCC II programme and to shed light on the quantitative findings. As detailed above, qualitative analysis drew primarily upon FGDs and IDIs with beneficiaries, existing PIM data and KIIs with school officials, health centre officials, community leaders and the implementing partners.

We used a combination of FGDs, IDIs and KIIs with beneficiaries and key informants to understand the effects of the programme on assets, savings revenue and debt; education outcomes; health outcomes; resilience; and perceived success. We used FGDs and IDIs with beneficiaries to understand beneficiary purchases and the perceived impact of these purchases. IDIs provided additional detail regarding beneficiaries' perceptions of the effects of the programme. This information was supplemented with data from key informants including health centre officials, education officials and community leaders. These key informants provided additional information on the perceived impacts of the programme on education, health and resilience, as well as overarching perspectives on the perceived success of the programme.

Social dynamics

The qualitative analysis also included an investigation of the perceived effect of the programme on social dynamics. (Social dynamics include community relationships, inter-household relations, household-level gender relations and household decision-making.) We used a number of data sources to explore the programme's effect on social dynamics, including qualitative FGDS and IDIs with beneficiaries and non-beneficiaries, KIIs with community leaders and KIIs with the implementing partners. We supplemented these data sources with existing PIM data collected by ARCC II's implementing partners, as well as existing quantitative post-transfer monitoring data.

To understand social dynamics, we relied heavily on FGDs and IDIs with beneficiaries and non-beneficiaries. Interviews with beneficiaries were used to understand the programme's effects on social dynamics and intra-household dynamics. We conducted FGDs with the following groups: women, women who were internally displaced persons, men and mixed beneficiary groups. Dividing the majority of the FGDs between genders enabled us to create a power dynamic in which women potentially felt more comfortable discussing the effects of the programme on their households and their decision-making processes (Bernard, 2011).

Similarly, IDIs created a context in which men and women were more likely to discuss sensitive topics regarding social dynamics. Interviews with non-beneficiaries helped to add an additional perspective regarding the effects on community relationships, as well as an outside perspective on the effects on intra-household dynamics. We used KIIs with community leaders, UNICEF staff, UKaid and partner implementing staff to further triangulate our findings and gather additional information on large-scale effects on social dynamics witnessed by key informants. Qualitative data were analysed through qualitative coding in NVivo 11. The tools used for the qualitative data collected by AIR are in Appendix 3.

7.2 Differential programme impacts

Drawing on two RCTs implemented by Solidarités International and Mercy Corps, we were able to investigate whether variations in programme design in terms of the gender of the registered beneficiary and the number of transfer instalments had a differential impact on the main outcomes of interest. In this section, we discuss the methodology used for the analysis of these two variations in programme implementation.

7.2.1 Quantitative methods

Gender of registered beneficiaries

In 2015, Solidarités International randomly varied the registered beneficiary of the cash transfer in Beni territory to investigate differential programme impacts by the designated recipient's gender. In particular, the designated programme recipient in each household – that is, the person in whose name the family was registered and to whom the cash transfers were made – was randomly assigned to one of three groups: (1) male household member (head or spouse) registered as beneficiary; (2) female household member (head or spouse) registered as beneficiary; or (3) the household chose the designated recipient themselves (choice). The goal of this exercise was to investigate whether programme outcomes and impacts would differ depending upon the gender of the designated recipient of the transfer.

An RCT is the best design for estimating differential programme impacts by the gender of the recipient because deciding who is responsible for collecting the transfer is uncorrelated with other observable and unobservable household characteristics that affect intended programme outcomes. To answer this research question, we used the following linear regression specification:

$$Y_{i,e} = \gamma + \alpha_1 D_{female,i} + \alpha_2 D_{any,i} + \beta Y_{i,b} + \varepsilon_i \qquad (2)$$

where $Y_{i,e}$ is the outcome of interest for household i at endline; $D_{female,i}$ is a dummy variable that equals 1 if the transfer recipient is a female; $D_{any,i}$ is a dummy variable if the household decides who is responsible for receiving the transfer; $D_{male,i}$ is the omitted category; and $Y_{i,b}$ is the baseline value of the outcome, included to improve the statistical precision of the model. The coefficient α_1 measures the differential impact of the programme on outcome Y when the recipient is the female spouse relative to the case where the transfer recipient is the male spouse. Similarly, the coefficient α_2 measures the differential impact of the programme when the household chooses the transfer recipient relative to the recipient being the male spouse.

The outcomes of the analysis presented in this section came from two sources: the Phase 2 PIM system (to look particularly at differences in purchasing patterns) and the Phase 2 endline household questionnaire. The available information enabled us to look at the differential effects of the recipient's gender on expenditure patterns, income, savings, credit, household welfare indices (e.g., Household Hunger Index [HHI], Coping Strategy Index, NFI Score[21]), food security, children's health and education, female decision-making and changes in inter- and intra-household dynamics. We describe the outcomes used for this analysis in more detail in section 8.2.

The sample included 157 households, which Solidarités International randomized into the three groups described above: 46 households in the 'choice' group, 58 households in the 'female' group and 53 households in the 'male' group. For the outcomes drawn from the PIM dataset, we had information for all 157 of the randomized households. For the Phase 2 endline household questionnaire, however, we only had information for 96 households (29 choice, 33 female and 34 male), which represents a 40 per cent attrition rate between the PIM data collection and the endline data collection. We provide a more detail discussion of the data used in this exercise in Appendix 5.

Transfer plan: Single versus multiple instalments

In Rutshuru territory, Mercy Corps randomized the transfer plan through which households received the cash transfers. During Phase 2, households were randomly placed into two groups. One group received a single transfer of US$120. The other group received three separate transfers: an initial transfer of US$60, followed one month later by a transfer of US$30, followed by a final transfer of US$30 one month later. All transfers were delivered via mobile phone. This random allocation of the number of instalments provided a unique opportunity to determine if and how household responses varied by the number of instalments used to deliver the same total transfer amount. This was one of the major questions that came out of the mid-programme review process between Phase 1 and Phase 2, leading UNICEF and Mercy Corps to design this RCT. The key questions that ARCC wanted to investigate were: (1) whether smaller cash disbursements – while ensuring some predictable income and enabling households to smooth their consumption over time – were more limiting in terms of households being able to make larger investments; and (2) whether larger one-time transfers were more likely to encourage households to invest in longer term projects or make larger productive livelihood investments, which might require a significant portion of the transfer value.

Assuming that the randomization of the number of instalments was properly implemented, the following specification enabled us to estimate the causal effect of receiving three instalments on the outcomes of interest relative to those households that only received one lump sum:

$$Y_{i,e} = \gamma + \alpha D_{multiple,i} + \beta Y_{i,b} + \varepsilon_i \qquad (3)$$

where $Y_{i,e}$ is the outcome of interest for household i at endline; $D_{multiple,i}$ is a dummy variable that equals 1 if the household received three instalments, with households receiving a single payment being the omitted category. As before, we included $Y_{i,b}$ as an explanatory

[21] The NFI Score Card is a vulnerability assessment tool developed in the DRC to look at the quantity and quality of basic items in a household. It is measured on a scale of 0 to 5, with 5 being the most extreme level of need.

variable to improve the efficiency of the model. The coefficient α measures the differential impact of the programme on outcome Y when the recipient gets multiple transfers *relative* to a single transfer.

The outcomes of interest for this section also came from the two main sources described above: the Phase 2 PIM system and the Phase 2 endline household questionnaire. Using these data, we investigated the effects of receiving multiple transfers on consumption patterns (e.g., purchasing patterns, total expenditures by consumption categories and expenditure shares), as well as other household welfare outcomes.

The sample used for this exercise included 196 households: 152 received three monthly instalments (US$60, US$30 and US$30) and 44 received a single transfer of US$120. Although we had outcome data for all the households in the PIM data, we had only 171 observations[22] for the outcomes that came from the Phase 2 endline household questionnaire. This means that there was a 13 per cent attrition rate between the PIM data collection and the endline data collection. We provide a more detail discussion of the data used in this exercise in Appendix 6.

7.2.2 Qualitative methods

Qualitative data were used to supplement the quantitative data from these RCTs by investigating the perceived differential effect of some variations in programme implementation. Specifically, we explored how the gender of the registered beneficiary of the transfer, and the frequency and delivery mechanisms of the transfers, affected beneficiaries' perceived outcomes.

As indicated above, Solidarités International randomized the gender of the registered recipient of the cash transfer in Beni. The qualitative analysis investigated the effect of the randomization, particularly on gender relations, through IDIs with designated female recipients, designated male recipients and free-choice recipients of the transfer. KIIs with the local implementing partners and community leaders supplemented our understanding of any large-scale effects on female empowerment or decision-making due to the designation of transfer recipient.

We also qualitatively investigated the perceived differential effects of variations in the transfer plan—specifically, the number of instalments. This investigation used FGDs and IDIs with beneficiaries, particularly in Rutshuru, as well as KIIs with the implementing partners. FGDs and IDIs with beneficiaries also explored the purchasing patterns of beneficiaries receiving different transfer frequencies to complement the quantitative data. This information was triangulated with key informant perceptions of the effects of the transfers, including changes in access to services.

7.3 Design of exploratory process evaluation

The exploratory process evaluation analysed perceptions of key programme processes, including beneficiary targeting and selection, delivery mechanisms, management of feedback and complaints, and participation in VSLAs. These key processes were investigated using the

[22] Of these, 37 beneficiaries received a single transfer and 134 received multiple transfers.

additional qualitative data collected by AIR, as well as through our analysis of the qualitative and quantitative data collected previously by ARCC II's implementing partners.

Qualitative inquiry is the ideal methodology for investigating processes because of its descriptive and discursive nature. Furthermore, qualitative data collection is well suited to process evaluations because it enables researchers to explore not only formal activities and anticipated outcomes, but also informal patterns and unanticipated interactions (Patton, 2015). This gives the researcher flexibility to explore unforeseen areas of interest. Our predominantly qualitative design enabled us to explore how and why a given link in the theory of change may not be working optimally.

Our process evaluation analysed and interpreted data from FGDs with beneficiaries and non-beneficiaries; IDIs with beneficiaries and non-beneficiaries; and KIIs with school officials, health centre officials, UKaid, UNICEF, the implementing partners and community leaders. We also drew upon the PIM data, which included questions about targeting, preference for modalities and security. The combination of methodologies and informants' perspectives allowed for a thorough investigation of programme processes.

Key informant interviews

KIIs with DFID, UNICEF and implementing partner staff provided in-depth background information on programme processes. Interviews with DFID and UNICEF helped us to understand their perspectives on the effectiveness of the programme processes, including their perceptions of beneficiary targeting and management of feedback and complaints. Similarly, interviews with the implementing partners gave us further insight into the specific systems used during programme implementation, as well as the implementing partners' perspectives on challenges faced during the targeting and delivery of transfers.

Interviews with beneficiaries

FGDs with beneficiaries shed light on perceptions of the targeting criteria and selection processes, transfer processes, and management of feedback and complaints. We conducted FGDs with mixed male and female beneficiaries together, female beneficiaries alone, and beneficiaries of both sexes who were internally displaced persons to gather an in-depth, balanced understanding of programme processes. The majority of our focus groups were divided into more or less homogenous groups of informants in order to understand the programme from multiple perspectives and to gain a gendered perspective (Bernard, 2011). FGDs on sensitive topics, such as beneficiary targeting, are typically most effective when informants do not know one another (Bernard, 2011). Although this was not possible within our data-collection sites, we used IDIs to build rapport with informants, allowing us to probe further into more sensitive research questions. IDIs with beneficiaries created an environment where researchers could better understand security concerns, challenges with programme processes, and targeting (Adams & Cox, 2008).

Triangulation

AIR research teams triangulated interviews with beneficiaries with interviews with non-beneficiaries, existing PIM data and KIIs with local authorities, school officials and health centre officials. FGDs with non-beneficiaries investigated targeting and selection processes. We used these data to triangulate beneficiary perspectives and achieve a more balanced view of the selection process. Similar to IDIs with beneficiaries, IDIs with non-beneficiaries were

key to further exploring sensitive topics around beneficiary targeting. ARCC consortium qualitative data and data from local authorities, school officials and health centres were used to further triangulate information about programme processes and gain additional perspective.

Analysis

We analysed both the existing ARCC consortium qualitative data and the new data collected by AIR teams through the process of qualitative coding. From the additional data and the consortium data, qualitative researchers developed a descriptive coding scheme linked to the theory of change, with specific reference to themes of interest and research questions. The researchers then loaded the coding scheme and the transcripts into the qualitative data analysis software package (NVivo 11). Coding in NVivo is a manual process based on careful reading of each piece of data (in this case, interview responses and other notes) and subsequent selection of appropriate code(s) to describe these data. To maintain consistency across researcher coding, two transcripts were selected to run an inter-rater reliability test before coding all of the qualitative transcripts. Once properly coded, we analysed the data in different ways before producing written outputs.

8. Overall impacts

This section presents the main effects of the ARCC II programme on beneficiaries in three key domains of interest. Section 8.1 provides a detailed description of household expenditure patterns in order to explore the key consumption categories among beneficiaries in the different treatment groups (i.e., those who received vouchers only, those who received cash only and those who received a combination of cash and vouchers). We looked at both the amount of the transfers spent on different categories by different groups and the percentage of families that spent a portion of their transfers in different expenditure categories. We also considered expenditure patterns based on specific programme features, such as the number of transfers received over time, the gender of the registered beneficiary and the size of the household at baseline. Understanding the spending behaviour of recipient households is key to investigating the effects of ARCC II. UNICEF anticipated that once families met their immediate basic needs, they would use the cash transfer for productive investments (such as livestock and agricultural implements) or engage in agricultural production, as well as other non-farming livelihood activities. Using funds beyond essential needs was hypothesized to lead to greater income through investments and reallocation of time; more assets, including livestock and improved housing; greater food security; better access to education and health care services for children; and overall resilience.

Section 8.2 presents the impacts of the programme on key household welfare and well-being outcomes, including measures of welfare such as the HHI, the Food Consumption Score (FCS), the Coping Strategy Index and the NFI score. We also looked at the effects of the programme on food security, income sources, livestock holdings, household savings and debt standing, and two key child outcomes: school enrolment and access to health care services. We used a resilience index to determine the effect the programme had on households' ability to cope with adverse situations and possible future shocks.

Section 8.3 explores whether ARCC II changed household and community relations, including whether the gender of the registered beneficiary affected women's decision-making within the household.

8.1 Purchasing patterns

ARCC II transferred more than US$2.8 million to 23,480 households, with an average of 5.17 individuals per household. Of these 23,480 households, 63.5 per cent received the entire amount via cash transfers, 8 per cent received the entire amount via vouchers and 28.5 per cent received the entire amount through a combination of cash and vouchers (*see Table 3.1)*. Beneficiaries of the direct UCTs had no limitations on expenditures; they could spend the money on goods and services, save it, use it to pay off debt or opt for any combination of these options. Families who received their transfers via vouchers were more limited to the purchase of goods and (in some cases) services on sale at the voucher fairs or at participating vendors.

How beneficiaries used the transfer determined where the programme generated impacts. Section 8.1.1 describes household expenditure patterns for programme recipients, drawing on detailed expenditure data collected by the implementing partners. Section 8.1.2 investigates how two variations in programme design—namely, varying the number of transfers used and varying the gender of the intended beneficiary—affected beneficiaries' purchasing patterns. Section 8.1.3 investigates the extent to which beneficiaries used the transfer on a single expenditure category (i.e., the lottery effect of the transfer).

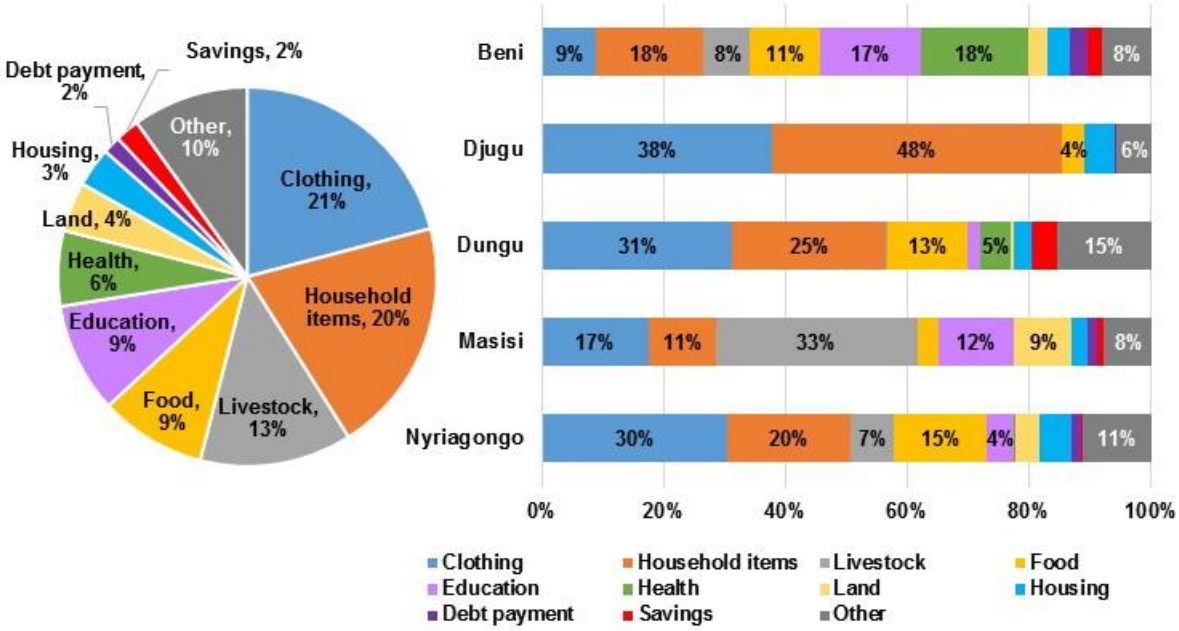
8.1.1 Describing household expenditure patterns

The PIM data enabled us to categorize expenditures with a high level of detail, allowing us to investigate the purchasing patterns of ARCC II beneficiaries. UNICEF grouped expenditures in the Phase 2 PIM data into 11 broad categories, with an average of eight subcategories for each broad category. We also regrouped categories to look at purchasing patterns across the standard humanitarian sectors or cluster areas; these are presented in Appendix 7. The left-hand panel of Figure 8.1.1 presents the group distribution of total expenditures for Phase 2 beneficiaries, including recipients of cash only, cash and vouchers, and vouchers only. These are percentages by category of the total volume of money transferred to beneficiaries based on a sample of 1,011 PIM purchasing pattern surveys (*see Table 6.1.2*). The majority of the total expenditure was spent on clothing[23] (21 per cent) and household items (20 per cent), followed by livestock (13 per cent), food (9 per cent), education (9 per cent), health (6 per cent), land (4 per cent), housing (3 per cent), debt repayment (2 per cent) and savings (2 per cent). Expenditures on anti-social purchases – such as alcohol, tobacco or gambling – were insignificant (0.07 per cent). Overall, the results showed that spending was generally oriented towards satisfying essential needs, accessing basic services like education and health and making investments in livelihood activities, which aligns with the objectives of the ARCC II programme. It is important to note that a significant amount of the transfer (35 per cent) was spent on services, livestock, land and housing. Although aid programmes can be used to address these needs – granting free or subsidized access to school or health care, or

[23] In the DRC, clothing is typically one of the top-priority needs of conflict-affected populations, with NFI Score Card analysis frequently revealing that clothing – particularly children's clothing – is one of the areas of highest vulnerability. In the DRC humanitarian cluster analysis, clothing is regrouped with other household hygiene-related NFI. However, for the purposes of this study, we have separated it out because it is such a significant purchase area.

implementing voucher programmes for livestock, like Concern Worldwide – these types of needs are potentially more challenging to address through in-kind aid modalities and cash is often the most efficient modality to allow people to address them.

Figure 8.1.1: Distribution of household expenditure by categories (overall and by territory)



Note: The 'Other' category includes: non-agricultural assets (2 per cent), furniture (2 per cent), other services (2 per cent), agricultural inputs (1 per cent), hygiene products (0.3 per cent), personal items (0.3 per cent), utility items (0.1 per cent), anti-social goods (0.07 per cent) and other uncategorized items (3 per cent).

The data also showed substantial geographic variation in expenditure patterns (*see the right-hand panel in Figure 8.1.1*). The differences in expenditure patterns between territories were mainly due to the heterogeneity of needs in different affected populations, and they help to demonstrate why cash is a relevant approach to address this diversity. It is important to note, however, that expenditure patterns were also linked to the transfer modalities: UCTs or vouchers in fairs or open markets. In Beni, Masisi and Nyiragongo, families received cash-only transfers, so the higher levels of spending on clothes in Djugu and Dungu territories were, in part, due to the fact that 58 per cent of the transfers received by beneficiaries in these territories were delivered through vouchers or e-vouchers in fair or open-market settings. This meant that beneficiaries were less likely to use the transfers on basic services (i.e., education and health), debt repayment, land and housing. The results showed that in some territories (such as Beni), households devoted a high proportion of their expenditures to services, in contrast to households in Nyiragongo, where spending was more evenly distributed across categories. In Masisi, approximately 33 per cent of total expenditure was devoted to livestock expenses—a spending category that was much smaller in other places (even in places with 100 per cent cash-only transfers). This was an expected outcome as animal husbandry is a major livelihood activity and saving strategy in Masisi territory.

For comparative purposes, we also broke down household expenditures using the humanitarian cluster sectoral categories.[24] These use a UNICEF-defined level of aggregation of goods and services that is slightly different from the categories used in Figure 8.1.1, with a 'cluster' group for different core response sectors, such as NFI and shelter, education or health. For instance, both food and livelihood assistance are part of the 'food security' cluster. In the DRC, the NFI and shelter sectors are part of the same cluster. A regrouping of purchase categories by sectoral clusters is presented in Appendix 7.

The results of this regrouping exercise showed that households spent the transfer on a variety of sectoral categories (*see Figure 8.1.2*). On average, 39 per cent of the transfer provided to a typical household was spent on NFIs,[25] such as clothing, items for food preparation and storage, bedding and other household items. Twenty per cent was spent on livelihood items, which includes the following categories from Figure 8.1.1: livestock, land, agricultural inputs (e.g., seeds and agricultural tools) and non-agricultural assets (e.g., carpentry tools, milling equipment, solar panels, etc). Nine per cent was spent on food and the remaining 23 per cent was spent on other sectors. Five per cent was spent on the shelter category, which includes the following categories from Figure 8.1.1: housing (e.g., construction tools and housing materials), furniture and housing services (e.g., rent payment and repair and other construction costs).

A final way to analyse these patterns is by the three core elements of the ARCC objective: access to (1) basic goods, (2) basic services and (3) livelihood opportunities. Fifty-five per cent of the transfer was used to purchase what might be considered essential goods (NFI, shelter, food and WASH-related NFI). Fifteen per cent was used to purchase basic services: 9 per cent was used to access education and 6 per cent was spent on health services. Twenty per cent was used for purchases related to livelihood activities. In total, over 90 per cent of the transfer was invested in ARCC II objectives and the remainder was used for savings, debt repayment and others goods, including personal items such as batteries, razors, candles, bags and suitcases.[26] Spending on anti-social items (i.e., cigarettes, alcohol or gambling) accounted only for 0.07 per cent of total expenditures.

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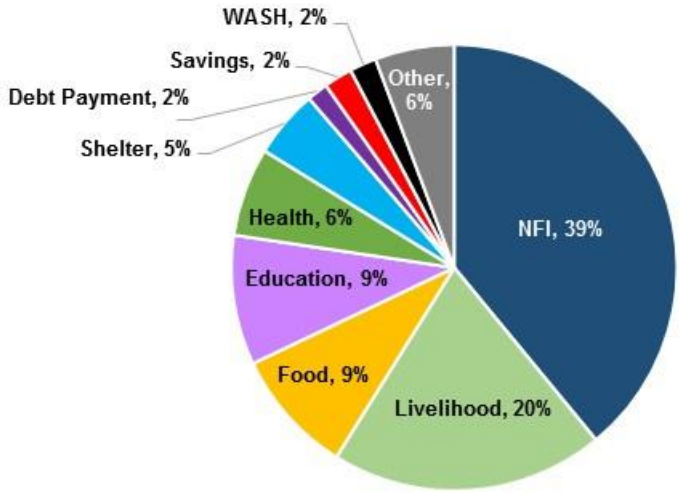
[24] The cluster approach is a coordination and information-sharing mechanism for humanitarian organizations (both United Nations organizations and organizations not affiliated with the United Nations) working in different sectors of humanitarian action. Clusters were created as a global initiative that formed part of the humanitarian reform process in 2005. They were introduced in the DRC in 2006. The cluster approach is activated in a country when clear humanitarian needs exist in multiple sectors, when there are numerous actors within sectors, and when national authorities need coordination support. See: http://www.unocha.org/what-we-do/coordination-tools/cluster-coordination.

[25] Together clothing (21 per cent) and household items (20 percent) as presented in figure 8.1.1 would give a total of 41 percent for what are traditionally considered 'NFI.' It is only 39 per cent in this regrouping as Water, sanitation and hygiene (WASH) products and items (e.g., soap, jerry-cans, basins and buckets) —which were considered as part of 'Household Items' in Figure 8.1.1—have been separated out for this regrouping. Of the 20 per cent of the money spent on 'Household Items', 18 per cent was spent on non-WASH NFI and 2 per cent was spent on WASH-related NFI. The overall 'NFI' category for this regrouping thus includes clothing (21 per cent) plus household non-WASH NFI (18 per cent). While interesting to separate this out for this sectoral analysis, in the DRC, organizations providing access to NFI—whether via distributions or voucher fairs—will typically include WASH-related NFI as part of their programmes and WASH-related NFI are generally considered as integral part of standard NFI assistance.

[26] Some items that are usually considered essential household and personal NFI (e.g., candles, bags and suitcases) by the DRC NFI cluster and by international standards (such as Sphere) were not included in the essential household NFI category when doing the purchasing pattern analysis due to data formatting decisions taken at the beginning of the programme. Had they been re-categorized within the household NFI category, the percentage of transfers used on purchases aligned with ARCC II objectives would have been even higher than the estimated 90 per cent.

Figure 8.1.2: Distribution of household expenditure by large sectoral categories



These breakdowns by overall expenditure categories are important, but it is also interesting to look at the percentage of households that used any portion of their transfer on a given expenditure category. This is critical when analysing expenditure patterns because some expenditure categories are relatively inexpensive compared to others. For example, although beneficiary households spent an average of just 9 per cent of the transfer on education, 26 per cent of these households spent some portion of their transfer on school fees. Although these fees represent a low fraction of total expenditures (because they tend to be less expensive than items in the NFI and livelihood categories), the relatively large percentage of households using the transfer for school fees gives a better indication of the importance of this category to families.

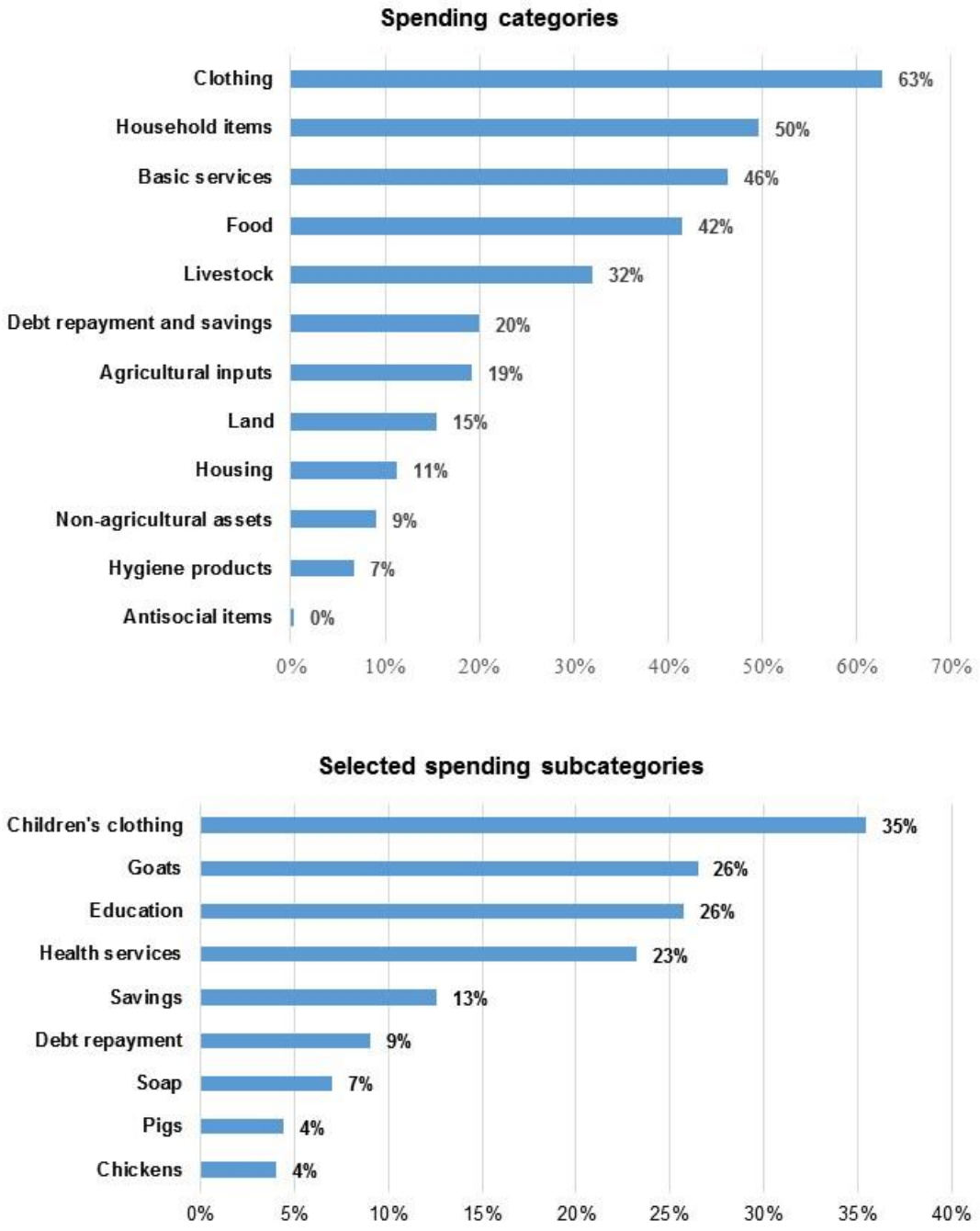
For this analysis, we looked at the 15 expenditure categories used in Figure 8.1.1 and at some specific subcategories of interest. The results showed that the top categories in which households bought at least one good or service were as follows: clothing (63 per cent); household items (50 per cent); basic services[27] (46 per cent); food (42 per cent); and livestock (32 per cent) (*see the top panel of Figure 8.1.3*). However, expenditures in other categories were also important. For example, when we looked at key subcategories, we found that a large proportion of households spent money on children's clothing (35 per cent); livestock, such as goats (26 per cent), pigs (4 per cent) and chickens (4 per cent); and services such as education (26 per cent), health services (23 per cent), savings (13 per cent) and debt payments (9 per cent) (*see the bottom panel of Figure 8.1.3*).

The analysis of children's clothing is an area of specific interest to UNICEF. Although over half of the families who purchased clothing did purchase children's clothing, this proportion was lower than expected, given the large deficit in children's clothing reported in the NFI Scoring. This lower-than-expected proportion may be due to families under-reporting what they considered to be children's clothing, perhaps only counting garments for very young children (i.e., those 10 years old or younger). Given the potential subjectivity on what survey respondents consider children's clothing, further research

[27] Education and health

should be conducted to better understand clothing purchasing patterns in cash and voucher programmes.[28]

Figure 8.1.3: Proportion of households spending anything on category



[28] For further analysis of clothing purchases for children, women, and men based on different transfer modalities (vouchers and cash) see Table 8.1.1 and the analysis in footnote 29.

Lastly, we looked at whether the wide dispersion in expenditure categories varied by transfer modality—specifically, whether household expenditure patterns differed if the transfer was delivered in cash rather than as a voucher. The results revealed significant differences in expenditure patterns by transfer modality, in terms of both the average proportion of the transfer spent on a given category and the proportion of households that spent any of the transfer on a given category (*see Table 8.1.1)*. Cash recipients exhibited larger expenditure heterogeneity than voucher recipients. For instance, cash recipients used 15 per cent of the transfer on clothing, 11 per cent on household items, 18 per cent on livestock, 9 per cent on food, 9 per cent on education, 6 per cent on health, 9 per cent on land and 6 per cent on housing, while voucher recipients spent the transfer almost entirely on clothing and household items. There were also important differences in the propensity to spend on a given category between transfer modalities, with cash recipients reporting a more diverse expenditure basket than voucher recipients.

Table 8.1.1: Expenditure behaviour by transfer modality

	Cash Only		Voucher Only[29]	
Purchase Categories	% of Overall Money Spent on Category (1)	% of Households that Spent Any of the Transfer on Category (2)	% of Overall Money Spent on Category (3)	% of Households that Spent Any of the Transfer on Category (4)
Essential Needs				
Clothing	14.9	54.9	35.5	82.1
Children's Clothing[30]	5.6	26.8	14.6	57.4
Women's Clothing	5.1	25.9	8.0	33.7
Men's Clothing	1.8	12.1	5.4	27.3
Household items	10.5	37.5	35.9	80.4
Food	8.9	45.6	4.3	31.1
Housing	6.0	14.2	0.9	3.8
Hygiene Items	0.8	6.6	0.2	7.2
Access to Basic Services				

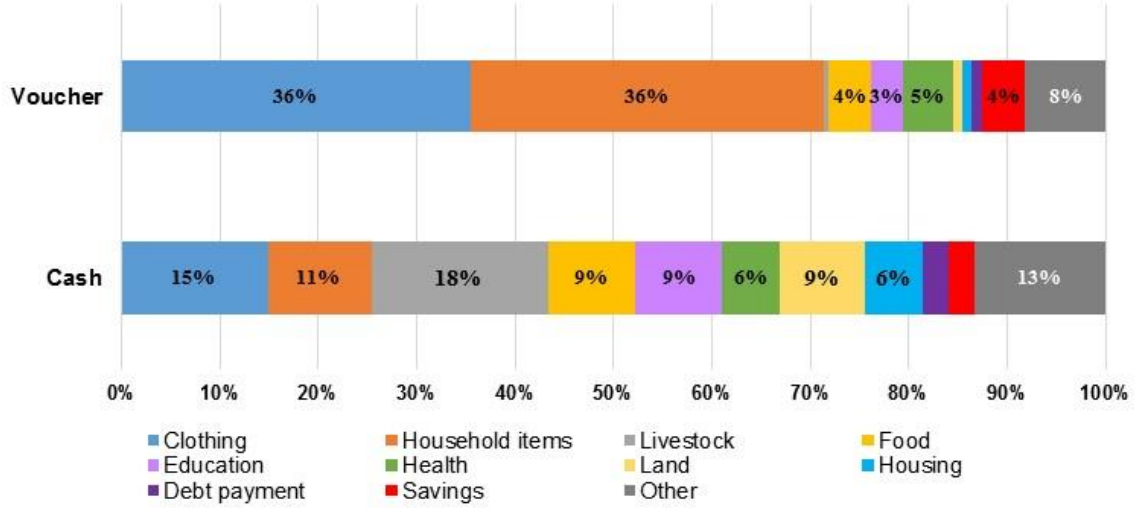
[29] Voucher assistance was used in different ways, including: (1) at multi-sector voucher fairs that mostly focused on NFI and food, (2) at fairs that also included services such as school fees and (3) with pre-identified vendors in existing open markets. Solidarités International and Mercy Corps also allowed families to exchange a certain amount of their vouchers for cash (up to US$40). The analysis presented in the table includes purchases that these families made with the cash they had received in exchange for their vouchers.

[30] The disaggregation by transfer modality points to some interesting findings with regard to children's clothing. With cash modalities, the amount of money spent on women's clothing (5.1 per cent) was similar to the amount spent on children's clothing (5.6 per cent), and both were significantly higher than the amount spent on men's clothing (1.8 per cent). The voucher approach would appear to be more favourable in terms of increasing purchases of children's clothing, both in terms of the percentage of money spent and the percentage of families making purchases in this category: 14.6 per cent of the money in the form of vouchers was spent on children's clothing (compared to 8.0 per cent on women's clothing and 5.4 per cent on men's clothing), and 57.4 per cent of families spent some of their vouchers on children's clothing (compared to 33.7 per cent on women's clothing and 27.3 per cent on men's clothing). With both cash and vouchers, men's clothing received the smallest amount of money and had the smallest percentage of families spending in this category, compared to women's clothing and children's clothing.

Education	8.8	28.5	3.1	17.7
Health	5.8	25.0	5.1	18.8
Livelihoods				
Livestock	17.9	44.6	0.5	1.0
Agricultural inputs	7.5	24.5	0.4	5.7
Non-agricultural assets	1.2	4.7	4.3	20.3
Land	8.6	20.9	0.9	1.9
Debt repayment	2.6	10.8	1.1	4.8
Savings	2.6	10.7	4.4	17.2
Others				
Anti-social purchases	0.1	0.4	0.0	0.0

We reproduced columns 1 and 3 of Table 8.1.1 to graphically show this staggering difference between the cash and voucher modalities (*see Figure 8.1.4*). Of these two modalities, the cash transfer was able to address far more household needs than voucher transfers.

Figure 8.1.4: Expenditure distribution by programme modality



Note: The 'Other' category includes: non-agricultural assets, furniture, other services, agricultural inputs, hygiene products, personal items, utility items, anti-social goods and other uncategorized items.

The differences in expenditure patterns between the different modalities can largely be attributed to the limited options available to voucher recipients. Although partners attempted to broaden the scope of options at their multi-sector voucher fairs and voucher-in-open-market initiatives – for example, by inviting school administrators to participate as vendors and allow families to pay school fees – payments such as land rental or repayment of debt cannot be as easily 'voucherized'. The considerable difference in purchasing patterns between delivery modalities underlines the importance of measuring how much aid is provided as cash transfers and explicitly distinguishing this from vouchers and in-kind aid (ODI, 2015).

One further piece of evidence supports the use of cash transfers to accommodate the specific needs of the beneficiary population. The expenditure data showed that beneficiary households demonstrated higher levels of spending in categories in which they reported being more vulnerable. For instance, households that were vulnerable in terms of their FCS – a quantity/quality food index – had additional food expenditure of CDF 1,764,[31] compared to less FCS-vulnerable households (*see Table 8.1.2).* Households with more children had higher education expenses, and households that had to forgo medical treatment (which can be considered vulnerable in terms of health care access) used a larger portion of the transfer on health care expenditures. Curiously, households that had fewer and/or lower quality NFI spent slightly less (CDF 3,464) than those that possessed more and/or better quality NFI at baseline. However, the level of purchases was still quite high in both groups and this difference is unlikely to be significant. This difference might also be attributed to the fact that the NFI vulnerability score looks at only eight of what are considered the most essential NFI, while expenditure analysis captures a significantly wider array of items. As a result, a slightly higher level of expenditure in NFI by the less-vulnerable households may simply mean that they were spending slightly more on other NFI items outside the essential list.

Table 8.1.2: Relationship between vulnerability measures and expenditures

Type of Spending	Vulnerability Measure	Household Expenditures (CDF)	
		More Vulnerable HH	Vulnerable HH
Food	FCS	9,068	7,304
Non-Food Items	NFI Score	45,167	48,631
Education	Number of Children	12,770	4,701
Health Care	Forgo Treatment	8,153	4,538

Notes: More Food vulnerable – FCS score <24.5 [50th percentile]; more NFI vulnerable – NFI score > 3.5625; more education vulnerable – >1 school age child [50th percentile # of 6–18 year old children]; more health vulnerable – report forgoing medical treatment due to money.

Taken together, the analysis of expenditure patterns presented in this section indicates that ARCC II households had a wide variety of needs, which in turn suggests that a CBA approach may be a more effective way of meeting the needs of programme beneficiaries, compared to a single-sector programme.

8.1.2 Effects by variations in programme design

The analysis presented in the previous section looked at the overall expenditure distribution for ARCC II programme beneficiaries. However, these data are complicated by the fact that the implementing partners were given significant flexibility to explore a multitude of approaches to delivering CBA in Phase 1, including selecting different transfer plans, transfer modalities and delivery mechanisms (based partly on implementation context). If markets could absorb large amounts of cash, cash was distributed directly to beneficiaries through various institutions. In areas where markets were assessed to be less able to absorb a large injection of external cash, or in markets where cash would pose a logistical or security challenge, paper vouchers or e-vouchers were used. The implementing partners also adopted different transfer frequencies to test the effects of transfer plans and transfer frequency on

[31] CDF is the international currency code for the Congolese franc. During the entire time of the ARCC II programme, its value was approximately 920 CDF = US$1.

purchasing patterns. A more harmonized approach to delivering CBA was implemented in Phase 2. Major changes from Phase 1 to Phase 2 included limiting the different transfer plans used (i.e., delivering assistance only through one or three tranches), further harmonizing the amount of transfers to target more beneficiaries and implementing lessons learned by each implementing partner during Phase 1.

Given that transfer plans, modalities and mechanisms were (to some extent) driven by context, teasing out the differences in programme impacts based on the different approaches is not feasible. However, two variations in programme implementation during Phase 2 enabled us to examine some of the effects of programme design on expenditure patterns: (1) an implementing partner randomly assigned the number of instalments used to deliver the transfer to beneficiaries, and (2) a different implementing partner randomly assigned the gender of the registered programme recipient. The following sections investigate whether either of these variations resulted in significant differences in expenditure patterns.

Number of transfers

In North Kivu's Rutshuru territory, Mercy Corps randomly selected some households to receive a single transfer of US$120 and other households to receive a transfer of US$60 followed by two smaller instalments of US$30 each (on a monthly basis). This random allocation provided a unique opportunity to determine how household responses varied when they received one lump-sum transfer, rather than multiple smaller transfers. In principle, it could be argued that the number of disbursements or payments to a beneficiary could affect the programme's impact. For instance, larger transfers in fewer payments could enable beneficiaries to purchase big-ticket items such as a bicycle, make a down payment on a purchase of land or obtain capital to start a business. However, a larger transfer in fewer payments could also increase the risk of theft or the mismanagement of funds. On the other hand, smaller transfers through more frequent payments could provide the predictability needed to facilitate certain household planning decisions and could help with consumption smoothing. The regular injection of cash at three intervals could also mitigate the challenges associated with unexpected negative shocks.

The experiment enabled us to assess the relative differential impact of receiving one payment rather than three payments. For this analysis, we ran models to investigate the differential impact of payment frequency using the baseline and endline surveys for Phase 2 beneficiary households. We also ran models to investigate differential impacts for outcomes on the PIM survey, which provided a detailed description of how households spent their transfers.

Qualitatively, we found that beneficiaries preferred a one-time transfer to multiple disbursements. According to one female beneficiary from Mbalako, the single transfer enabled her to prioritize needs: "You can know how to manage your money—what debt to pay first and how to invest the rest of it." This notion was reiterated by a number of other beneficiaries, including a female beneficiary from Ntamugenga, who said that she could have purchased a second goat if she had received the money all at once. The only possible disadvantages to the single transfer mentioned by beneficiaries were the possibility of theft and the possibility that the money would be squandered. A few beneficiaries explained that they thought multiple transfers were preferable because the delay between payments enabled them to think carefully and plan how to spend the next disbursement. However, these beneficiaries were in the minority.

We did not find differential impacts based on the number of transfers for any of the key programme indicators, such as income, savings, food security, children's health and education or women's decision-making. However, we did find some minor evidence regarding expenditure patterns: Households that received multiple transfers of smaller amounts were slightly more likely to buy livestock, agricultural inputs, clothing, food and school fees, compared to those that received a single transfer. It should be noted, however, that most of the differences were on the extensive margin (number of households spending), rather than on the intensive margin (amount spent per household).

Tables 8.1.3 and 8.1.4 present the results of the analysis of differential impacts by frequency of payments using the PIM survey. Column 1 in Table 8.1.3 shows the additional likelihood of spending any money on a given expenditure category for households receiving multiple transfers, relative to those receiving a single lump sum. The first column in Table 8.1.4 shows the additional amount of money spent on a given expenditure category by households receiving multiple transfers, relative to those receiving a single transfer. Bold estimates in this column indicate a statistically significant difference in expenditure patterns between households that received multiple transfers and those that received only one transfer. The second and third columns of both tables provide the average of the outcome for those that received a single or a multiple transfer, respectively. The last column in both tables provides the sample size used in the estimation. (Most of the impact tables in this section follow a similar layout, unless otherwise noted.)

The results showed that there were only two categories with clear differences in purchasing patterns in both the extensive margin (i.e., purchasing probability) and intensive margin (i.e., amount spent per household) between households that received multiple transfers and those that received a single transfer. First, we found that beneficiary households that received multiple transfers instead of a single transfer were 13 percentage points more likely to purchase agricultural inputs: 23 per cent of multiple-transfer beneficiary households purchased agricultural inputs, compared to just 10 per cent of single-transfer beneficiary households. The intensive margin results show that multiple-transfer beneficiary households spent CDF 2,669 more on agricultural inputs than single-transfer beneficiary households, which spent CDF 967 on average (*see Table 8.1.4*). Second, multiple-transfer beneficiary households were 12 percentage points more likely to spend on school fees than single-transfer beneficiary households. In terms of the intensive margin, this means that the multiple-transfer group spent CDF 6,063 more on school fees than the single-transfer group. This difference may be attributable to the seasonality of school-fee payments or repayment of school debts. Unless the timing of the transfers to the single-transfer group came at a time when families were about to pay for school fees, it could be unlikely that the family would set aside the transfer for this use later on. It may have been more likely, however, that one of the transfers to the multiple-transfer beneficiaries arrived at one of the typical times when school payments were due, meaning that these families were more likely to use the transfer for school fees.

Besides the impacts on spending on agricultural inputs and school fees, we did not find any significant differences in the amounts (intensive margin) spent on other expenditure categories, even though multiple-transfer households had a higher probability of spending on clothing (24 percentage point impact), food (32 percentage point impact) and hygienic items (8 percentage point impact). Differences in the probability of purchasing an item from any of these categories (but not in the amount spent) indicate that multiple-transfer beneficiaries spent only a small amount of additional money on those items.

Table 8.1.3: Effect of multiple transfers on likelihood of spending (%)

Outcome	Impact	Means		N[32]
		One Transfer	Three Transfers	
	(1)	(2)	(3)	(4)
Livestock	0.15	0.59	0.72	189
	(1.70)			
Agricultural Inputs	**0.13**	0.10	0.23	189
	(2.17)			
Non-Agricultural Production	0.01	0	0.01	193
	(1.19)			
Land	0.06	0.12	0.18	191
	(1.08)			
Housing	-0.08	0.30	0.39	185
	(-0.99)			
Furniture	0.01	0	0.01	193
	(1.33)			
Household Items	0.09	0.12	0.20	193
	(1.50)			
Clothing	**0.24**	0.35	0.57	193
	(2.88)			
Children's Clothing	0.10	0.14	0.31	100
	(1.13)			
Personal Items	0.01	0	0.01	193
	(0.96)			
Food	**0.32**	0.21	0.50	193
	(4.13)			
Hygienic Items	**0.08**	0	0.06	193
	(2.98)			
Services	**0.20**	0.29	0.54	193
	(2.50)			
School Fees	**0.12**	0.09	.25	196
	(2.17)			
Health Care	0.23	0.11	0.33	100
	2.83			
Debts	0.01	0.07	0.09	196
	(0.22)			
Savings	0.00	0.02	0.02	196
	(0.04)			

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported. This table shows the additional likelihood of spending any money on a given expenditure category by households receiving multiple transfers relative to those receiving a single lump sum.

[32] N is the sample size.

Table 8.1.4: Effect of multiple transfers on total spending (CDF)

Outcome	Impact	Means		N
		One Transfer	Three Transfers	
	(1)	(2)	(3)	(4)
Livestock	8,151	22,351	29,759	189
	(1.82)			
Agricultural Inputs	**2,669**	967	3,585	189
	(2.20)			
Non-Agricultural Production	50.3	0	73.3	193
	(1.11)			
Land	1,423	3,904	5,517	191
	(0.46)			
Housing	-6,271	14,660	8,110	185
	(0.80)			
Furniture	58.50	0	72	193
	(1.09)			
Household Items	1,229	990	2,301	193
	(1.55)			
Clothing	4,989	7,918	12,714	193
	(1.86)			
Children's Clothing	-731	3,250	3,407	100
	(-0.37)			
Personal Items	35.7	0	46.7	193
	(0.96)			
Food	-300	5,774	5,199	193
	(-0.10)			
Hygienic Items	314	0	205	193
	(1.36)			
Services	6,282	14,202	16,210	191
	(1.90)			
School Fees	**6,063**	863	7,989	195
	(3.98)			
Health Care	4,229	1760	6,824	100
	(0.42)			
Debts	574	773	1,551	196
	(0.89)			
Savings	-270	420	214	196
	(-0.56)			

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported. This table shows the additional amount of money spent on a given expenditure category by those receiving multiple transfers relative to those receiving a single transfer.

This evidence showed that there were just a few differences in impacts based on the number of instalments used to deliver the programme (agricultural inputs and school fees) and no differences for most of the other outcome indicators (other expenditure categories, income,

savings, food security, children's health and education, and women's decision-making). Given that delivering assistance in one instalment is more cost-efficient and that no significant difference in impact was observed, it seems reasonable to promote a one-instalment operative strategy in the future for humanitarian multi-purpose cash transfer programming in the DRC. This argument is strengthened by our qualitative finding that the majority of beneficiaries preferred a one-time transfer (rather than multiple disbursements) because a single larger transfer enabled them to prioritize needs.

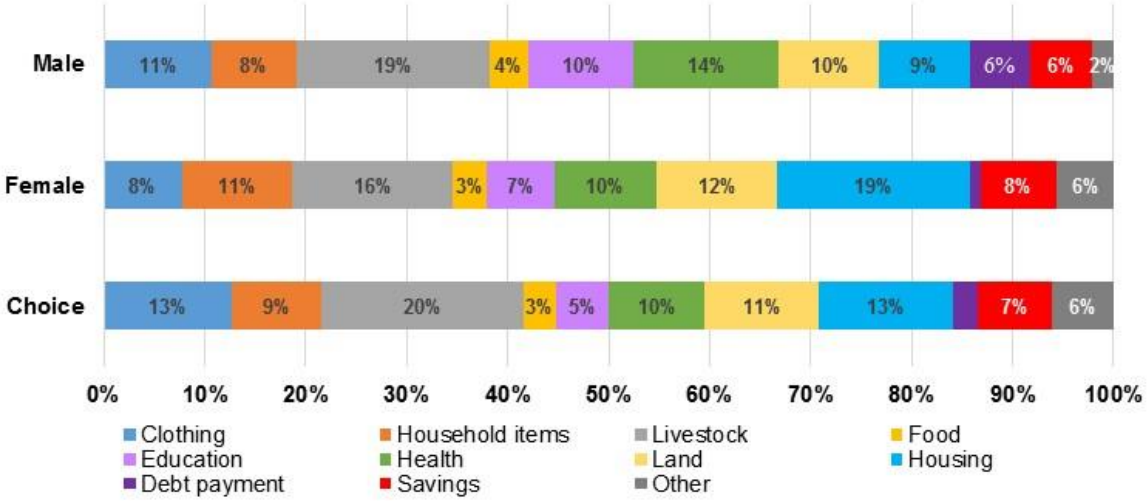
Gender of registered beneficiary

In 2015, Solidarités International randomly varied the registered beneficiary of the cash transfer in North Kivu to be a male household member, a female household member or a member chosen by the household. This variation was intended to investigate differences in purchasing patterns by gender, as well as differences in other outcomes of interest. The experimental design enabled us to assess the differences in programme impacts for female and household-chosen beneficiaries, relative to male beneficiaries.

The distribution of household expenditures in each of the main spending categories by the gender of the registered beneficiary is presented below (*see Figure 8.1.5*). We found only two statistically significant differences in expenditure patterns between the three groups of interest (*see Appendix 9, Table A9.6*). First, we found that female recipient households spent CDF 2,967 more on non-agricultural productive assets than male recipients. Second, we found that both male and female recipient households spent CDF 16,000 more on services than households that were allowed to choose the main recipient of the transfer. There were no statistically significant differences in the remaining expenditure categories or in other outcomes of interest, such as income, savings, the welfare indices described in section 8.2 or children's access to health care and education. In terms of essential needs, men invested 60 per cent more in housing than women, and women invested 44 per cent more in essential household items than men. In terms of livelihood expenditures, men spent twice as much on land as women, and women spent 60 per cent more on livestock than men. These differences align with the cultural repartition of household responsibilities in the area of intervention. The effects of randomly assigning the gender of the registered beneficiary on household relations and women empowerment outcomes are discussed in section 8.3.

Interestingly, Solidarités International monitor reports showed that in 46 per cent of families where the husband was the registered recipient, it was in fact the wife who actually went to collect the transfer. This shows that family-level power and gender dynamics are difficult to influence in any significant way by humanitarian assistance and may explain why we find very little differences in outcomes by gender of registered beneficiary. The key issue for humanitarian actors using unconditional cash is to use more qualitative methods to understand if household level decision making is being dominated by certain members to the detriment of others and how this can be mitigated.

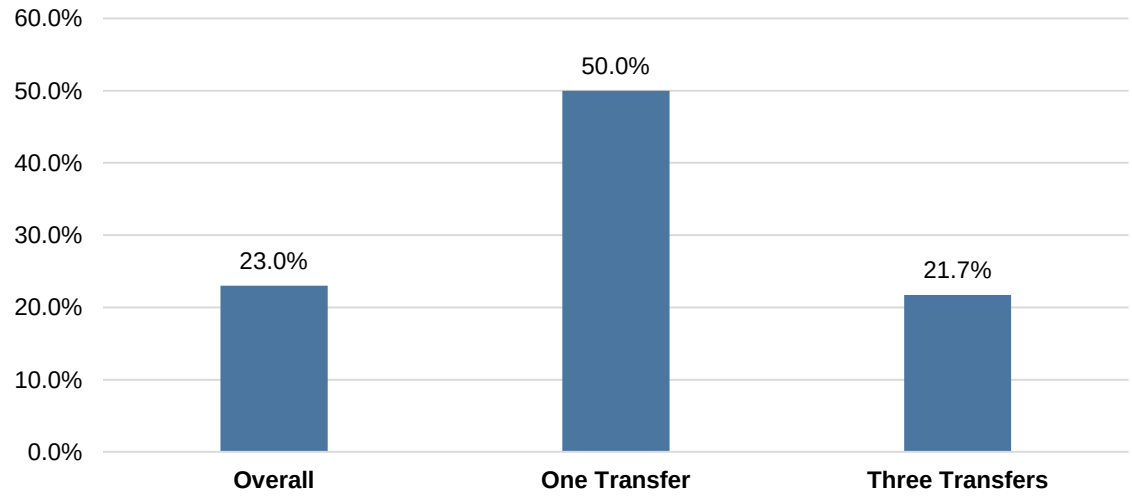
Figure 8.1.5: Purchasing patterns by gender of beneficiary



8.1.3 Concentration effect

This section investigates the extent to which beneficiaries used a large proportion of the transfer on a single expenditure category. Specifically, we estimated the proportion of households that spent more than 50 per cent of the transfer in only one of the 15 previously defined spending categories (*see Figure 8.1.6*). As shown, just 23 per cent of beneficiaries spent more than half of the transfer in a single category. This would indicate that, as intended, the cash transfer allowed households to make purchases in a variety of categories.

Figure 8.1.6: Percentage of households spending more than 50% of transfer on a single expenditure category[33]

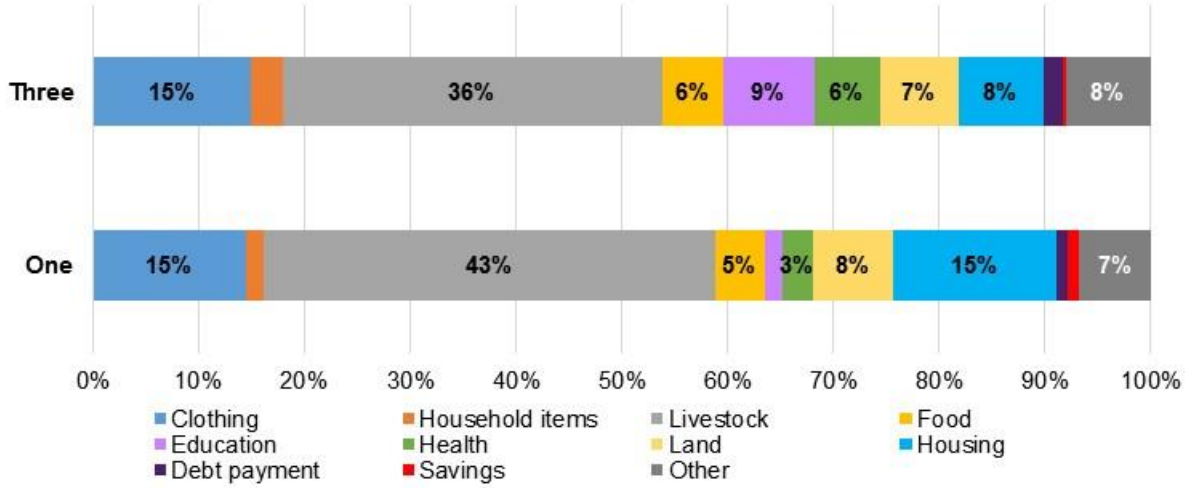


[33] The overall category in the figure includes all observations from PIM purchasing pattern surveys (the majority of which received the transfer in three instalments) and not only the information for those who participated in the RCT on number of instalments. The one and three transfer's categories include only households that participated in the RCT. Thus, even though households in the single transfer category are included in the calculation of the percentage of the overall category, the number of households in the single category is very small (N=44) compared to the overall sample (N=1,011). Consequently, the overall percentage is only marginally affected by the higher percentage exhibited by households receiving the transfer in a single instalment.

We also used the results from the RCT on the number of instalments to investigate potential concentration of purchases on given categories between households who received the same total transfer in one or three instalments. We found that 21.7 per cent of beneficiaries who received the transfer in three instalments spent more than 50 per cent of the transfer in a single spending category. (The categories are discussed in section 8.1.2.) In comparison, 50 per cent of the beneficiaries who received the transfer in a single instalment spent more than 50 per cent of the transfer in a single category. Households who spent more than half of their transfer on a single category spent it on services, [34] NFIs and livestock. This result was not surprising, given that receiving a one-time larger instalment may induce potentially credit-constrained households to invest in more expensive (and potentially more productive) items (e.g., livestock, services, agricultural inputs). However, the purchasing patterns of households receiving a single transfer were also quite heterogeneous on average. The magnitude of certain beneficiaries' needs are likely to be bigger than the amount delivered in the three-tranches scheme, further supporting the recommendation of promoting a single transfer in this kind of programme.

We also compared the expenditure distribution for households that received the transfer in one instalment versus those that received it in multiple instalments (*see Figure 8.1.7*). As shown, the expenditure distributions were very similar, despite the difference in the transfer plan. Nevertheless, there are two key differences that are worth highlighting. First, households that received a single instalment were more likely to spend the transfer on more costly 'bigger-ticket' expenses like housing and livestock relative to households that received three transfers. Second, families who received multiple transfers were three times more likely to use the transfer on school fees (nine per cent compared to three per cent or single transfer families). This result is not surprising as families who received a single transfer at a moment that does not necessarily coincide with the academic calendar should be less likely to save a portion of the transfer for payment of school fees and use it in other more immediate household needs.

Figure 8.1.7: Purchasing patterns by number of instalments



[34] Definition of 'services' on footnote 17 at page 28

Together, these results are consistent with the findings presented in section 8.1.1, as they suggest that most households used the transfer to buy goods and services from multiple spending categories. We interpret this as evidence that a cash transfer may be a more effective way of assisting households with a wide variety of consumption needs.

8.2 Resiliency and household welfare outcomes

There are multiple definitions of 'resilience'. However, these definitions all share a common theme: being able to manage and/or withstand shocks and other stressors. For example, the Resilience Alliance defines resilience as "the capacity of a system to absorb disturbance and reorganize while undergoing change."[35] DFID, meanwhile, defines it as "the ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses – such as earthquakes, drought or violent conflict – without compromising their long-term prospects" (DFID, 2011). Lastly, the Resilience Measurement Technical Working Group of the Food and Agriculture Organization (FAO) defines it as "the capacity that ensures adverse stressors and shocks do not have long-lasting adverse development consequences" (FSIN, 2014).

How one would go about the actual measurement of resilience is contested (Levine, 2014). The most sophisticated attempt at measurement can be found in Alinovi et al. (2010), known as the Resilience Index Measurement and Analysis Model (RIMA). The dimensions of the index include income and food access, agricultural and non-agricultural assets, access to basic services and safety nets, as well as 'adaptive capacity' dimensions such as human capital.

This section describes the extent to which ARCC II beneficiary households became more resilient over time as a result of the programme, taking into account the multiplicity of dimensions covered by the definition of resiliency. To determine this, we took advantage of the fact that the ARCC II data-collection instruments included many indicators that are commonly used to measure resilience. We begin by describing a resilience index, and we then show that programme beneficiaries exhibited a higher degree of resiliency over time. We also look at some of the key indicators and outcomes that are usually included when analysing household resiliency to investigate the individual components that may be driving the observed higher level of resiliency. Specifically, we look at the impacts that the programme had on food security and some constructed measures of welfare, such as the HHI, the FCS, the Coping Strategy Index and the NFI score. We then look at the effects of the programme on the financial situation of recipients, including income sources, livestock holdings, and household savings and debt standing. Lastly, we present the effects of the programme on two key child outcomes: school enrolment and access to health care services.

Short- and long-term coping strategies in eastern DRC

During qualitative baseline and endline interviews, the implementing partners asked informants to define resilience. The overwhelming majority of informants defined resilience as the ability to deal with changing circumstances, including "the ability to adapt to any situation" or "to know adaptation strategies like agriculture, daily work, taking out debt and mutual aid." One informant stated: "For the community to be resilient signifies looking for possible ways to overcome problems of shock in the community." Within the fragile context of eastern DRC, populations had experienced – and continued to experience – a multitude of

[35] Resilience Alliance. (n.d.). Retrieved from http://www.resalliance.org/key-concepts

shocks that often dominated their lives and negatively affected well-being. Fostering resilience (i.e., the ability to overcome these shocks) is necessary for any sustainable change to take place within ARCC II communities.

At baseline, implementing partners' qualitative interviews highlighted a number of internal and external shocks facing target communities. Internal (idiosyncratic) shocks included animals eating crops, diseases, receiving displaced persons into their homes and communities, predation, land disputes, ethnic disputes, loss of work and the death of a family member. External (covariate) shocks included agricultural maladies, a climate of uncertainty, armed groups, kidnapping and lack of access to fields. According to respondents, the most important shocks and stressors were armed groups, kidnapping, lack of access to fields, a climate of uncertainty, fires and loss of work. The short-term and long-term strategies for dealing with the most influential shocks in ARCC II communities are summarized below, as identified during the partners' baseline FGDs (*see Table 8.2.1*). Informants stated that the populations most vulnerable to these shocks were women (particularly pregnant women and widows), children, individuals with disabilities, the elderly, and returned and displaced populations.

Table 8.2.1: Short-term and long-term coping strategies in eastern DRC

Shock or Stress	Short-Term Strategy	Long-Term Strategy
Presence of Armed Groups	• Temporary displacement • Withdrawing children from school	• Sending children elsewhere
Kidnapping	• Temporary displacement • Avoiding travelling long distances in the forest alone	• Displacement • Sending children elsewhere
Lack of Access to Fields	• Daily work • A reduction in the quality and quantity of food • Sale of goods including livestock • Eating seed reserves • Begging • A reduction in visits to the health centre	• Displacement • Sending children elsewhere
Climate of Uncertainty	• Temporary displacement • Withdrawing children from school	• Displacement • Sending children elsewhere
Maladies	• Indebtedness • A reduction in visits to the health centre • Self-medication and phototherapy	
Plant Maladies	• Searching for healthy seeds	
Animals Disturbing Crops	• Keeping animals in enclosures and sensitizing people to keep better watch of their cows around plants	

Shock or Stress	Short-Term Strategy	Long-Term Strategy
Welcoming Displaced Populations	• A reduction in the quantity of food	
Death of a Family Member	• Indebtedness	
Predation	• Temporary displacement • Withdrawing children from school	Displacement

Beneficiaries reported that transfers improved their resilience, particularly in terms of being able to meet household needs. Specifically, during endline interviews, beneficiaries reported having a medium or acceptable level of resilience due to the ARCC II programme. Beneficiaries stated that transfers made it easier to provide for their families compared to non-beneficiaries, who faced greater difficulty meeting household needs. Certain beneficiaries also used their transfers to help overcome unexpected shocks. For instance, one health official from Mbalako stated that the transfers helped beneficiaries to overcome some of the critical shocks they encountered. One woman from Mbalako explained how the transfer helped her to overcome shocks in the following way: "One must wait months before harvest and in the meantime the children are expelled from school, you're indebted to survive, health care problems, but thanks to this money, we now have a second job that allows us to deal with emergency."

However, beneficiaries also stated that a number of financial constraints continued to limit their well-being. The majority of informants demonstrated that although the transfers may have helped to overcome certain shocks, they did not create sustainable resilience for beneficiaries. This is understandable, given the short-term humanitarian objectives of the programme. At endline, beneficiaries continued to highlight problems with similar shocks and stressors identified at baseline, explaining that major obstacles to resilience included drought, plant diseases, loss of crops, loss of housing and looting. Mechanisms for dealing with these shocks were consistent and included reducing the amount of food consumed by the family, performing daily work in the exchange for food, participating in small commerce, selling part of one's harvest, taking on debt and removing children from school. One male beneficiary from Mbalako stated that he used the cash transfer to purchase two goats. When his daughter became sick, he sold the two goats to cover her medical costs. He explained that although the transfer helped him to overcome this shock, eventually his situation returned to normal and his needs remained the same. A community leader in Mbalako explained the transfer's effect on resilience in the following way: "Although the project has done great things in the community, so far, people are not yet sufficiently armed against the shock that can occur. While some have been able to buy roofing sheets for building their house, they could not have sufficient money to finish the work and still are not living in that house or some others had bought the animals for breeding have seen their investment die cause of sickness and have not get any benefit of it."

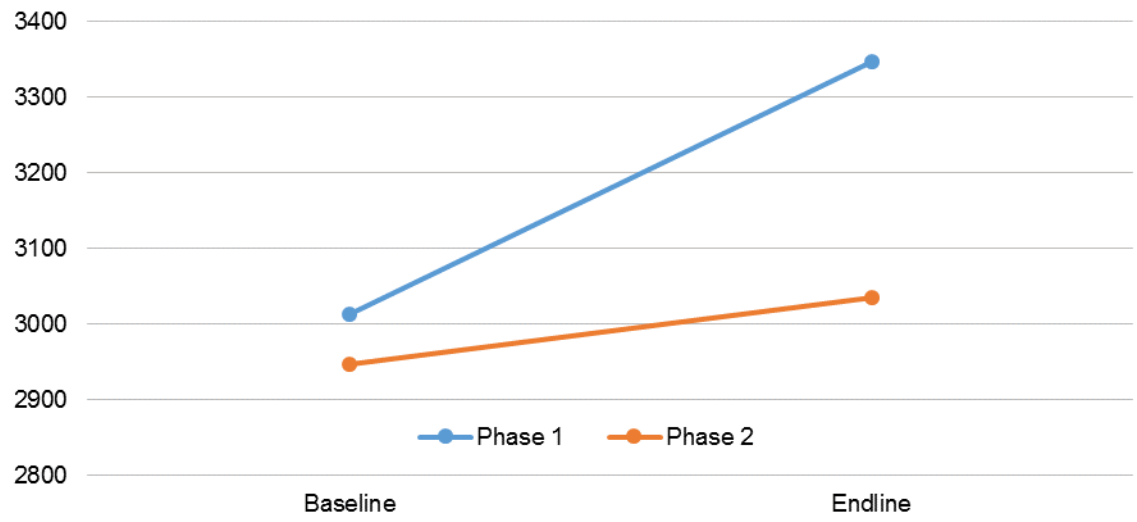
Overall, although the transfers enabled some beneficiaries to overcome certain shocks and prepare for future ones, the most vulnerable beneficiaries still perceived their situation as precarious.

8.2.1 Resilience index

We constructed a resilience index based on a linear regression of household income on household-level variables, including children having access to basic health care, access to land, a dummy for having more than five assets of value, a dummy for having purchased agricultural inputs, a dummy for belonging to one or more community groups, a dummy for having experienced more than five shocks, the number of crops a household grows, the number of income-generating activities, and a dummy for the household head having at least begun secondary school. We used the estimated coefficients from that regression to predict a resilience index for each household. As the dependent variable was household income, the index ultimately reflected predicted income from the referenced variables. Higher scores on the index represent higher predicted income, which is interpreted as higher levels of resilience. The details on how we constructed the resilience index are presented in Appendix 8.

We identified trends over time for the resilience index by programme phase (*see Figure 8.2.1*). The results showed that the resilience index increased from baseline to endline in Phases 1 and 2. However, because the index for each phase was created using different variables,[36] we were unable to compare the values of the index between the two phases. (Different variables were used because the number of collected variables declined between Phase 1 and Phase 2 due to operational feasibility concerns highlighted by the implementing partners.)

Figure 8.2.1: Resilience index



In the following sections, we discuss in more detail some of the key components and outcomes that are associated with resilience. We begin by looking at some other key indicators that are commonly associated with resiliency and more generally with household welfare, such as indicators relating to food security, coping strategies, financial standing and asset holdings. In combination, the presented indicators enabled us to characterize the ability

[36] For the Phase 2 index, we excluded the education and child health care variables because they were unavailable for that phase.

of programme beneficiaries to manage and withstand shocks, as well as their economic prospects.

8.2.2 Standard measures of welfare

First, we looked at some food security indicators, based on generic questions that are commonly used to construct the Household Food Insecurity Access Scale (HFIAS) (Coates, Swindale, and Bilinsky, 2007). The results showed that beneficiaries reported being more food secure due to the programme (*see Table 8.2.2*). We found a 34 percentage point decrease in the number of households that had gone without food in the last month, with 42 per cent of beneficiary households going without food, compared to 77 per cent of the comparison group. Beneficiaries were also 53 percentage points less likely to have gone to bed hungry and 17 percentage points less likely to have gone a whole day without food, relative to the comparison group, in the month before the endline survey. The results also indicated that ARCC II beneficiaries increased their dietary diversity, reflected in an 11 percentage point increase in the number of households that had eaten meat or dairy in the last month. Overall, these results indicate that households used the transfer to purchase food and increase their food security and diet diversity.

Table 8.2.2: Effects of transfer on food security indicators

Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Been without food during the last month (%)	**-0.34** (-13.51)	0.79	0.42	0.76	1,982
Gone to bed hungry during the last month (%)	**-0.53** (-2.58)	0.78	0.36	0.75	1,982
Gone a whole day without food during the last month (%)	**-0.17** (-7.28)	0.61	0.23	0.47	1,982
Eaten meat/dairy during the last month (%)	**0.11** (6.15)	0.02	0.10	0.01	1,321

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

We also used the HHI**,** which is calculated based on how often households report (1) being without food, (2) going to bed hungry and (3) going a day and night without eating in the last four weeks. The index takes on values from zero to three, where each one of the three questions contributes one point if the household faced that condition. The minimum value of zero indicates that the household never faced any of the three conditions. A maximum of three indicates that the household faced all three conditions (i.e., higher values in the index indicate higher food insecurity). The average household at baseline faced two of the three hunger conditions (mean=2.17), but by the time of the endline survey, beneficiary households had reduced their hunger vulnerability by one condition (impact=1.03) (*see column 2, Table 8.2.3*). This result was statistically significant.

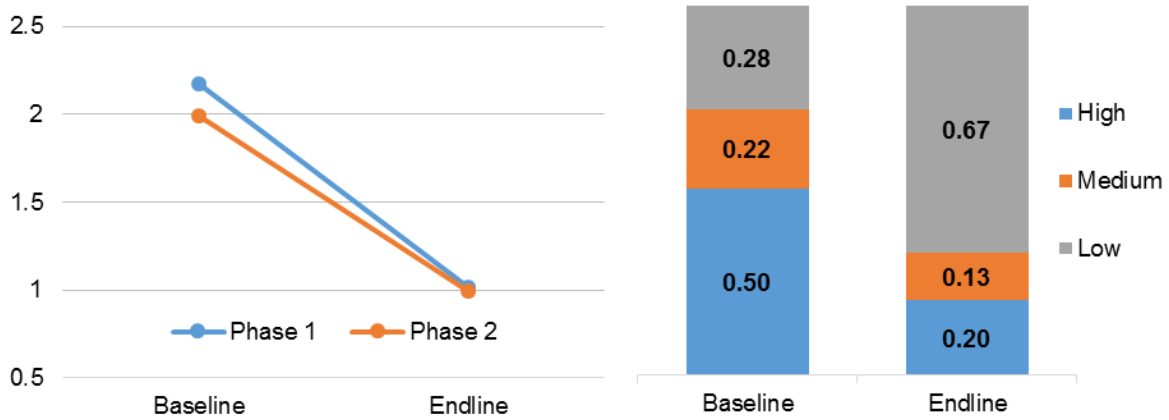
Table 8.2.3: Effects of transfer on food security and some resiliency indicators

Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Household Hunger Index	**-1.03**	2.17	1.02	1.99	1982
	(-4.80)				
FCS Index	**7.98**	23.96	30.70	22.50	1983
	(13.35)				
Coping Strategy Index	-0.17	16.09	13.39	13.12	1899
	(-0.38)				
Non-Food Item Score	**-0.54**	3.52	2.93	3.54	1338
	(-14.63)				

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

We also constructed a graphical representation of the evolution of the hunger index over time (*see Figure 8.2.2*). This shows a downward trend in the hunger index for both phases of the programme. The results showed that only 28 per cent of households exhibited low scores (i.e., lower food insecurity) on the HHI before the programme started. This percentage had increased to 67 per cent by the time of the endline survey.

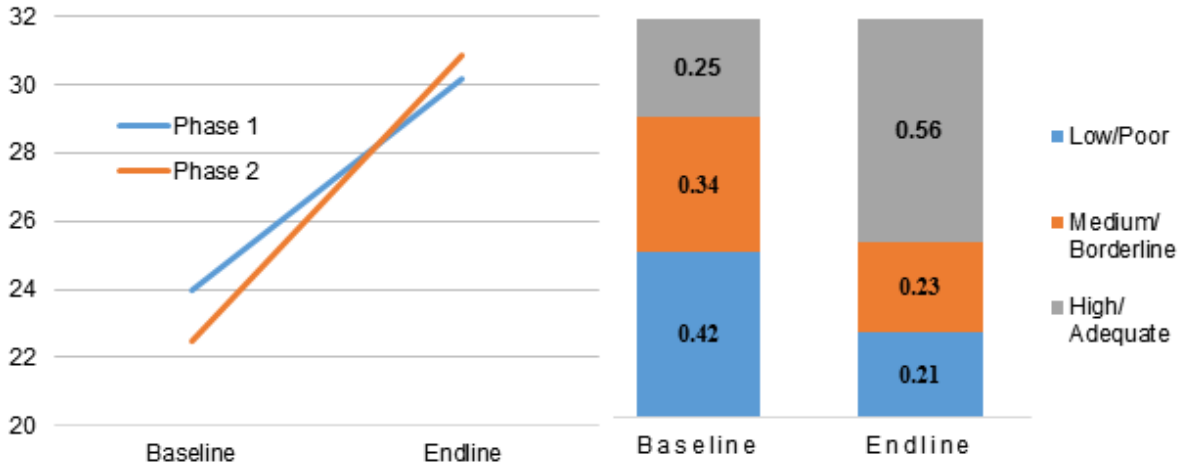
Figure 8.2.2: Household Hunger Index



We also looked at a food quality and quantity index, known as the FCS. During the baseline and endline surveys, respondents reported how often they ate different types of food, including cereals, meat and sugars, among others. The FCS index uses these frequencies to create a food quantity/quality measure, where more nutritious foods (e.g., animal products, vegetables) receive a larger weight and less nutritious foods (e.g., sugar, oils) receive a smaller weight. The impact estimates indicated that beneficiary households experienced a statistically significant eight-point increase from a baseline value of 24 points on this index—

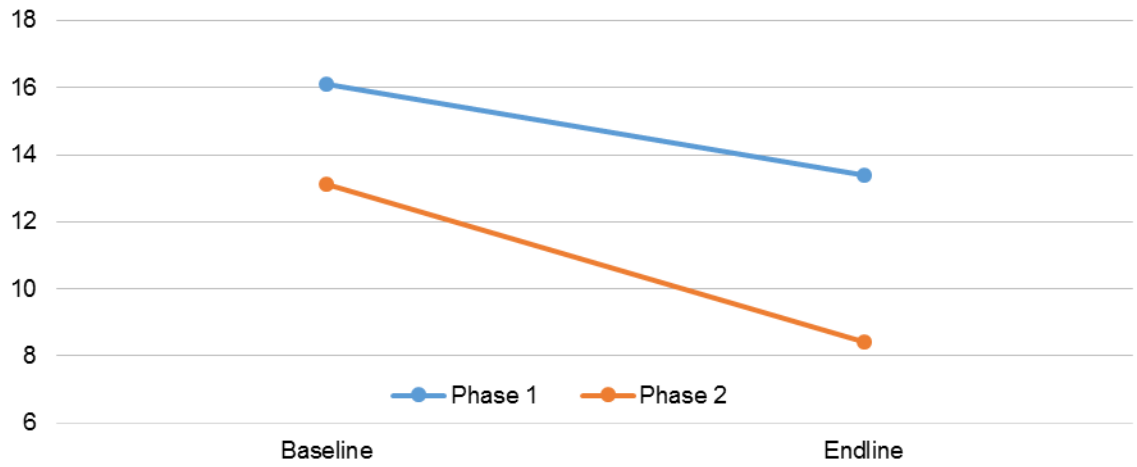
a 33 per cent increase (*see Table 8.2.3*). Households improved the quantity and quality of food they consumed on a regular basis, evident not only in the upward trends in the values of the index over time for both phases, but also in the increase in the proportion of households that fell above 28 index points—the threshold below which a household has a poor level of food security, according to the Food Security cluster guidelines in the DRC (*see Figure 8.2.3*).

Figure 8.2.3: FCS Index



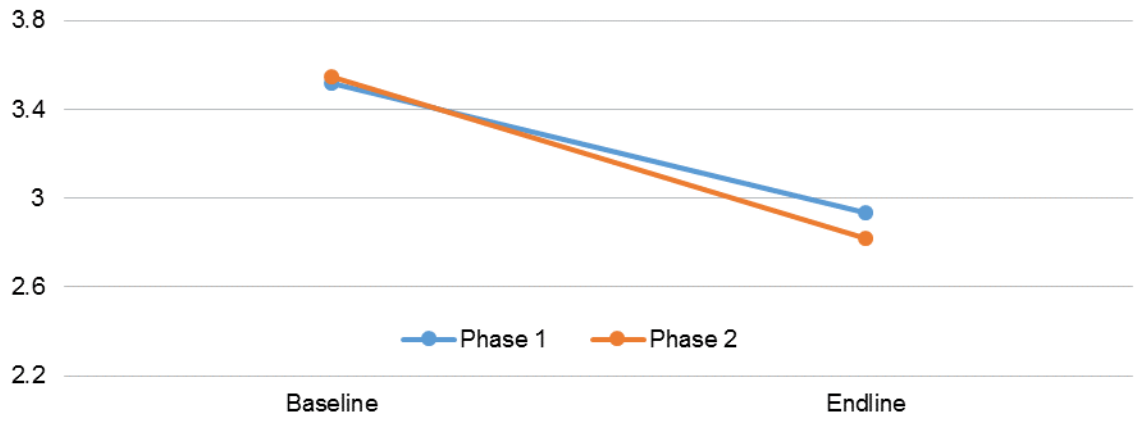
To further investigate household well-being and resiliency, we used a Coping Strategy Index based on the responses that households gave to a series of six questions about how many days (during the previous seven days) they had to resort to negative coping strategies, including adults sacrificing food for children, borrowing food or depending on food aid, consuming low-quality food, reducing the number of meals and increasing daily labour. The responses to each of these questions were combined to create an index from 0 to 35, where higher scores mean that households have fared worse in terms of welfare. Beneficiary households in both phases of the programme showed gains in terms of this welfare index (*see Figure 8.2.4*). The difference between the two phases can be partly attributed to the volatile context in eastern DRC, which experienced a relative increase in stability between the implementation of Phases 1 and 2.

Figure 8.2.4: Coping Strategy Index



Lastly, we used the NFI score – the standard NFI vulnerability evaluation tool used in the DRC – to analyse information collected on the quantity and quality of eight key household assets: closed water containers (jerry-cans), open containers (basins and buckets), sleeping mats/mattresses, cooking pots, agricultural tools, blankets and sheets, women's clothing and children's clothing. Results for each item were converted into a score, with lower scores indicating that households had lower vulnerabilities and higher scores indicating that households had fewer or lower quality items in that category. Some items were indexed by household size; others were not. Each category score was added together to create the overall NFI score. The lower the score on the index, the higher the ownership rates for those assets. The results showed that the programme resulted in a statistically significant decrease on this index of 0.54 points,[37] down from a baseline value of 3.52 points (*see Table 8.2.3*). The decrease in this type of asset vulnerability over time occurred for both programme phases (*see Figure 8.2.5*). It is important to note that in both phases, ARCC interventions resulted in household improvements below what is considered the 3.0 'intervention threshold' in the DRC for NFI vulnerability.

Figure 8.2.5: NFI score



8.2.3 Financial well-being

In addition to food security and the standard measures of welfare presented in the previous section, we looked at some key financial indicators that are commonly included in standard definitions of household well-being and resilience. In particular, we looked at programme impacts on income sources; the ability to increase the ownership rates of livestock, which can ultimately be used as buffer stock when facing negative shocks; and household savings and debt standing.

Total expenditures

We began by investigating the transfer's impact on household expenditures (*see Table 8.2.4*). Although this may seem obvious – households that received cash transfers spent their money

[37] To provide a more concrete idea of what this means, this level of improvement would be comparable to an increase of 2.5 essential items (e.g., cooking pot, blanket, a full outfit children's clothes, jerry-can) within a household of five people.

– the first step in the analysis was to confirm that the transfers did actually lead to increased expenditure. The first column in Table 8.2.4 shows the programme impact. Column 2 provides the baseline mean. Columns 3 and 4 show the endline mean for the treatment and comparison groups, respectively, and column 5 shows the sample size used for the analysis. (Most of the results tables in this section follow this layout, unless otherwise noted.)

The results showed that the programme increased beneficiaries' spending by CDF 27,712 more per month than the comparison group, which spent CDF 26,979 on average—a 103 per cent difference (*see Table 8.2.4*). This finding indicates that beneficiaries were spending their transfer, which should result in the programme affecting household welfare indicators.

Table 8.2.4: Impact of ARCC II on total expenditures

Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Total Expenditures (CDF)	**27,712**	28,550	53,122	26,979	1982
	(11.85)				

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

Income

The transfer can increase a household's income by facilitating investment in productive assets such as farm labour, fertilizer and inputs to start a business, or by enabling household members to work for pay, due to having more energy as a result of eating better. We investigated beneficiaries' income through their own farming, small commerce activities, working for others and non-agricultural income over the 30 days prior to the survey (*see Table 8.2.5*).

We found that beneficiaries earned CDF 7,149 more per month from their top three income sources than comparison households, which on average earned CDF 15,390. Quantitatively, we only had data on their top-three self-reported sources of income, so we were not able to calculate how much households earned in total in a month if they had more than three sources of income. Qualitative IDIs and FGDs found that certain beneficiaries used the transfers to participate in small commerce activities. These activities ranged from reselling items such as rice and beans (Mbalako), to starting a homemade beer trade (Ntamugenga), to investing in the fish trade (Mbalako).

The programme increased the number of households earning income from their own farm by 12 percentage points, with 41 per cent of beneficiary households earning income from their own farm. The programme also reduced the number of beneficiary households doing agricultural work for other people (off-farm agricultural income) by 12 percentage points. These figures suggest that the programme shifted households from working on other people's farms to working on their own farms. Qualitative interviews also revealed that beneficiaries used their transfers to fund a number of agricultural activities, including farming on newly purchased or rented land, purchasing agricultural inputs and paying for labour. The beneficiaries who purchased or rented land typically stated that they rented small plots of land (half an acre), the cost of which ranged from US$30 to US$40 per month in Ntamugenga. Another beneficiary was able to rent a field for three growing seasons until he yielded seedlings. One beneficiary in Ntamugenga explained the impact of renting land in the

following way: “Before, getting land was hard, we asked land owners to allow us to grow plants in their field and after harvest we shared everything fairly. It was tiring. Thanks to the transfer programme, we begun to rent fields and owned all production.”

To cultivate the land, beneficiaries purchased machetes (Visiki), hoes (Visiki) and seeds (Mbalako). One female beneficiary also paid people to work her land, although bad weather meant that nothing was produced.

Table 8.2.5: Impact on income

Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Any Own-Farm Income (%)	**0.12**	0.32	0.41	0.50	2389
	(-5.91)				
Any Off-Farm Agr. Labour Income (%)	**-0.12**	0.31	0.30	0.40	2389
	(-5.05)				
Any Non-Agr. Income (%)	-0.02	0.34	0.18	0.18	2389
	(-1.09)				
Income from Top 3 Sources (CDF)	**7149**	14041	23180	15390	1985
	(6.73)				

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

Livestock

Ownership of animals is considered a buffering mechanism—households accumulate livestock in good times so that they can sell them when times are bad. Livestock expenditure was one of the largest spending categories for programme households (see Figure 8.1.1). PIM data from both phases showed that beneficiary households increased the ownership rates of every kind of livestock over time, particularly goats, guinea pigs, pigs and poultry (see Table 8.2.6). Livestock also tend to have a stable resale value. For this reason, livestock can potentially be used to minimize the threat or impact of substantial risks or shocks for ARCC II beneficiary households who might face such crises in the future.

Table 8.2.6: Livestock owned (proportion of households with at least one animal)

Livestock	Phase 1			Phase 2		
	Baseline	Endline	t-test	Baseline	Endline	t-test
Goats	0.04	0.20	**8.05**	0.06	0.34	**8.83**
Guinea Pigs	0.23	0.33	1.87	0.31	0.40	1.20
Pigs	0.02	0.06	**3.65**	0.02	0.03	1.76
Poultry	0.06	0.32	**7.73**	0.10	0.39	**6.27**
N	**1185**	**1018**		**1165**	**820**	

Notes: Bold signifies statistical significance at the 5 per cent level.

Savings and debt

We also found that the ARCC II programme improved the financial well-being of beneficiary households. First, programme beneficiaries increased their savings as a result of the programme (*see Table 8.2.7*). Specifically, more beneficiary households held savings (11 percentage point impact): 16 per cent of beneficiary households were able to save, compared to 5 per cent of comparison households. Beneficiary households also saved an average of CDF 10,589 more than comparison households, which saved CDF 4,797 on average. Second, the programme decreased the number of households with any debt by 10 percentage points: 54 per cent of treatment households had debt, compared to 64 per cent of control households. In qualitative interviews, many beneficiaries noted that participants put transfer money towards the payment of health and education debts. It is important to note that the amount of debt held by households was greater among beneficiaries than households in the comparison group. This could be because beneficiary households with ongoing debts were able to access additional credit for productive investments, as these households may have been perceived as more credit-worthy as a result of having received the transfer.

Table 8.2.7: Programme impacts on savings and debt

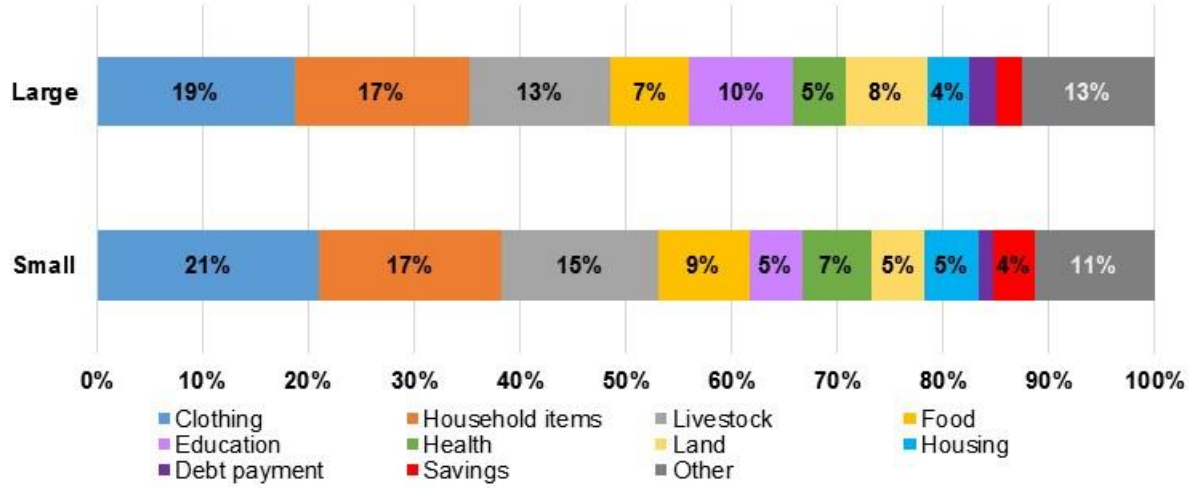
Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Any Savings? (%)	**0.11**	0.05	0.16	0.05	1982
	(6.80)				
Total Savings (CDF)	**10,589**	8,289	15,337	4,797	220
	(5.69)				
Any Debt? (%)	**-0.10**	0.66	0.54	0.64	1982
	(-4.23)				
Total Debt (CDF)	**5,991**	19,139	21189	18,864	1136
	(2.03				

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

Household size

We also analysed how purchasing patterns varied by household size, where large households are defined as those with five (the median household size) or more members and small households as those with four or fewer members. The results show that the purchasing patterns are quite similar for both groups, which suggests that household needs are similar regardless of household size.

Figure 8.2.6: Purchasing patterns by household size



The transfer size was fixed across households in the ARCC II programme, so that larger households essentially received a smaller per capita transfer than households with fewer people. In this respect, we might expect to see larger programme impacts for households with fewer people. Larger households, however, have a greater labour capacity enabling them to potentially leverage the transfer to be more productive. There are reasons to believe that the transfer could differentially affect households of different sizes, but it is not clear how this would happen.

We find only a few indicators and domains where programme's impacts differ by household size. The programme produces bigger impacts on income, expenditures and savings for larger households. On average, the programme impacts large households' total income by CDF 7,475 more than small households, with most of that difference from non-agricultural income (CDF 6,691 more for large households). Similarly, the programme impacts large households' total expenditures by CDF 19,659 more than small households. Large households' savings are impacted by the programme 8 percentage points more than small households. Thus, it seems that the programme improves the first order outcomes such as expenditures, income, and savings, more for large households than small households. These findings might appear counter-intuitive as indeed one might expect the smaller households to perform better on these first order outcomes than the larger families. That result is rather hard to interpret and can be the result of noise in the income and expenditure data which is not unusual in these type of surveys. Further investigations into the linkages between family size and these first order outcomes should be considered.

We were also interested on whether there were any significant differences on the programme outcomes in terms of access to basic goods and services based on family size –the logic again being that improvements in food consumption scores or household assets (as measured by the NFI Score-Card, which includes household size for some items) might be more substantial for smaller families. The results for FCS and NFI scores showed no differences by household size. Similarly, access to essential services like education and health might be expected to improve more for smaller households with fewer children to send to school and potentially fewer family members in need of health care. The results show that larger households were 0.9 percentage points less likely to have girls enrolled in school relative to smaller household and no difference for boys' enrolment. Neither of these estimates, however, are statistically

significant. In other words, there were not differences in school enrolment linked to household size.

Table 8.2.8: Differential Impacts for Large Households

Dependent Variable	Differential Impact (1)	Small HH Treatment Mean (2)	Large HH Treatment Mean (3)	N (4)
Total Income (CDF)	**7,475**	18,984	28,858	1,715
	(2.87)			
Total non-ag income (CDF)	**6,691**	6,367	12,831	1,715
	(3.65)			
Total expenditures (CDF)	**19,659**	34,568	60,914	1,712
	(3.59)			
Any savings (%)	**0.08**	0.10	0.16	1,712
	(2.29)			

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported

While determining transfer amounts in cash transfer programmes based on household size is recommended, the findings for ARCC II indicate that larger families are not benefitting less than smaller families from the programme. The question of transfer amount and family size should continue to be explored because tailoring assistance by family size affects the equity, thus the impartiality, of an intervention. However, in humanitarian settings, where determining family size and tailoring transfer amounts to family size may add additional time to implementation as well as a potential risk for fraud, the findings presented here are encouraging as they show that providing the same transfer amount to families of different sizes does not disproportionately benefit smaller families compared to larger ones.

8.2.4 Child outcomes

We conclude this section on household welfare outcomes by looking at some key child outcomes, namely access to health care and education services (*see Table 8.2.9*). We found that the programme improved children's access to health care by 21 percentage points, with fewer beneficiary households forgoing health care treatment for children due to lack of money, compared to the comparison households. In terms of education, the programme produced mixed results for primary school enrolment, producing an effect for boys but not for girls. We found a 13 percentage point impact on school enrolment for boys—a significant increase, given that only 55 per cent of the boys in the comparison group were enrolled. Key informants, beneficiaries and non-beneficiaries noted that beneficiaries frequently spent transfer money on education. However, we did not find any significant impact on enrolment for girls (48 per cent of school-age girls in beneficiary and comparison households were enrolled in school).

Table 8.2.9: Impact on children's well-being

Outcome	Impact	Means			N
		Baseline	Treatment	Comparison	
	(1)	(2)	(3)	(4)	(5)
Skipped Treatment Due to Lack of Money (%)	**-0.21** (-11.22)	0.25	0.08	0.33	1985
% Girls Enrolled in School	0.06 (1.75)	0.45	0.49	0.49	893
% Boys Enrolled in School	**0.13** (3.93)	0.52	0.58	0.55	935

Notes: t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects not reported.

Qualitative analysis also found that beneficiaries frequently spent part of the transfers on health and education costs for children. During additional qualitative data collection, beneficiaries stated that this spending went towards medical debts (six);[38] pregnancy-related costs (three); sick children, including two with anaemia (three); a husband's medical costs (two); and drugs (one). Beneficiaries in Ntamugenga and Mbalako also explained that the transfers enabled them to give their children – and even their grandchildren – access to education. Although school administrators did not report a significant impact on enrolment, these beneficiaries suggest that a portion of those who received the transfer were able to re-enrol children and grandchildren in school. Overall, school directors stated that the greatest perceived impact on schools was increased payment of school fees and payment of school debts.

8.3 Household and community relations

8.3.1 Change in relations

All humanitarian and development programmes affect social dynamics. With cash transfer programmes, community and household relations can often become strained due to a nearly universal desire to receive CBA. However, cash transfers also hold the promise of strengthening community and intra-household ties, as well as bolstering the decision-making power of women. It is crucial to investigate social dynamics in order to understand the complex effects that a programme has on the socio-political context and to confirm that the programme does no harm.

Our analysis found consistent reports of non-beneficiaries complaining about not receiving the cash transfer but no reports of these complaints escalating to physical violence. Furthermore, the complaints from non-beneficiaries were primarily related to perceived unfairness in the selection process. According to one non-beneficiary from Talika: "Non-beneficiaries were disappointed and were complaining in the community but just with respect to that female member of the committee who cheated in the selection.[39] But nothing was physical. People just talk, nothing wrong!" Key informants from Mbalako reported that non-

[38] This is the number of discrete references to the topic.
[39] This was an accusation and no evidence was found by implementing partners or UNICEF that this statement was true.

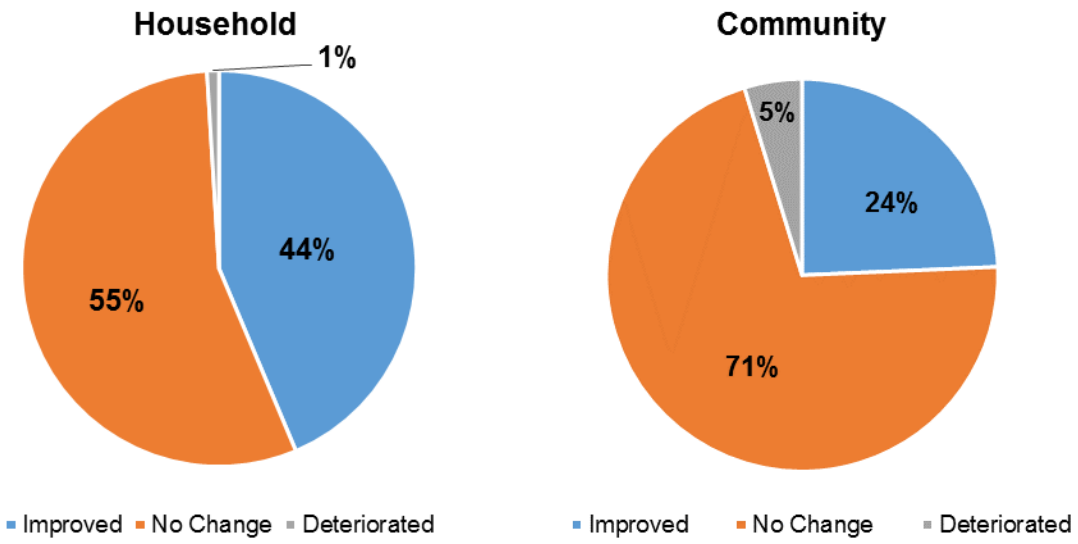
beneficiaries complained a great deal around the time of the transfers but that no physical violence ensued.

Beneficiaries largely perceived less of a change in their relations with fellow community members than non-beneficiaries. In Ntamugenga, one female stated: "Community relationships have not changed because of the transfer. Nobody had a problem in the community." In Visiki, a male beneficiary said that the transfer actually improved community relations: "The distribution helped a lot to deal with many disputes, everyone finally had his own goods. And in the household, people bought clothes and paid for medical care." Female beneficiaries from Visiki made similar statements during their focus group, and a key informant from Visiki agreed that ARCC II had helped to resolve disputes in his community: "[A]bove all, this money has allowed many families to find agreements with their neighbours or in-laws, because they had the means to pay for the insult or problems that had occurred." A number of non-beneficiaries also voiced their hopes of being included in the programme in the future.

A number of beneficiaries reported gaining respect from fellow community members as a result of the ARCC II programme. In Mbalako, for example, a male beneficiary maintained that the community began to have more respect for the displaced population after they received the cash transfer. He gave the example of a displaced beneficiary offering to work for a day for free for a non-beneficiary, which conveyed to the community that the displaced beneficiary had something to offer to his neighbours for the first time. Other beneficiaries echoed this notion of increased respect, with some beneficiaries attributing it to their ability to own property as a result of receiving the transfer.

These perceptions, based on qualitative data, are very much in line with the perceptions reported by beneficiaries as part of the PIM data collection: 71 per cent of beneficiaries saw no change in beneficiary relationships with community members, local authorities and police, and 24 per cent experienced an improvement in community relations (*see Figure 8.3.1*). Just 5 per cent of beneficiaries reported a deterioration in community relations as a result of the programme. In terms of the relations between family members, 44 per cent of beneficiaries reported an improvement, 55 per cent saw no change and just 1 per cent reported a deterioration in relations.

Figure 8.3.1: Change in household and community relations



8.3.2 Gender relations in households

Gender is a major consideration in cash transfer programming and design, but it is very difficult for a humanitarian organization to analyse how choices about purchasing priorities are being made in a household and if the needs of certain 'less-powerful' family members (such as children and women) are not being prioritized. Many programmes have given cash transfers to women to increase their bargaining power, reduce violence through reductions in household stress and increase household expenditures on human development (Ellsberg et al., 2015). However, evidence has found that transfers can also reinforce gender stereotypes and increase conflict in the household (Arnold, Conway & Greenslade, 2011). This section looks at the transfer effects on gender relations within ARCC II beneficiary households.

We found mixed qualitative results regarding how the transfer affected the relationship between husbands and wives. Some said that the money improved relations ("The disputes in the homes have significantly reduced because they were mostly due to money problems"), but others reported that conflicts occurred as a result of men spending the transfer money on alcohol or other women. A key informant in Talika reported: "There were conflicts between wives and their husbands. For some of the husbands, after receiving the money, instead of returning home, they went to drink in bars or to hotels for prostitutes." A key informant from Ntamugenga corroborated this, reporting: "There have been conflicts between the husbands and their wives, because the husbands buy drinks and take other women." A key informant in Ntamugenga also mentioned a case in which a female beneficiary in a polygamous marriage was beaten because she did not want to share the transfer with one of her husband's other wives. However, quantitative analyses found no impact on cases of violence or spending on alcohol, indicating that instances of violence as a result of these types of anti-social purchases may have been less frequent than indicated by the qualitative data. Furthermore, several respondents referenced training about how to use the transfer, which they considered to be very effective. This training was delivered to spouses and discussed how to manage money and avoid intra-household disputes.

Women's decision-making

Often, cash transfer programmes give the transfers to the female adult in the household to investigate the possibility that the programme affects their decision-making power in terms of household spending. (For example, Malawi, Zambia and Zimbabwe provide transfers to female heads of households.) The ARCC II programme did not require the recipient of the household to be a woman, so there was less reason to expect the programme to affect female household decision-making.[40] Nonetheless, the baseline and endline survey contained nine questions about the decision-making power of females in the household, allowing us to investigate these questions for Phase 1 of the programme (*see Table 8.3.1*).

Qualitatively, most respondents agreed that men were ultimately responsible for deciding how a household spent its money. However, most also indicated that husbands and wives typically discussed purchasing plans together, even if the man had the ultimate say. For example, a female beneficiary from Mbalako stated: "Generally, the man is the chief of the family, and he is the one who makes the decision on how to use money in the household. The truth is, the couple could discuss what is important, but the final decision belongs to the man." A female beneficiary from Ntamugenga agreed: "If the money belongs to the woman, she can present it to the husband and give him suggestions as to what they could buy with the money. But it is the husband who ultimately decides." A few respondents indicated that women could make smaller purchases (such as clothing or food) independently, but that men made larger investment decisions exclusively.

Interestingly, many respondents referenced drinking when asked about household spending decisions, specifically men's inclination to spend money on alcohol. Although evidence showed that alcohol consumption in the DRC was lower than in similar populous countries in East Africa (Roerecke, 2002), alcohol consumption is a highly prevalent practice among unemployed and victimized men in eastern DRC and can lead to household conflict (Hollander, 2014). A key informant from Visiki commented: "In households where a man tends to take a lot of drink, if the woman could give him at least a $5 drink, he will let her plan all other expenses without bothering her." Similarly, a non-beneficiary from Visiki stated: "If the husband is drunk, the woman should see her in-laws and ask them for advice in the way of using the money. If she already has grown children, she will discuss with them." Finally, a female beneficiary from Visiki commented: "Some men also hid the money from their wives to be able to drink with friends." Similar comments were made in other study communities and most respondents were critical of the decision to spend transfer money on alcohol. Again, the quantitative data showed no impact on expenditures on anti-social goods, which means that these issues may have been less frequent than indicated by the qualitative data.

The views espoused in these qualitative interviews align with the lack of quantitative evidence that the transfer changed how household purchasing decisions were made. Quantitatively, we did not find consistent evidence that the programme negatively or positively affected female decision-making in households where the transfer recipient was not stipulated by the programme. Of the nine indicators, the programme improved female decision-making for only one indicator: becoming a member of a community organization. (Beneficiary households were 8 percentage points more likely to have women participating

[40] This study investigates differential impacts by recipient, including household decision-making for the Phase 2 experiment, in which the recipient receiving the payment in the household varied. We present those results in the next section.

than comparison households.) We did find one negative impact of the programme on female household decision-making: a 4 percentage point decrease in women's ability to decide the distribution of household chores, with 70 per cent of beneficiary women making this decision, compared to 74 per cent of comparison women. These results are not considered conclusive evidence, however, and they should be viewed cautiously as they form part of a series of questions where there was no effect for most questions. When we corrected for multiple testing within a domain, the significant results dropped away and we found no impacts (positive or negative) for women's decision-making. It is important to note that gender norms are often deeply embedded in a person's beliefs, and that humanitarian cash transfers do not, in and of themselves, change those views.

Table 8.3.1: Impact on proportion of households with decisions made by females

Outcome	Impact	Baseline Mean	Treatment Mean	Comparison Mean	N
	(1)	(2)	(3)	(4)	(5)
Spending Money (%)	-0.02	0.51	0.53	0.60	1946
	(-0.83)				
Purchase of Food (%)	0.02	0.74	0.71	0.71	1939
	(0.97)				
Economic Activity (%)	0.03	0.56	0.54	0.58	1936
	(1.09)				
Health (%)	-0.05	0.56	0.58	0.66	1944
	(-1.76)				
Use of Time (%)	-0.05	0.50	0.50	0.54	1934
	(-1.70)				
Care for Sick/Children/Elderly (%)	-0.03	0.63	0.63	0.67	1925
	(-0.98)				
Community Organization Participation (%)	**0.08**	0.46	0.46	0.44	1919
	(3.34)				
Seek Work Outside Home (%)	-0.01	0.44	0.44	0.48	1917
	(-0.50)				
Distribution of Household Chores (%)	**-0.04**	0.76	0.70	0.74	1926
	(-2.02)				

Notes. t-stat in parentheses. Bold signifies statistical significance at the 5 per cent level. Covariates and fixed effects are not reported.

Randomising the gender of the registered beneficiary

We complemented the analysis on women's decision-making with experimental data provided by one of the implementing partners. In North Kivu, Solidarités International randomly varied the registered beneficiary of the cash transfer to be a male household member (head or spouse), a female household member (head or spouse) or a recipient determined by the household. We investigated these data to see if designated beneficiary status affected women's empowerment and household decision-making. Women recipients were 19 percentage points less likely to receive earning income from their own farm, relative

to men recipients (*see Table 8.3.2*). This suggests that female-recipient households did not invest their transfer in increasing their farm productivity as much as male-recipient households. Households that chose their primary recipient were CDF 43,688 less in debt than the households of male primary recipients.

We found mixed results in terms of empowering women to make household and personal decisions by providing the transfer to them. Women designated by Solidarités International as the recipient were at least 20 percentage points less likely to make household decisions than women living in beneficiary households where males were the primary recipients. This disenfranchisement held for four types of decisions: use of resources for health; child and elderly care responsibilities; working outside of the home; and the division of household responsibilities. This result seems counter to expectations and findings from other studies on cash transfer programmes.

Qualitative results typically showed no impact or opposing results. According to one female beneficiary from Mbalako, being the designated recipient of the transfer brought her more respect from her husband. In other cases, however, the woman who was designated the household beneficiary had little impact on household gender dynamics. A female beneficiary from Mbalako stated: "In the case in the family is the woman who received the transfer, if the husband did not join her to the distribution…she will wait for his return and will present him all the money received. Then they will discuss its usefulness. The woman cannot touch that money before showing it to her husband." This indicates that the designation of the beneficiary was of little importance, merely meaning that the woman was the one who collected the money at the transfer site to bring it home. We found no differential effects in the outcomes based on whether the transfer was given to the male of the household or the household chose the beneficiary. These results support the idea that leaving the household to choose helps to mitigate household tension.

Table 8.3.2: Differential impacts of assigning transfer to female household member

Dependent Variable	Impact for Female Recipients (1)	Impact for Choice Recipients (2)	Male Recipient Mean (4)	Female Treated Mean (5)	Choice Treated Mean (6)	N (7)
Any Farm Income Last Month (%)	**-0.19**	—	0.40	0.20	0.37	161
	(-2.15)	—				
Total Debts Held (CDF)	—	**-43688**	30967	15900	14388	26
	—	(-2.66)				
Health Decisions (%)	**-0.20**	—	0.91	0.70	0.80	68
	(-2.01)	—				
Care Decisions (%)	**-0.22**	—	0.96	0.73	0.80	68
	(-2.39)	—				
Outside Work Decisions (%)	**-0.31**	—	0.65	0.38	0.60	68
	(-2.49)	—				
Household Chore Decisions (%)	**-0.22**	—	0.91	0.70	0.80	68
	(-2.03)	—				

9. Process evaluation and accountability to affected populations

Process evaluations of cash transfer programmes provide important information about the fidelity of programme implementation, beneficiary and non-beneficiary perceptions of the programme, and gaps or successes in programme delivery. We were unable to conduct a full process evaluation of the ARCC II programme, but we did qualitatively explore a few key issues, including (1) targeting, (2) payment delivery and timeliness, (3) amount of cash, (4) problems faced, (5) management of feedback and complaints, and (6) participation in VSLAs. We related our findings from these six areas to two pillars of ARCC II's Accountability to Affected Populations (AAP) framework, described in greater detail below. We limited our discussion to two AAP pillars because the other three pillars are not directly related to ARCC II implementation processes and therefore do not fall within the scope of our research.

Targeting is arguably the most important aspect of a cash transfer programme because it determines both the way in which beneficiaries are selected and the extent to which the programme is accepted and therefore can be sustained. Delivering regular and timely payments of the correct amount is also essential for a cash transfer programme, as is a functional management system for feedback and complaints through which beneficiaries can freely voice concerns. The lack of such a system can reduce accountability and transparency and ultimately undermine the credibility of the programme (Beazley & Carraro, 2013).

In order to ensure that beneficiaries could provide feedback and complaints from the outset on process issues, as well as any other issues that might arise, ARCC II attempted to prioritize AAP. AAP is a concept that has gained increasing attention within humanitarian programming in the last decade, focusing on the accountability of humanitarian actors to the populations they are serving. UKaid – the primary donor for ARCC II – also highlighted the importance of AAP for them in the ARCC II programme. To this end, UNICEF worked with Concern Worldwide, which has strong global experience in AAP, to bring this to the ARCC II consortium. In January 2014, Concern Worldwide organized a training for all ARCC II consortium partners to develop a common AAP framework. As part of this present study, UNICEF was interested in our analysis of how the AAP work was perceived by beneficiaries to which UNICEF and partners are accountable.

To guide implementation of ARCC II and standardize programme delivery, partners adopted a common AAP framework. The five pillars of this AAP framework were:

1. Information sharing
2. Participation
3. Feedback and complaints management
4. Continuous learning and improvements
5. Staff skills

Our findings from the exploratory process evaluation are presented in the context of two of these pillars: information sharing (pillar 1) and feedback and complaints management (pillar 3). Our discussion is limited to these two pillars because our qualitative data collection is most relevant to these two areas of accountability.

9.1 Information sharing

The first AAP pillar, information sharing, requires that all aspects of the programme – including, most notably, the beneficiary selection process – are well understood by all members of the community. AIR's qualitative data collection revealed that beneficiaries and non-beneficiaries alike had a varied and often incomplete understanding of both the targeting process and the criteria used to select beneficiaries. Although some could clearly explain the process of the NGO arriving in their village, setting up a selection committee, going door to door to assess the vulnerability of each household and posting lists of potential beneficiaries for community validation, these people were in the minority of respondents. Several non-beneficiaries shared their belief that they were not included because they were not at home when their households were visited for targeting. This perception was reinforced by one female beneficiary from Ntamugenga: "The house where they did not find anyone was skipped and ignored as they moved to the next one."

It should be emphasized that – unlike other areas of the ARCC II programme, such as monitoring tools, size of transfers, overall objectives and targets – the aspect of beneficiary targeting was largely left up to the three implementing partners to determine. The organisations' commitments (as per the AAP framework) included involving affected communities in discussions of criteria through local selection committees and in some cases identification of beneficiaries. Although each partner used similar methods, they sometimes led to different results, depending on the context of the different partners' areas of operations. However, the implementing partners verified a set of quantitative multi-sector vulnerability indicators before including beneficiary households in the assistance list.

All partners significantly involved communities through local selection committees where targeting criteria were discussed and validated. Implementing partners' local staff considered this an important step in order to mitigate the risk of tension within the community. The results of the targeting exercises varied widely, however, depending on the concentration of affected populations within host communities. Concern Worldwide reached high levels of household coverage within a village, retaining between 85 and 90 per cent of families as beneficiaries. Solidarités International and Mercy Corps targeted a significantly lower proportion of the total village: 15 to 20 per cent.

Although a number of respondents were able to identify some or all of the beneficiary selection criteria (being pregnant, elderly, widowed, disabled, displaced, a returnee or extremely poor), others knew of only one criterion or none at all. One non-beneficiary from Mbalako believed the only selection criterion was to be displaced by conflict, while a female beneficiary from Visiki explained: "I was chosen because I needed help. I do not know the criteria that were used to determine the beneficiaries." Additionally, although a number of respondents said they understood that the ARCC II programme targeted "vulnerable" people in their communities, the concept of vulnerability proved somewhat problematic because many or all people in their communities were vulnerable. Data collected by consortium partners reinforced the perception that all members of these communities were equally needy and deserving of ARCC II assistance.

It should be underlined that the issue of communication around beneficiary selection criteria is a particularly sensitive one in the area of AAP. In certain instances of household-based assistance – like that of ARCC II – it is possible for humanitarian organizations to conduct blanket assistance and serve all people affected by a certain humanitarian shock, such as displacement. More often, however, some kind of beneficiary vulnerability targeting is seen

as a more appropriate approach, due to limited resources and the fact that some households have been more affected than others. In the spirit of AAP, aid organizations recognize the need to communicate about the beneficiary selection process, but communicating too much detail on beneficiary selection criteria can lead to attempts by families and communities to provide false information in order to be included in assistance programmes. In protracted crises, as in the DRC, some affected communities are quite accustomed to humanitarian assistance and can attempt to mislead humanitarian actors to ensure larger inclusion. Humanitarian actors like the ARCC II partners struggle to find a balance between (1) providing enough information to remain accountable to the communities they serve and (2) avoiding possible manipulation of the assistance by the affected communities, brought about by revealing all the details of beneficiary selection.

AIR's qualitative data also suggested an incomplete understanding of the selection committees and some perceptions of nepotism on the part of these committees. Among those consulted, few community members (both beneficiaries and non-beneficiaries) understood how targeting selection committees were formed. In Mbalako, for example, female beneficiaries in a FGD reported that they did not know how their committee was created; they just noticed people starting to make lists without explaining what they were doing. A number of non-beneficiary community members in both Rutshuru and Beni voiced concerns that their community's selection committee did not choose beneficiaries fairly and that friends and family members were prioritized over more vulnerable, needier people. A key informant from Ntamugenga believed that the selection committee had complete autonomy to select beneficiaries as they wished: "The criteria to identify beneficiaries were sovereign, it all depended mainly on the investigator."

9.2 Feedback and complaints management

Before sharing our analysis of the qualitative investigation of these two components of AAP, it is important to highlight some of the quantitative analysis of AAP conducted by UNICEF and its partners. During the course of the ARCC II programme, the three partners collected 710 pieces of feedback or complaint. Although the volume of feedback received suggests that a large number of beneficiaries understood the functioning of the system and used it, our qualitative analysis revealed a more inconsistent understanding of these processes. It should also be noted that the largest proportion of feedback (85 per cent) was received by Concern Worldwide, even though it had the smallest beneficiary caseload (21 per cent). As noted earlier, Concern Worldwide came to the ARCC II programme with more experience in the DRC and in using feedback and complaints mechanisms than the other two partners. Unfortunately, AIR's qualitative investigations into these mechanisms were limited to these other two partners, so we were unable to provide further explanation regarding the comparatively large amount of feedback received by Concern Worldwide, compared to Mercy Corps and Solidarités International.

The third AAP pillar, feedback and complaints management, focuses on the need for programme participants and non-participants to be able to provide feedback to humanitarian actors about the work they are doing. This reflects AAP's emphasis on two-way communication. The objective is to ensure that there are multiple means through which community members can feed information back to the humanitarian actor, and to ensure that communities understand how to use these mechanisms to provide feedback or file a complaint. It also includes informing beneficiaries about how feedback will be processed and their right to a response. Our qualitative data collection revealed that some beneficiaries who

participated in our FGDs lacked an understanding of complaint procedures and that certain beneficiaries who were familiar with them and had used them were not satisfied with the response they received.

Although the implementing partners referred to specific management processes used during ARCC II, the interviews and FGDs AIR conducted in Rutshuru and Beni revealed a lack of understanding and uptake of these procedures. One implementing partner referenced the complaints response mechanism (CRM), as well as involving radio operators and storekeepers as alternative channels through which to file complaints. Through our data collection, it appears that most ARCC II-related complaints were brought to the selection committee or the implementing NGO (Mercy Corps or Solidarités International), but respondents did not describe specific procedures for filing a grievance. When asked about the types of complaints related to the ARCC II programme, most respondents referenced lost voter cards, SIM cards and PIN numbers. A few beneficiaries complained that they had not received the full payment amount on their SIM cards. In these cases, the CRM provided the opportunity to implement simultaneous corrective measures and ensure that the complete sum of money was transferred to the beneficiaries.

9.3 Process and accountability conclusions

Although the overall results of our study indicate that the implementation of ARCC II was largely successful in delivering cash or vouchers (on time and in the correct amount) to beneficiaries, examining key processes and potential areas of improvement for future cash transfer programming remains important.

On the basis of our qualitative finding that not all community members understood the selection criteria and the targeting process, we suggest continuing to increase communications with community members (non-beneficiaries in particular) regarding the selection criteria and targeting process. We also recommend additional sensitization efforts (perhaps in the form of community meetings) to ensure that the selection criteria and targeting process are transparent and widely understood, although we acknowledge the need to withhold some information in order to minimize attempts by households or communities to manipulate the system. To address the issue of perceived nepotism, it is advisable to maximize the transparency of selection committee decisions and to ensure that processes used to select people on these committees are undertaken in an inclusive manner, ensuring that the committee appropriately represents all groups within the community.

The incomplete understanding of the complaint filing procedure also suggests a need to continue to educate communities about the CRM, ensuring that beneficiaries understand the complaint process and have multiple channels through which they can voice grievances. Ideally, enhanced communication will ensure that beneficiaries understand how to provide feedback and complaints, as well as what to expect (and when) in terms of a response to their complaint.

10. Conclusion

This study of the ARCC II programme provides a significant and unique contribution to the literature on cash-based responses in humanitarian programming. Few other humanitarian programmes using UCTs in sub-Saharan Africa have been analysed with the level of detail

achieved in this present study. This paper serves several purposes, including learning about the programme's impacts on beneficiary well-being, implementation successes and areas for improvement. The use of mixed quantitative and qualitative methods also allowed for both breadth and depth in the investigation of the programme, providing multiple perspectives on the programme's effects on beneficiary families and their communities.

Our research showed that ARCC II beneficiaries spent money on items in line with the programme's objectives and were able to increase their well-being and resilience. In the protective domain, the study demonstrated the programme's positive impacts on food security and overall consumption and its success in enabling households to engage in positive coping strategies in the face of future shocks (such as increasing savings). We also found positive impacts of the programme in three out of four common welfare indicators: the HHI, the FCS and the NFI score. In the social domain, ARCC II led to increases in school enrolment among boys and positive results for children's access to health care. For example, children of beneficiary households were 21 per cent more likely to access health care when needed, compared to the comparison group. In the productive domain, ARCC II sparked increased agricultural activity, increased ownership of agricultural assets (such as livestock) and strengthened farm and non-farm income. This combination of impacts improved the overall resiliency of households in terms of managing and coping with future shocks.

ARCC's use of flexible cash-based approaches was based on the hypothesis that conflict-affected families in the DRC typically have wide-ranging needs that vary significantly from one family to another and from one location to another. Based on this, a flexible cash-based response was considered an appropriate alternative to in-kind assistance. We consistently found that programme beneficiaries exhibited a wide set of needs, as indicated by their expenditure patterns. In general, households spent the transfer in a variety of categories, including clothing, services (e.g., education, health), essential household items, livestock, food, land, agricultural activities and housing. Analysis of the data suggests that a CBA approach may be a more effective way to meet the diverse needs of programme beneficiaries in the DRC, where the heterogeneity of contexts and the protracted nature of the crisis have created a wide diversity of needs among the affected population. Moreover, the positive impacts recorded in multiple sectors further confirm that CBA delivers multi-sector positive outcomes, unlike mono-sector interventions.

One finding is particularly relevant for future programming: Receiving one disbursement rather than multiple disbursements did not appear to affect beneficiary spending. We also did not find systematic differences in impacts and purchasing patterns between households that received the transfer in a single instalment versus those that received it in multiple instalments. However, qualitative data revealed beneficiaries' distinct preference for a single transfer, with beneficiaries indicating during interviews and FGDs that a single transfer enabled them to make larger investments and plan their purchases more effectively. The finding that programme impacts did not vary based on the gender of the registered beneficiary is also relevant to future programming. In particular, this finding supports the idea of allowing households to choose the registered beneficiary themselves, as this does not seem to have a cost in terms of programme impact but may help to reduce household tension.

In terms of ARCC II implementation, qualitative data from the exploratory process evaluation indicated many successes but also some areas for improvement. For the most part, qualitative data suggested that beneficiaries received ARCC II payments on time and in the correct amount, which is no small feat in a challenging environment such as eastern DRC, and at the unprecedented scale of the ARCC II programme in the DRC. However, despite this

important payment delivery success, we did find evidence that the ARCC II targeting processes used by the different partners were poorly understood and that there were negative perceptions about the fairness and inclusiveness of the programme. It should be noted that we did not collect qualitative data among Concern Worldwide beneficiaries, where there was a significantly higher inclusion rate on beneficiary lists, and perceptions and understanding of targeting may have been quite different among these families. Nevertheless, this finding – evident among Mercy Corps and Solidarités International beneficiaries – illustrates the need for continuous communication and sensitization about the community-based targeting approach and the selection criteria. The complaint and feedback response systems partners put in place were also not fully understood by all community members, again suggesting a need for enhanced sensitization efforts in future programming.

For those unfamiliar with the use of cash in humanitarian contexts, UCT programmes such as the ARCC II are sometimes criticized as hand-outs, leading to dependency and creating perverse incentives for less work and increased consumption of alcohol and tobacco. However, the increase in income from both on- and off-farm labour, the impact on livestock ownership, the reductions in debt and the increase in savings demonstrate that beneficiaries used the transfer in productive ways to generate greater benefits. Additionally, the increased food security, ownership of essential household items and assets, school enrolment, access to health care for children and resiliency of beneficiary households demonstrate that the transfer delivered protective benefits as well.

ARCC II is by far the largest and most successful UCT programme to date in terms of humanitarian responses in the DRC. The results from this research provide further evidence that unconditional cash programmes can lead to economic productivity and human capital development in sub-Saharan Africa, but they also provide evidence that UCTs should be systematically considered as an appropriate and effective humanitarian response approach in the DRC and in similar contexts of protracted complex emergencies.

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Appendices

Appendix 1. Data sources

Qualitative data

The majority of data collection by the implementing partners took place after the intervention: there were four baseline FGDs, 12 post-distribution FGDs, 26 endline FGDs, and 54 SSIs and 44 FGDs conducted during the PIM. The implementing partners conducted FGDs with a variety of groups including mixed (male and female) beneficiaries together, female beneficiaries only and non-beneficiaries. The implementing partners conducted SSIs with local authorities and community leaders, shop owners and vendors, school directors, health centre officials and payment agents.[41] Altogether, ARCC implementing partners collected 140 pieces of qualitative data.

Table A1.1: Overview of ARCC II consortium qualitative data

Ref	Data-Collection Tool	Data Collected by the ARCC II Consortium	
		Phase 1	Phase 2
1.b	FGD Baseline	MC(1), SI(3)	
2.b2	FGD Post-intervention Monitoring		CWW(6), MC(1), SI(5)
3.a1	FGD Mixed Beneficiaries	MC(3), SI(5)	CWW(2), MC(9), SI(5)
3.a2	FGD Female Beneficiaries	MC(1), SI(5)	CWW(2), MC(1), SI(4)
3.a4	FGD Non-beneficiaries	MC(1), SI(5)	MC(1)
3.b1	SSI Authorities/Community Leaders	MC(1), SI(8)	CWW(2), SI(6)
3.b2	SSI Shop Owners/Vendors	MC(1), SI(3)	MC(1), SI(3)
3.b3	SSI Other Shop Owners/Vendors	SI(5)	MC(1), SI(2)
3.b4	SSI School Directors	CWW (1), SI(7)	
3.b5	SSI Health Centres	SI(7)	SI(1)
3.b6	SSI Payment Agents	SI(5)	
4.b	FGD Households, Endline	CWW(8)	CWW(9), MC(1), SI(8)
Total Number of Qualitative Data		**CWW(9), MC(8), SI(53)**	**CWW(21), MC(15), SI(34)**

Note: MC = Mercy Corps; SI = Solidarités International; CWW = Concern Worldwide. FGD = Focus Group Discussion; SSI = Semi-Structured Interviews.

Limitations of Quantitative data

There are some features of the quantitative data collection that limit their use for analysis, including the lack of a control group, potential bias in data collection from programme implementing partners, and differences between Phase 1 and Phase 2 instruments.

[41] Unfortunately, ARCC partners did not systematically record the gender of the SSI key informants and FGD so we do not know which percentage of the qualitative data was conducted with men and women. Partners estimated, however, that most informants and FG participants were primarily men.

Lack of a control group: Control groups enable an estimation of what would have happened to the beneficiaries in the absence of the intervention. The difference between the control group and the treatment group reflects the impact of the programme. It is difficult to attribute the observed changes to the treatment group over time without a control group. The study only collected data for individuals who either received the treatment or were about to receive the treatment, thus there was no true control group. ARCC II was designed as an operational research programme hence a quasi-experimental approach and not an experimental research design was adopted.

Potential bias from data collectors: Implementing partners collected the data before, during, and after the programme. This situation creates a conflict of interest for respondents, particularly when a transfer is still due to them. Respondents may be reluctant to volunteer information they believe implementing partners would perceive negatively, fearing future transfers may be compromised. This situation may impact quantitative data responses for purchasing patterns and sensitive topics such as gender dynamics. Fortunately no data were collected when transfers were still due to beneficiaries, a part from PIM data (purchasing patterns). Indeed all endline data have been collected after all transfers were finalized.

Differences between Phase 1 and Phase 2 surveys: Phase 1 and 2 surveys differ in their content and timing, thus it is not possible to compare all variables from one phase to the other. Also, the wording or details of some variables changed across phases. These and other problems related to consistency of data collected are shown in Table A1.2.

Incomplete data collection: Many variables—collected in both phases or just one—had no data for a subset of observations. Table A1.2 shows variables with missing or dropped data as well as other common problems.

Table A1.2: Missing and dropped data

Observations with missing data	Questions asked in one but not both phases
• Type/frequency of assistance (BL/EL of both phases missing) • Household size (Phase 1 EL: 444 missing out of 1185 observations, Phase 2 BL: 39 missing of 1204) • Amount of debt (Phase 2 BL: 79 missing of 694) • To whom debts are owed (All Phase 2 BL missing) • Needs met by debts (Phase 2 BL: 157 missing of 769) • Frequency of saving (Phase 2 BL: 76 missing of 76) • Frequency of sleeping hungry (Phase 2 BL: 111 missing of 836) • No food for a day (Phase 2 BL: 51 missing of 559) • Total sick last 2 weeks (All Phase 2 BL missing) • Children sick last 2 weeks and accessing health clinic (Phase 1 EL: 143 missing of 1020, Phase 2 BL: 510 missing of 1179)	• Individual household member: (not in Phase 2) – Age – Gender – Education – School Enrolment • Do they wash hand their hands? With what? (not in Phase 2) • Where is drinking water from? (not in Phase 1) • Crops grown (not in Phase 2) • How many bed nets used (not in Phase 1) • How many contribute income (not in Phase 1) • Toilet type (not in Phase 1) • Do children eat the same food as adults (not in Phase 1) • Children actually attending school (not in Phase 1) • Mental health index (not in Phase 2) • Security problem types affecting household (not in Phase 2)

Surveys administered in different agricultural seasons: Seasonality compromises the integrity of a comparison between Phase 1 and Phase 2 data. In the area of operation there are two dry seasons, a long one in July, August, and September that occurred during Phase 1 (February to September 2014), then a short one in January that occurred in Phase 2 (November 2014 to April 2015). Many of the outcomes such as income from farming and food security are affected by the weather and vary by the season. Collecting Phase 1 and Phase 2 data at different times of the year confounds the ability to determine which factor, the weather or the programme, affected the outcome.

PIM survey problematic: We cannot link the PIM survey to outcomes in the baseline and endline survey for Phase 1 because they were asked of different populations. The PIM does not include all of the household characteristics from the baseline/endline survey, so we lose important information about the household in the PIM by not being able to link to the baseline survey.

Insufficient level of detail: The purchasing module in the baseline and endline survey only collected broad categories for purchasing that did not provide the level of detail useful for analysis. The PIM provided better detail about purchases, but, as explained above, we could not link them for Phase 1 data, which prevents us to estimate the impacts of the programme on detailed expenditure outcomes.

Table A1.3: Questions that can be asked in a better way

Inconsistency	Preferred design
Full household roster collected in Phase 1 but no roster collected in Phase 2.	Collect individual level demographic data for all household members as collected in Phase 1. This information is particularly important for the household head.
Questionnaires limited responses to reasons for children being out of school and sources of income to the top three.	Allow respondents to identify all relevant answers without a limit on the number of possible responses.
Phase 2 questionnaire limited the number of shocks and coping strategies to the three main answers. Phase 2 questions also did not tie coping strategies to specific shocks. Phase 1 did not restrict the number of shocks and identified each shock's coping strategies.	Collect data on all shocks the household faces and all responses to each shock.
Building material questions in Phase 1 baseline/endline surveys were redundant. Hunger during the day, hunger during the night, and being without food in both phases' baseline/endline survey are also highly correlated. These questions collect the same basic information so each one provides little additional information.	Building materials for all parts of the house (as asked in Phase 1) is unnecessary; one part of the house is sufficient (as asked in Phase 2). Hunger at different times of day is redundant. Ask only for a single time (day or night) or at any part of the day. Eliminating these two redundancies decreases the time burden of data collection.
Baseline/endline expenditure categories do not fully capture the beneficiaries' actual spending patterns. Livestock is not an option in the baseline/endline survey. The PIM survey breaks food items down into categories as diverse as meat and sugar. These both fall into the Food category of baseline/endline survey. The baseline/endline survey expenditure module lacks the precision to identify specific purchasing patterns	Using 116 categories from PIM is more informative and enables more specific purchasing pattern analysis. The PIM categories provide enough detail to specify what beneficiaries buy with the survey.
Time references are inconsistent. Some questions refer to the past month, other the past 28 days, other the past 2 months, and the past 7 days. Beneficiaries' ability to recall information differ over these timeframes.	Choose a single period, for example the last month that respondents can reference as a timeframe. Use this time period for all questions unless there exists a compelling reason to use another.

Limitations of Qualitative data

There are some limitations that hinder our ability to address the research questions with the collected and consortium data. Overall, the qualitative data are constrained by the nature of qualitative analysis itself. Qualitative data tend to be discursive and descriptive and qualitative analysis privileges explanation and interpretation over quantification. In general, qualitative approaches allow researchers to explore and understand the experiences, opinions, and perspectives of their informants in greater depth than that offered by quantitative approaches. In turn, the use of qualitative approaches entails sacrifices in terms of generalisability and comparability—areas in which quantitative methods excel because of their use of large and probabilistic samples (Atieno, 2009). In addition, samples chosen for qualitative studies are always smaller and often non-randomized (Patton, 1999). Specific limitations associated with the existing and collected data are outlined below.

Our team found several issues with the data-collection processes used to collect the consortium data including the use of internal data collectors. Implementing partners collected their own monitoring data. Literature on evaluation highlights the strengths and weakness of both internal and external evaluation, however for data collection external evaluators are often the best positioned to collect data from informants. Conley-Tyler (2005) explains: "One potential advantage of external evaluators over internal ones is that they are more able to collect information that might be difficult to obtain (Braskamp, Brandenburg, & Ory, 1987). People can be more willing to open up in the presence of a stranger. At the same time, an external evaluator is often able to help people gain a new perspective because of his or her wider perspective (Weiss, 1972). In some cases, 'politics and turf battles' will make it difficult for an internal evaluator to gain information and support (Goldberg & Sifonis, 1994)."

These challenges were reflected in our comparison of existing data to data collected by AIR. In several places we found a disjuncture between our data and the existing data. On the one hand, informants seemed to be more apt to share negative perceptions of the programme to AIR as an external evaluator. This limitation presents a challenge to interpreting consortium data when many of the responses seem to be affected by internal evaluators. On the other hand, external data collectors may be driven to record fake problems only reported only to trigger further assistance or reparation for facts that did not occur.

There are also limitations due to the lack of detail in the existing data and the data-collection sample. Consortium data collectors recorded information collected in FGDs and SSIs in note form. These notes are brief and reflect a lack of probing. The brevity of many of the notes make it difficult to discern the 'how' and 'why' behind the responses that are essential to developing themes for qualitative analysis (Bernard, 2011). The consortium data are also limited by the samples that were selected. The ARCC II consortium collected qualitative data at baseline, endline, and post intervention. However, not all partners collected data using all of the listed tools or at all the designated points during the project life cycle. Furthermore, implementing partners collected very limited data from non-beneficiaries (7 out of 140 interviews) and implementing partners.

Limitations of data collected by AIR

Certain challenges to additional qualitative data collection led to limitations in the data-collection sample. In the additional qualitative data, we did not differentiate between Phase 1 and Phase 2 recipients when we sampled informants in Talika and Ntamugenga in Rutshuru. Therefore, we are unable to attribute perceptions of informants in this area to a particular phase of the project. Our research team was also unable to collect data from all the different implementation sites or from beneficiaries of each of the different modalities during the 15 days allotted to additional data collection. We could collect data only from two implementing partners and two locations in North Kivu. Thus, our insights for the other implementation sites, namely Masisi, Nyiragongo, Gikoro, Dungu, and Ituri, rely on existing consortium data.

Appendix 2. Additional qualitative data

Table A2.1: Data Collection Schedule

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
30	1	2	3	4	5	6
Arrive in Goma	*Data Collection Training*	*Recruitment, Planning* **FGD 1.1** Female Beneficiary	*Data Collection* **FGD 1.2** Mixed Beneficiary **FGD 1.3** Mixed IDP Beneficiary **FGD 1.4** Non-beneficiary **KII 1.1** School Director	*Data Collection* **KII 1.2** Health Center Official **KII 1.3** Community Leader **IDI 1.1** Female Beneficiary **IDI 1.2** Female IDP Beneficiary **IDI 1.3** Male Beneficiary **IDI 1.4** Non-beneficiary	*Recruitment, planning* **FGD 2.1** Female Beneficiary **FGD 2.2** Mixed Beneficiary **KII 2.1** School Director **KII 2.2** Health Center Official	*Data Collection* **FGD 2.3** Non-beneficiary **IDI 2.1** Female Beneficiary **IDI 2.2** Female IDP Beneficiary **IDI 2.3** Male Beneficiary **IDI 2.4** Non-beneficiary
Arrive in Goma	*Goma*	*Travel to Rutshuru/ Tamugenga Village w/ Adhelin*	*Rutshuru: Tamugenga Village w/Adhelin*	*Rutshuru: Tamugenga Village w/ Adhelin*	*Rutshuru: Ntamugenga Village*	*Rutshuru: Ntamugenga Village*
7	8	9	10	11	12	13
Data Collection **KII 2.3** Community Leader **KII 2.4** BIFERD **KII 2.5** CAAP Tujitegemee, **KII 2.6** Tigo	*Recruitment, Planning*	*Data Collection* **KII 3.1** School Director **KII 3.2** Health Center Official **KII 3.3** Community Leader **KII 3.4** MECRE Co. **KII 3.5** MECRE Co. **KII 3.6** MECRE Co.	*Data Collection* **FGD 3.1** Female Beneficiary **FGD 3.2** Mixed Beneficiary **FGD 3.3** Mixed IDP Beneficiary **FGD 3.4** Non-beneficiary	*Data Collection* **IDI 3.1** Female Beneficiary **IDI 3.2** Female designated recipient Beneficiary **IDI 3.3** Male designated Beneficiary **IDI 3.4** Non-beneficiary	*Recruitment, planning* **FGD 4.1** Female Beneficiary **FGD 4.2** Mixed Beneficiary	*Data Collection* **FGD 4.3** Mixed-IDP Beneficiary **FGD 4.4** Non-beneficiary **KII 4.1** School Director **KII 4.2** Health Center Official **KII 4.3** Community Leader
Rutshuru, be back in Goma by 1pm	*Fly to Beni 9am flight*	*Beni*	*Beni*	*Beni*	*Beni*	*Beni*
14	15	16				
Data Collection **IDI 4.1** Female Beneficiary **IDI 4.2** Female designated recipient Beneficiary **IDI 4.3** Male designated recipient Beneficiary **IDI 4.4** Non Beneficiary	*Transcription & Translation*	*Travel from Goma*				
Beni	Fly to Goma 14:40	Travel to Kigali, flights home				

Overview of qualitative data collected by AIR

Our qualitative analysis drew primarily upon additional data collection conducted by AIR in December 2015. AIR data collection included in-depth interviews (IDIs), FGDs and key informant interviews (KIIs) with beneficiaries, non-beneficiaries and relevant key informants (such as community leaders, local partners[42] and the implementing partners) in North Kivu's Rutshuru and Beni territories. We did not differentiate between Phase 1 and Phase 2 in the data.

Table A2.2: Overview of qualitative data collected by AIR

Territory		Beni		Rutshuru			
Method	**Informant**	**Mbalako**	**Visiki**	**Ntamugenga**	**Talika**	**Other**	**Total**
FGD	Female Beneficiary	1	1	1	1		4
	Mixed Beneficiary		2		1		2
	Mixed IDP Beneficiary and Non-beneficiary	1	1	1			3
	Mixed Non-beneficiary	1	1	1	1		4
IDI	Female Beneficiary	2	2	2	1		7
	Female IDP Beneficiary			1			1
	Male Beneficiary	1	1	1	1		4
	Non-beneficiary	1	1		3		5
KII	Community Leader (male)	1	2	1	1		5
	Health Official (male)	1	1				2
	School Official (male)	1	1	2	1		5
	Local Partner (female)			2			2
	Local Partner (male)	2		1			3
	Businessperson (male)		1				1
	DFID, UNICEF and ARCC Implementing Partners					6	6
Overall Total							**54**

Note: IDP = Internally displaced person.

Geographic sampling

We used three criteria to select the sites for additional qualitative data collection: (1) capacity to inform the research questions, (2) limitations of the consortium data and (3) feasibility and security. First, additional qualitative data sites were selected on the basis of their capacity to inform our research questions. Second, the sites were selected after an extensive review of the existing qualitative data collected by the ARCC II consortium. Finally, the sites were analysed based on their security situations and the feasibility of conducting data collection in the area.

[42] ARCC implementing partners had partnerships with local NGO partner organizations to assist them in certain steps of the project cycle (e.g., community mobilisation).

Using these criteria, we chose to collect additional qualitative data from two territories in North Kivu served by two different partners: Rutshuru (Mercy Corps) and Beni (Solidarités International). Within Beni and Rutshuru, we randomly selected four villages for data-collection activities. Our sites in Rutshuru were involved in both Phase 1 and Phase 2 of the ARCC II programme, and our sites in Beni were targeted only during Phase 2 of the programme. In our data collected in Rutshuru, we did not distinguish between Phase 1 and Phase 2 recipients, largely because this distinction was not made within the local populations. For this reason, FGDs in Rutshuru included both Phase 1 and Phase 2 recipients. The sampling selections, including the data-collection sites, rationale for selection and the data that were collected are summarized below (*see Table A.2.3*). The following section explains in greater detail why Rutshuru and Beni best met our selection criteria.

It should be noted that given the timing, logistics and security constraints, this geographic focus meant that we visited intervention areas for only two of the three partners, and for only one of the two provinces where ARCC II was implemented. Furthermore, UCT was the transfer modality for all intervention areas visited, albeit using different transfer plans and delivery mechanisms. We did not visit any areas where multi-sector voucher approaches were used (either alone or in combination with cash), which meant that the qualitative analysis was limited to UCTs (unlike the quantitative analysis, which looked at both transfer modalities). The decision to focus on UCTs was made, in part, because of UNICEF's interest in prioritizing analysis of UCT experiences over that of the voucher-based interventions. The majority of ARCC beneficiaries (63 per cent) received assistance exclusively through UCTs, 24 per cent received assistance via multi-purpose vouchers and 13 per cent received assistance through a combination of cash and vouchers (*see Table 3.1).*

Table A.2.3: Geographic sampling

Location	Intervention	Rationale for Inclusion in ARCC Qualitative Data Collection	Additional Data Collection (total for both villages)
Site 1 (Mercy Corps areas): North Kivu: Rutshuru territory Ntamugenga Locality, Ntamugenga village Ntamugenga Locality,	**Phase 1:** Two mobile money transfers (US$80+ US$40) **Phase 2:** Mobile money • Single transfer (US$120) • Multiple (US$60 + 2 x US$30)	1. No KII collected in Phase 1 or Phase 2. 2. To enable us to understand the process and perceived impact of Village Savings and Loan Associations (VSLAs)[43] implemented in these areas. 3. To enable us to understand the constraints/benefits of mobile money. 4. Phase 2: Mobile money, given two ways – a multiple and a single transfer – would enable us to see the differences in programme outputs and	**KIIs:** 3 school directors, 2 local leaders, 2 of Mercy Corp's local partners (BIFERD, CAAP Tujitegemee) and 1 contracted MNO[44] (Tigo) **IDIs:** 3 female beneficiaries, 1 female IDP beneficiary, 2 male beneficiaries, 3 mixed non-beneficiaries **FGDs (8–10 participants):** 2 female beneficiaries, 1 mixed beneficiary, 1 mixed

[43] The VSLA was a programme complementary to the ARCC implemented by Mercy Corps in some ARCC areas. UNICEF was interested in looking at differences between areas where there were only CBA interventions and areas where there was CBA as well as VSLA activities.
[44] The MNO responsible for the transfers using cellular phone 'mobile money'.

Location	Intervention	Rationale for Inclusion in ARCC Qualitative Data Collection	Additional Data Collection (total for both villages)
Talika village		outcomes (if any) of single versus multiple instalments.	IDP beneficiary, and 2 mixed non-beneficiaries
Site 2: North Kivu (Solidarités International areas): Beni territory Mbalako Locality Visiki Locality	**Phase 2:** Single instalment UCT through financial cooperatives (US$110) with recipient gender randomization	5. To enable us to understand the perceived impact of gender randomization. 6. To enable us to understand the constraints/benefits of a single cash transfer. 7. To enable us to understand the process of working through cooperatives.	**KIIs:** 2 school directors, 2 health centre directors, 3 local leaders and 2 local staff from the contracted financial cooperative, MECRE Co. **IDIs:** 4 female beneficiaries, 2 male beneficiaries, 2 mixed non-beneficiaries **FGDs:** 2 female beneficiaries, 2 mixed beneficiaries, 2 mixed IDP beneficiaries and 2 mixed non-beneficiaries

Beni, North Kivu[45]

We selected Beni territory as an additional qualitative data-collection site to inform our investigation of the fidelity of programme implementation and the outcomes on social dynamics, and to complement and add to the data already collected by Solidarités International. We also selected Beni because Solidarités International had conducted a randomization of primary transfer recipients for a group of beneficiaries there and we were interested in comparing the quantitative results of this study with qualitative information on gender dynamics. Our two sites, Mbalako and Visiki, were both targeted in Phase 2 of the ARCC II programme. During Phase 2, Solidarités International conducted five post-intervention FGDs with mixed beneficiaries, four post-intervention FGDs with female beneficiaries, six SSIs with authorities and community leaders, three SSIs with shop owners and vendors, two SSIs with other shop owners and vendors, one SSI with health centre officials and eight FGDs with households at endline. Additional qualitative data collection in Beni enabled us to supplement the existing qualitative data with data collected from FGDs with non-beneficiaries, FGDs with beneficiaries who were internally displaced persons only (as opposed to beneficiary groups including returnees and host families as well), KIIs with school directors and KIIs with implementing partner staff.

[45] Beni is the name of both a sub-provincial administrative unit (Beni territory) and the largest town within this territory. Unless otherwise noted, any references to Beni in this report refer to the territory and not the town.

Rutshuru, North Kivu[46]

Rutshuru was an ideal site for additional qualitative data collection because of the relative lack of existing qualitative data from this area and its accessibility from Goma. In Rutshuru, Mercy Corps collected limited data from local authorities, and no qualitative data were collected from schools and health centres. Additional data collection in Rutshuru, particularly with these key informants, enabled us to better understand perceptions of the programme's impacts, including on social dynamics. Furthermore, Mercy Corps delivered the ARCC UCT with mobile money through two different transfer plans: single transfers and multiple transfers. Additional qualitative data collection therefore informed our understanding of implementation of these different approaches, as well as beneficiary preferences regarding these different transfer plans. Rutshuru's relative proximity to Goma also allowed us to conduct more interviews than would have been possible in a site located in Orientale province.

Participant selection

Two villages were randomly selected in each of the sample intervention areas (four villages in total) for qualitative data collection. From each of these sites, we selected participants for KIIs, IDIs and FGDs. KIIs were conducted with one school official, one health centre official, a community leader and employees of the local implementing partners. All were men except for the two employees of the local implementing partner. We selected these key informants to (1) compare perceptions of the programme across implementation areas and (2) inform and triangulate our analyses of the programme's impact and unintended consequences with key informants' perspectives. IDIs sampled female beneficiaries, female beneficiaries who were internally displaced persons, male beneficiaries and non-beneficiaries of both sexes. For FGDs, we sampled groups of six to eight individuals from the following subpopulations: female beneficiaries, mixed beneficiaries, mixed beneficiaries who were internally displaced persons and non-beneficiaries. We sampled both beneficiaries and non-beneficiaries for IDIs and FGDs to develop a holistic perspective of the programme's perceived effect on the social dynamics and to triangulate beneficiary perceptions of any unintended consequences.

Additional key-informant interviews

An additional round of data collection occurred in February 2016. This data collection consisted of six KIIs with representatives from Mercy Corps, Solidarités International, Concern Worldwide and DFID, as well as two representatives from UNICEF. We conducted this additional data collection over Skype or telephone. We used the interviews to triangulate the findings from the analysis of the additional data collection in December, particularly regarding programme processes.

[46] Rutshuru is both a town and an administrative unit (Rutshuru territory). Unless otherwise noted, references to Rutshuru in this report refer to the territory and not the town.

Appendix 3. Qualitative data: collection tools

ARCC II DRC
Interview Protocol: Beneficiary FGD
Goal: To understand beneficiary perceptions of the ARCC II programme and its impacts

For Interviewer: *Begin by introducing yourself, explaining the purpose of the research and obtaining verbal consent (see consent script) from all respondents (Green Questions are for those involved in VSLAs, Purple Questions are for women or men who were designated as recipients of the transfer, Orange Questions are only relevant in Rutshuru, and Blue Questions are only relevant in Beni).*

I. **Background Information:**
   a. Begin by having everyone introduce themselves including their name and where they are from also take note of age composition of group).
      i. Now, I would like to ask you several questions about the ARCC programme, are you a part of the ARCC programme now, or were you in the past?

II. **Perceived impacts**
   a. What did you buy with your transfer?
   b. How do you think the transfer(s) have affected your life?
      i. *Probe: In terms of education?*
      ii. *Probe: In terms of health?*
      iii. *Probe: In terms of debts?*
      iv. *Probe: In terms of participating in your community?*
      v. *Probe: In terms of access to land?*
   c. Do you feel that the transfer helped you become more resilient against shocks?
      i. With regards to poor harvest or drought?
      ii. With regards to sickness in the family?
      iii. With regards to loss of work?
   d. Do you feel the transfer has helped you save money?
      i. Did you combine the transfer with any of your own money to buy something big? What were/are you saving for?
         1. *Probe: did you purchase livestock?*
      ii. Do you think that a certain type of transfer would help you save money more than other types?

III. **Targeting**
   a. <u>Understanding of criteria and beneficiary selection process</u>
      i. Do you know of any specific criteria that were used to choose people to be a part of the programme? What are they?
      ii. How do you think these criteria were chosen?
   b. <u>Fairness and inclusiveness of targeting process</u>
      i. Do you agree with the criteria that were used to choose people to be a part of the programme?
      ii. Do you think the programme is serving the neediest people in your community?
      iii. How do you think the criteria used to choose people could be improved?

IV. Payment delivery

a. Different modalities (pros/cons)
   i. Now I would like to know more about your experience receiving the transfer.
      1. How much money have you received?
      2. How have you received the transfer (only relevant in Rutshuru)?
      3. How often have you received the transfer (i.e., what frequency- only relevant in Rutshuru)?
   ii. If you could choose the type of transfer you received would you rather receive money or vouchers? Why?
      1. Why do you prefer this type of transfer?
   iii. If you prefer money (or a voucher) is it better to have that through a mobile phone or for it to be given through cooperatives (Béni)/Microfinance institutions (Rutshuru)?
      1. Why do you prefer this type of transfer?
   iv. Would you rather have one single transfer of US$100, or five smaller transfers of US$20 over five months?
      1. Why do you prefer this type of transfer?
      2. Do you feel there is any advantage to the other type of transfer?

b. Timeliness
   i. Did you receive your transfer when you were supposed to?
      1. If not, why did you not receive your transfer on time?

c. Amount
   i. Did you feel that the amount of money you received was sufficient to meet your needs?
      1. *Probe: What needs did you feel were not met?*

d. Problems with payments?
   i. Did you experience any problems receiving the transfer?
      1. *Probe: Did you experience any of the following issues?*
         a. Connection issues for mobile money
         b. Problems using mobile phones
         c. Excessive wait times
         d. Difficulty traveling to sites
      2. Did you collect your cash at a cash out session organized by an NGO or through a mobile money cash agent in your community?
         a. Did you like receiving your cash this way?
         b. Did you have any problems receiving your cash this way?
   ii. Did you ever miss the opportunity to pick up your transfer? If so, what happened? Were you able to pick it up during the next pay date?
   iii. Did you ever send an alternate to pick up the transfer? If so, did this work well or did the alternate encounter problems collecting the transfer?
   iv. Did you feel safe receiving your transfer?
      1. *Probe if yes: What made you feel safe?*
      2. *Probe if no: What made you feel unsafe? What could be done to make you feel safe?*
   v. How do you feel that the process of receiving the transfer could be improved?

V. VSLA (only for participants in the VSLAs)

a. How long have you been participating in a Village Savings and Loan Association (VSLA)?
b. Why did you want to participate in the VSLA?
c. Could you describe how the VSLA works?

d. Did you like participating in the VSLA? Why or why not?
e. How did you feel that the VSLA affected your life, household, and community?
f. How could the VSLAs be improved?

VI. Unintended consequences

a. Community Relationships
   i. Now I would like to talk about some of the ways that the transfers affected you, your household and your community. What do you think are the main problems with the programme?
   ii. Do you feel that the cash transfers changed relationships in your community?
      1. *Probe: How? With who?*
      2. *Probe: Have you ever witnessed/heard of problems of couples or discussions related to the transfer programme?*
         a. *Probe: What did you hear? What caused the problem?*
         b. *Probe: Do you know how the problem was resolved?*
   iii. Did anyone ask you for money after you received the transfer?
      1. When? Who? Did you give it to them? How much?
   iv. Did you share your cash transfer with anyone else in the community?
      1. *Probe: Why? With who? What portion?*
   v. Did you share any of the items you purchased with your transfer with anyone else in the community?

b. Household Relationships
   i. Do you feel that the cash transfers changed the relationships in your household?
      1. *Probe: How? With who?*
         a. *Probe: With your spouse?*
         b. *Probe: With your children?*
         c. *Probe: With the other members of the household?*
   ii. Do you think the amount of tension or arguing has increased or decreased since your family started receiving the transfer?
      1. *Probe: Why do you think this change happened?*
      2. *Probe: How often are you involved in arguments with other household members and what are they about?*
         1. *Probe: How do the arguments get resolved? Do arguments ever become violent? How often? Who perpetrates?*

b. Household Decision-Making
   i. Now I want to talk about major purchases your household may make from time to time, for example cattle or other livestock, agricultural equipment etc. Can you think of the major items your household purchased in the last year before receiving the transfer? What were they?
   ii. How do you decide what and when to make a major household purchase?
      1. *Probe: Do household members all agree on what to purchase?*
      2. *Probe: Whose opinions contribute to this discussion?*
      3. *Probe: Who actually purchased the item and brought it home?*
   iii. When you receive the money, who decides what to do with the transfer?
      1. *Probe: What are the main things you spend the transfer on? [ask for specifics: food type; education (for whom); sanitation/hygiene products; other?]*

2. *Probe: What are the main things you save the transfer money for?*
3. *Probe: Is the primary decision-maker different for large purchases versus small purchases?*

iv. Were you designated as a recipient of the transfer? (females designated to receive transfers only)
    1. How did this affect your household's decisions?

v. Has the transfer programme changed how you make decisions in the household?
    1. *Probe: In which ways?*
    2. *Probe: Why do you think this happened?*
    3. *Probe: Are you happy about this change? Why or why not.*

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future?

Thank participants and close discussion.

ARCC II DRC
Interview Protocol: Non-Beneficiary FGD
Goal: To understand non-beneficiary perceptions of the ARCC programme and its impacts

For Interviewer: *Begin by introducing yourself, explaining the purpose of the research and obtaining verbal consent (see consent script) from all respondents (Green Questions are for communities with VSLAs).*

I. Background Information:
- a. Begin by having everyone introduce themselves including their name and where they are from also take note of age composition of group).

II. Perceived impacts
- a. How do you think the transfer(s) have affected households in your community?
  - i. *Probe: In terms of education?*
  - ii. *Probe: In terms of health?*
  - iii. *Probe: In terms of purchasing?*
  - iv. *Probe: Did you see any effect on prices?*
  - v. *Probe: In terms of debts?*
  - vi. *Probe: In terms of participating in your community?*
  - vii. *Probe: In terms of access to land?*
- b. Were you personally affected in any way by the ARCC programme?

III. Targeting
- a. Understanding of criteria and beneficiary selection process
  - i. Now, I would like to ask you several questions about the ARCC programme, have you heard of the ARCC programme?
    1. What do you know about the programme?
  - ii. Do you know of any specific criteria that were used to choose people to be a part of the programme? What are they?
  - iii. How do you think these criteria were chosen?
    1. *Probe: Who was involved in choosing these criteria?*
    2. *Do you understand why you are not part of the programme?*
- b. Fairness and inclusiveness of targeting process
  - i. Do you agree with the criteria that were used to choose people to be a part of the programme?
  - ii. Do you think the programme is serving the neediest people in your community?
  - iii. How do you think the criteria used to choose people could be improved?

IV. VSLA (only for communities where VSLAs took place)
- a. Have you heard of Village Savings and Loan Associations (VSLAs) in your community?
  - **i.** What do you know about them?
- b. Do you think VSLAs are a good thing for the community?
  - **i.** Why?
- c. How do you think VSLAs could be improved?

V. Unintended consequences
- a. Community Relationships
  - i. Now I would like to talk about some of the ways that the transfers affected you, your household and your community. What do you think are the main problems with the programme?

ii. Do you feel that the cash transfers changed relationships in your community?
    1. *Probe: How? With who?*
    2. *Probe: Have you ever witnessed/heard of problems of couples or discussions related to the transfer programme?*
        a. *Probe: What did you hear? What caused the problem?*
        b. *Probe: Do you know how the problem was resolved?*
iii. Did anyone share their cash transfer with anyone else in the community?
    1. *Probe: Why? With who? What portion?*
iv. Did anyone share any of the items they purchased with the transfer with anyone else in the community?

b. Household Decision-Making

i. Typically, when a decision needs to be made, how does this get done in your household?
    1. Which decisions you make as a household are shared? Which are made by individuals alone?
        a. *Probe: Is it good or bad to share decision-making responsibilities? Why?*
        b. *Probe: Is it good or bad to make decisions alone? Why?*
        c. *Probe: Whose opinion matters the most in the household when it comes to making decisions? Why?*
ii. I want you to think about the last year or so. Was there any time that you and other people in your household disagreed about a choice or decision about an activity?
    1. *Probe: Can you tell me about that and what happened?*
    2. *Probe: How do you usually resolve such disagreements in your household?*
iii. Now I want to talk about major purchases your household may make from time to time, for example cattle or other livestock, agricultural equipment etc. Can you think of the major items your household purchased in the last year? What were they?
iv. How do you decide what and when to make a major household purchase?
    1. *Probe: Do household members all agree on what to purchase?*
    2. *Probe: Whose opinions contribute to this discussion?*
    3. *Probe: Who actually purchased the item and brought it home?*
v. Are arguments common in your household?
    1. *Probe: How often are you involved in arguments with other household members and what are they about?*
    2. *Probe: How do the arguments get resolved? Do arguments ever become violent? How often? Who perpetrates?*

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future?

Thank participants and close discussion.

ARCC II DRC
Interview Protocol: Beneficiary IDI
Goal: To understand beneficiary perceptions of the ARCC II programme and its impacts

For Interviewer: *Start by introducing yourself and explaining the purpose of the research. Obtain verbal consent from participants (see consent script).Green Questions are for those involved in VSLAs, Purple Questions are for women or men who were designated as recipients of the transfer, Orange Questions are only relevant in Rutshuru, and Blue Questions are on relevant in Beni.*

I. Background Information:

a. Please tell me a little about yourself and your family, for example:
   - **i.** How old are you, and how long have you lived in this area?
   - **ii.** Who else is living in your household? What are their ages and your relationship to them?
     - ***1.*** *Probe: Confirm existence of partner/spouse in the household*
   - iii. In Beni/Rutshuru, who is usually the head of the household?
     1. Can women also be heads of the household? In what situations?
     2. Who do you consider the head of your household? Why?

b. Now, I would like to ask you several questions about the ARCC programme, are you a part of the ARCC programme now, or in the past and how long have you been receiving payments?

II. Perceived impacts

a. What did you buy with your transfer?
   - i. If you had an additional US$50 what else would you have purchased?
   - ii. (*For those who received 1 single transfer*) If you had received multiple smaller transfers equaling the same amount, would you have purchased different things? Which items?
   - iii. *(For those who received multiple transfers)* If you had received a single transfer equaling the same amount, would you have purchased different things? Which items?

b. How do you think the transfer(s) affected your life?
   - i. *Probe: In terms of education?*
   - ii. *Probe: In terms of health?*
   - iii. *Probe: In terms of purchasing: do you purchase different things now?*
   - iv. *Probe: is your position <u>now</u> better than it was before you received the transfer? Or do you feel as though you are back to the situation you were in before the transfer programme came to your community?*
   - v. *Probe: In terms of debts?*
   - vi. *Probe: In terms of participating in your community?*
   - vii. *Probe: In terms of access to land?*
   - viii. *Probe: How does it affect your life now?*

c. Do you feel that the transfer helped you become more resilient against shocks?
   - i. With regards to poor harvest or drought?
   - ii. With regards to sickness in the family?
   - iii. With regards to loss of work?

d. Do you feel the transfer has helped you save money?
    i. Did you combine the transfer with any of your own money to buy something big? What were/are you saving for?
        1. *Probe: did you purchase livestock?*
    ii. Do you think that a certain type of transfer would help you save money more than other types?

III. Targeting

a. Understanding of criteria and beneficiary selection process
    i. Do you know of any specific criteria that were used to choose people to be a part of the programme?
    ii. How do you think these criteria were chosen?
b. Fairness and inclusiveness of targeting process
    i. Do you agree with the criteria that were used to choose people to be a part of the programme?
    ii. Do you think that everyone that should have received a transfer (i.e., the neediest), received a transfer?
        1. If not, who else should have been included? Why?
    iii. How do you think the criteria used to choose people could be improved?

IV. Payment delivery

a. Different modalities (pros/cons)
    i. Now I would like to know more about your experience receiving the transfer. How long have you been receiving the transfer?
        1. How much money have you received
        2. How have you received the transfer (only relevant in Rutshuru)?
        3. How often have you received the transfer (i.e., what frequency- only relevant in Rutshuru)?
    ii. Which way would you prefer to receive the transfer (cash, mobile money, voucher, and eVouchers)?
        1. Could you list the types of transfers (repeat if needed) from the most preferable to the least preferable?
        2. What do you feel are the advantages and disadvantages of each type of transfer?

Rank	Modality	Advantages	Disadvantages
1			
2			
3			
4			
5			

    iii. Would you rather have one single transfer of US$100, or five smaller transfers of US$20 over five months?
        1. Why do you prefer this type of transfer?
        2. Do you feel there is any advantage to the other types of transfers?
b. Timeliness
    i. Did you receive your transfer when you were supposed to?
        1. If not, why did you not receive your transfer on time?
c. Amount
    i. Did you feel that the amount of money you received was sufficient to meet your immediate needs at the time?
        1. *Probe: What needs did you feel were not met?*

d. Problems with payments?
   i. Did you experience any problems receiving the transfer?
      1. *Probe: Did you experience any of the following issues?*
         a. Connection issues for mobile money
         b. Problems using mobile phones
         c. Excessive wait times
         d. Difficulty traveling to sites
      2. Did you collect your cash at a cash out session organized by an NGO or through a mobile money cash agent in your community?
         a. Did you like receiving your cash this way?
         b. Did you have any problems receiving your cash this way?
   ii. Did you ever send an alternate to pick up your transfer? If so, did this work well or did the alternate have problems picking up the transfer?
   iii. Did you ever miss a payment? If so, what happened? Were you able to pick it up at the next pay date?
   iv. Did you feel safe receiving your transfer?
      1. *Probe if yes: What made you feel safe?*
      2. *Probe if no: What made you feel unsafe? What could be done to make you feel safe?*
   v. How do you feel that the process of receiving the transfer could be improved?

V. VSLA (only for participants in the VSLAs)

a. How long have you been participating in a Village Savings and Loan Association (VSLA)?
b. Why did you want to participate in the VSLA?
c. Could you describe how the VSLA works?
d. Did you like participating in the VSLA? Why or why not?
e. How did you feel that the VSLA affected your life, household, and community?
f. How could the VSLAs be improved?

VI. Unintended consequences

a. Community Relationships
   i. Now I would like to talk about some of the ways that the transfers affected you, your household and your community. What do you think are the main problems with the programme?
   ii. Do you feel that the cash transfers changed relationships in your community?
      1. *Probe: How? With who?*
      2. *Probe: Have you ever witnessed/heard of problems of couples or discussions related to the transfer programme?*
         a. *Probe: What did you hear? What caused the problem?*
         b. *Probe: Do you know how the problem was resolved?*
   iii. Did anyone ask you for money after you received the transfer?
      1. When? Who? Did you give it to them? How much?
   iv. Did you share your cash transfer with anyone else in the community?
      1. *Probe: Why? With who? What portion?*
   v. Did you share any of the items you purchased with your transfer with anyone else in the community?

b. Household Relationships
   i. Do you feel that the cash transfers changed the relationships in your household?
      1. *Probe: How? With who?*
         a. *Probe: With your spouse?*
         b. *Probe: With your children?*
         c. *Probe: With the other members of the household?*

ii. Do you think the amount of tension or arguing has increased or decreased since your family started receiving the transfer?
    1. *Probe: Why do you think this change happened?*
    2. *Probe: How often are you involved in arguments with other household members and what are they about?*
        4. *Probe: How do the arguments get resolved? Do arguments ever become violent? How often? Who perpetrates?*

c. Household Decision-Making
    i. Now I want to talk about major purchases your household may make from time to time, for example cattle or other livestock, agricultural equipment etc. Can you think of the major items your household purchased in the last year before receiving the transfer? What were they?
    ii. How do you decide what and when to make a major household purchase?
        1. *Probe: Do household members all agree on what to purchase?*
        2. *Probe: Whose opinions contribute to this discussion?*
        3. *Probe: Who actually purchased the item and brought it home?*
    iii. Imagine that you have 50 dollars available for spending. **For example**, you want to buy a new school uniform for your child, and your partner wants to buy a chicken. How would this decision, or similar decisions, be made?
        4. *Probe: Is this answer different from the answer you would give during the time before you received the transfer?*
    iv. When you received the money, who decides what to do with the transfer?
        5. *Probe: Did different family members want to purchase different items?*
        6. *Probe: What are the main things you spend the transfer on?*
        7. *Probe: What are the main things you save the transfer money for?*
    v. Were you designated as a recipient of the transfer? (females designated to receive transfers only)
        8. How did this affect your household's decisions?
    vi. Has did the transfer programme change how you make decisions in the household right after the transfer?
        9. *Probe: In which ways?*
        10. *Probe: Why do you think this happened?*
        11. *Probe: Does it still affect decisions now?*
        12. *Probe: Are you happy about this change? Why or why not.*

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future?

Thank participants and close discussion.

ARCC II DRC
Interview Protocol: Non-Beneficiary IDI
Goal: To understand non-beneficiary perceptions of the ARCC II programme and its impacts

For Interviewer: *Begin by introducing yourself, explaining the purpose of the research and obtaining verbal consent (see consent script) from all respondents (Green Questions are for communities with VSLAs).*

I. Background Information:

a. Please tell me a little about yourself and your family, for example:
   - **i.** How old are you, and how long have you lived in this area?
   - **ii.** Who else is living in your household? What are their ages and your relationship to them?
     - ***1.*** *Probe: Confirm existence of partner/spouse in the household*
   - **iii.** In the Democratic Republic of the Congo, who is usually the head of the household?
     - **1.** Can women also be heads of the household? In what situations?
     - **2.** Who do you consider the head of your household? Why?

II. Perceived impacts

a. How do you think the transfer(s) have affected households in your community?
   - i. *Probe: In terms of education?*
   - ii. *Probe: In terms of health?*
   - iii. *Probe: In terms of purchasing?*
   - iv. *Probe: In terms of debts?*
   - v. *Probe: In terms of participating in your community?*
   - vi. *Probe: In terms of access to land?*

b. Were you affected in any way by the ARCC programme?
   - i. Probe: Did you see any effect on prices after transfers were made in the community?

III. Targeting

a. <u>Understanding of criteria and beneficiary selection process</u>
   - i. Now, I would like to ask you several questions about the ARCC programme, have you heard of the ARCC programme?
     1. What do you know about the programme?
     2. Do you like the programme?
   - ii. Do you know of any specific criteria that were used to choose people to be a part of the programme?
     1. Which of these criteria do you think are the most important?
   - iii. How do you think these criteria were chosen?
     1. *Probe: Who was involved in choosing these criteria?*

b. <u>Fairness and inclusiveness of targeting process</u>
   - i. Do you agree with the criteria that were used to choose people to be a part of the programme?
   - ii. Do you think the programme is serving the neediest people in your community?
   - iii. How do you think the criteria used to choose people could be improved?

IV. VSLA (only for communities where VSLAs took place)

a. Have you heard of Village Savings and Loan Associations (VSLAs) in your community?
   - **i.** What do you know about them?
   - **ii.** Could you describe how VSLAs work?

b. How have VSLAs affected your community?
   i. Do you think VSLAs are a good thing for the community?
      1. Why/Why not?
c. How do you think VSLAs could be improved?

V. Unintended consequences

a. Community Relationships
   i. Now I would like to talk about some of the ways that the transfers affected you, your household and your community. What do you think are the main problems with the programme?
   ii. Do you feel that the cash transfers changed relationships in your community?
      1. *Probe: How? With who?*
         a. *Neighbors?*
         b. *Villages?*
         c. *Beneficiaries and non-beneficiaries?*
         d. *Husbands and wives?*
      2. *Probe: Have you ever witnessed/heard of problems of couples or discussions related to the transfer programme?*
         a. *Probe: What did you hear? What caused the problem?*
         b. *Probe: Do you know how the problem was resolved?*
   iii. Did anyone share their cash transfer with anyone else in the community?
      1. *Probe: Why? With who? What portion?*
   iv. Did anyone share any of the items they purchased with the transfer with anyone else in the community?

b. Household Decision-Making
   i. Typically, when a decision needs to be made, how is it done in your household?
      1. Which decisions you make as a household are shared? Which are made by individuals alone?
         a. *Probe: Is it good or bad to share decision-making responsibilities? Why?*
         b. *Probe: Is it good or bad to make decisions alone? Why?*
         c. *Probe: Whose opinion matters the most in the household when it comes to making decisions? Why?*
   ii. I want you to think about the last year or so. Was there any time that you and other people in your household disagreed about a choice or decision about an activity?
      1. *Probe: Can you tell me about that and what happened?*
      2. *Probe: How do you usually resolve such disagreements in your household?*
   iii. Now I want to talk about major purchases your household may make from time to time, for example cattle or other livestock, agricultural equipment etc. Can you think of the major items your household purchased in the last year? What were they?
   iv. How do you decide what and when to make a major household purchase?
      1. *Probe: Do household members all agree on what to purchase?*
      2. *Probe: Whose opinions contribute to this discussion?*
      3. *Probe: Who actually purchased the item and brought it home?*
   v. Are arguments common in your household?
      1. *Probe: How often are you involved in arguments with other household members and what are they about?*
      2. *Probe: How do the arguments get resolved? Do arguments ever become violent? How often? Who perpetrates?*

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future? Thank participants and close discussion.

ARCC II DRC Evaluation
Key Informant Interview
Goal: To understand beneficiary experiences, programme processes, and implementation

For Interviewer: *Begin by introducing yourself, explaining the purpose of the research and obtaining verbal consent (see consent script) from all respondents (Blue Questions are for teachers, Red Questions are for Health Officials, Green Questions, are for Community Leaders, and Gold Questions are for Local Implementing Partners).*

Begin by recording the following details:

- Name
- Gender
- Title/Position
- Ministry/Organisation
- Location (Village, Ward, District)

I. Background Information:

a. Are you familiar with the ARCC programme?
b. Please tell me a little about yourself and your role in the ARCC programme, for example:
   i. What is your role in your organisation/the community?
   ii. How long have you been in this position?
   iii. What was your involvement in the ARCC programme?

II. Perceived impacts (divided by informant)

a. **Teachers:**
   i. Do you feel that enrolment rose during the ARCC programme? Why do you think this?
   ii. Did you feel that more community members paid school fees during the ARCC programme?
   iii. What other effects did you notice in the community because of the ARCC programme?
   iv. Do you think the programme is a success? In what ways?
   v. Do you have any other suggestions for improving this programme?

b. **Health Officials:**
   i. Do you feel that spending on health rose during the ARCC programme? Why do you think this? What were beneficiaries spending more on?
   ii. Were more children brought into the health clinic during the ARCC programme?
      1. For what reasons?
   iii. What other effects did you notice in the community because of the ARCC programme?
   iv. Do you think the programme is a success? In what ways?
   v. Do you have any other suggestions for improving the programme?

c. **Community Leaders:**
   i. How do you feel the ARCC programme affected the community?
   ii. Do you feel that more money was spent on savings, education and health during this programme?
   iii. Do you feel that the community is more prepared for shocks after this programme?
   iv. How do you think the VSLAs (if relevant) affected the community?
      1. What differences did you see between those who participated in VSLAs and those who did not?
   v. Do you think the programme is a success? In what ways?

vi. Do you have any other suggestions for improving the programme?

d. **Local Implementing Partners:**
   i. What impacts did you see among the community during the ARCC programme?
   ii. Do you think the programme is a success? In what ways?
   iii. Do you have any other suggestions for improving the programme?

III. Targeting process:

a. Understanding of criteria and beneficiary selection process
   i. Now, I would like to ask you several questions about the ARCC programme, do you know of any specific criteria that were used to choose people to be a part of the programme?
   ii. How do you think these criteria were chosen?

b. Fairness and inclusiveness of targeting process
   i. Do you agree with the criteria that were used to choose people to be a part of the programme?
   ii. Who was excluded, and why? Did they need the transfer? What solutions can be found for those who are needy, but did not receive a transfer?
   iii. What are the community's perceptions of programme coverage?
   iv. How do you think the criteria used to choose people could be improved?

IV. Payment delivery

a. Different modalities (pros/cons)
   i. Which types of transfers are you familiar with?
      1. Which of these transfers do you feel is most effective?
         a. Why?

b. Timeliness
   i. Were the transfers disbursed on time?
      1. If not, why were they not disbursed on time?

c. Amount
   i. Was the full amount promised disbursed to participants?
      1. If not, why not?
   ii. What are the household or community perceptions of the transfer amount? Was the amount justified/fair?

d. Problems with payments?
   i. Were there any problems delivering the transfers?
      1. Probe: Are you aware of any of the following issues?
         a. Connection issues for mobile money
         b. Problems using mobile phones
         c. Excessive wait times
         d. *Difficulty traveling to sites*
         e. *Safety issues*
   ii. How do you feel the process of disbursing the transfers could be improved?

V. Case management (how many and what types of complaints, etc.)

1. Do you feel that the ARCC programme was well implemented?
   a. *Probe: Did implementing partners complete what they said they would? Were transfers given out on time?*
2. Are you aware of any concerns community members had with the programme?
   a. What type of concerns were there?
   b. Was there a mechanism to hear these complaints?
   c. What happened once a complaint was lodged?
3. Do you have any suggestions for how the programme operations could have been improved?

VI. VSLAs (implementing Partners)

a. Now I would like to ask you several questions about Village Savings and Loan Associations (VSLAs), are you familiar with VSLAs?
b. Could you describe how the VSLA works?
c. Were there any challenges to running the VSLAs?
    i. How did participants feel about being a part of VSLAs?
d. Do you feel that VSLAs had an impact on the larger community?
e. How do you feel that VSLAs could be improved?

VII. Unintended consequences:

1. Have your relationships with non-beneficiaries changed?
    a. How? How has this affected you?
2. Have your relationships with people who receive the cash transfer changed?
    a. How? How has this affected you?
3. How have existing social and support networks been affected by the transfers?
    a. Is there any conflict/tension within the community as a consequence of the programme?
4. Have you observed or heard of any positive or negative impacts of the ARCC programme?
    a. Between communities?
    b. Within communities?
    c. At the household level?
5. Do you feel that the cash transfers changed relationships in households or among the community?
    a. Was there anger between people who received transfers and those who did not receive transfers?
    b. Do you think that the cash transfers had any negative or positive effects on the relationships between husbands and wives?

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future?

Thank participants and close discussion.

ARCC II DRC
Key Informant Interview Round 2
Goal: To understand beneficiary experiences, programme processes, and implementation

For Interviewer: *Begin by introducing yourself, explaining the purpose of the research and obtaining verbal consent (see consent script) from all respondents. Questions in green are only for Mercy Corps and questions in purple are only for Solidarités. All questions should be asked to UNICEF staff.*

I. **Background Information:**
   a. Could you begin by telling me your name and your current position?
   b. What was your role in the ARCC programme, for example:
      i. What was your role in your organisation?
         1. What responsibilities did this include?
         2. Where were you based?

II. **Perceived impacts (divided by informant)**
   a. How do you feel that the ARCC programme impacted communities?
      i. Do you feel that there was any effect in terms of:
         1. Health outcomes?
         2. Education outcomes?
         3. Savings?
         4. Resilience against shocks?
      ii. What other effects do you feel the ARCC programme had on communities?
   b. Do you think the programme is a success? In what ways?
   c. Do you have any suggestions for improving this programme?

III. **Targeting process:**
   a. <u>Understanding of criteria and beneficiary selection process</u>
      i. Now, I would like to ask you several questions about specifics of the ARCC programme, could you explain the process that was used to select beneficiaries?
      ii. Could you list specific criteria that were used in the selection process?
   b. <u>Fairness and inclusiveness of targeting process</u>
      i. Do you feel that the selection process and associated criteria resulted in fair and inclusive targeting?
      ii. How do you think that this process was received by communities?
         1. Did you hear of any complaints about the targeting process?
      iii. Do you have any suggestions for how this process could be improved?

IV. **Payment delivery**
   a. <u>Different modalities (pros/cons)</u>
      i. How did you decide which modalities (i.e., mobile money, cash, and voucher) and frequencies to use in the ARCC programme?
      ii. Which modality do you feel would be the most effective in this context?
   b. <u>Timeliness</u>
      i. Were the transfers disbursed on time?
         1. If not, why were they not disbursed on time?
   c. <u>Amount</u>
      i. Was the full amount promised disbursed to participants?
         1. If not, why not?

d. Problems with payments?
    i. Were there any problems delivering the transfers?
        1. *Probe: Are you aware of any of the following issues?*
            a. *Problems using mobile phones*
            b. *Excessive wait times*
            c. *Difficulty traveling to sites*
            d. *Safety issues*
    ii. How do you feel the process of disbursing the transfers could be improved?

V. Case management (how many and what types of complaints, etc.)

1. Did you have a mechanism in place for beneficiaries to voice any complaints or suggestions they had for the ARCC programme?
2. Are you aware of any concerns community members had with the programme?
    a. What type of concerns were there?
    b. What happened once a complaint was lodged?
3. Do you have any suggestions for how the programme operations could be improved?

VI. VSLAs

a. Could you explain how VSLAs worked within the ARCC programme?
b. Were there any challenges to running the VSLAs?
c. Do you feel that VSLAs had an impact on the larger community?
d. How do you feel that VSLAs could be improved?

VII. Unintended consequences:

1. Have you observed or heard of any positive or negative impacts of the ARCC programme?
    a. Between communities?
    b. Within communities?
    c. At the household level?
2. Do you feel that designating female beneficiaries had any effect? In what ways? In what relationships?
3. Do you feel that the cash transfers changed relationships in households or among the community?

Is there anything else you would like to share about your experience with the ARCC programme or potential improvements that could be made to the programme in the future?

Thank participants and close discussion.

Appendix 4. Propensity score matching

The purpose of PSM is to assign programme beneficiaries to non-beneficiaries who possess the same characteristics but do not experience the treatment. Because they possess the same characteristics, the beneficiaries essentially received the treatment rather than the comparison by chance. This allows for a counterfactual observation, where we can effectively observe the outcome for the beneficiary under both policies requiring only a simple comparison.

To do this, we will exploit the observable characteristics of the beneficiaries to construct a probability that a beneficiary was included in Phase 1. For example, if we are interested in the difference between income and food security for Phase 1 beneficiaries (treatment) as opposed to Phase 2 (comparison), we would first estimate the probability that the beneficiary receives the treatment (transfer during Phase 1) using a probit or logit model such as:

$$T_i = \Phi(\boldsymbol{X}_i \cdot \boldsymbol{\beta}' + \varepsilon_i)$$

where T_i is a dummy for having already received their transfer, X_i is a vector of individual characteristics, and ε_i is an uncorrelated error term. Then we could generate propensity scores, P_i, the probability of receiving treatment, using the formula

$$P_i = \Phi(\boldsymbol{X}_i \cdot \widehat{\boldsymbol{\beta}}')$$

We use the propensity score to improve our analysis by restricting the sample and by generating weights. First, we could use the propensity score to match the treatment beneficiary to a comparison beneficiary with a sufficiently similar propensity score. Second, the matching process yields. This method excludes observations of households outside the common support from our analysis. These households include comparison households for which we cannot encounter a beneficiary household with a similar propensity score. We use radius matching with a caliper of 0.05 to identify households within the common support. Radius matching is a process wherein any comparison observation with a propensity score within 0.05 of a treatment observation is retained.

The variables used in the PSM model accurately predicted the beneficiaries' receipt of a transfer. Most of the variables used the in the logit model are statistically significantly related to having received the transfer. Table A4.1 presents the results. These estimates demonstrate that the variables used in the matching process actually have predictive power. This conclusion suggests that the PSM process can accurately construct a counterfactual group.

Table A4.1: Propensity score matching

Dependent Variable	PSM
Province Orientale	-0.055
	(0.368)
Concern Worldwide	-0.341***
	(0.000)
Solidarités International	-0.150**
	(0.043)

Elderly Household Head	-0.354***
	(0.000)
Single Parent Household Head	-0.341***
	(0.000)
Widow(er) Household Head	-0.369***
	(0.000)
Child Household Head	-0.143
	(0.633)
Disabled Household Head	-0.450***
	(0.001)
Chronically Ill Household Head	-0.258**
	(0.027)
N	2389

* p<0.10, ** p<0.05, *** p<0.01
Standard errors in parentheses

The matching process did not eliminate any observations as outliers. This means that there were no comparison beneficiaries who were completely unlike treatment beneficiaries. This means that the sample before and after the matching process are identical. Table A4.2 shows that these groups do differ along observable dimensions. It is not possible to test whether they differ along unobservable characteristics.

Table A4.2: Balance test

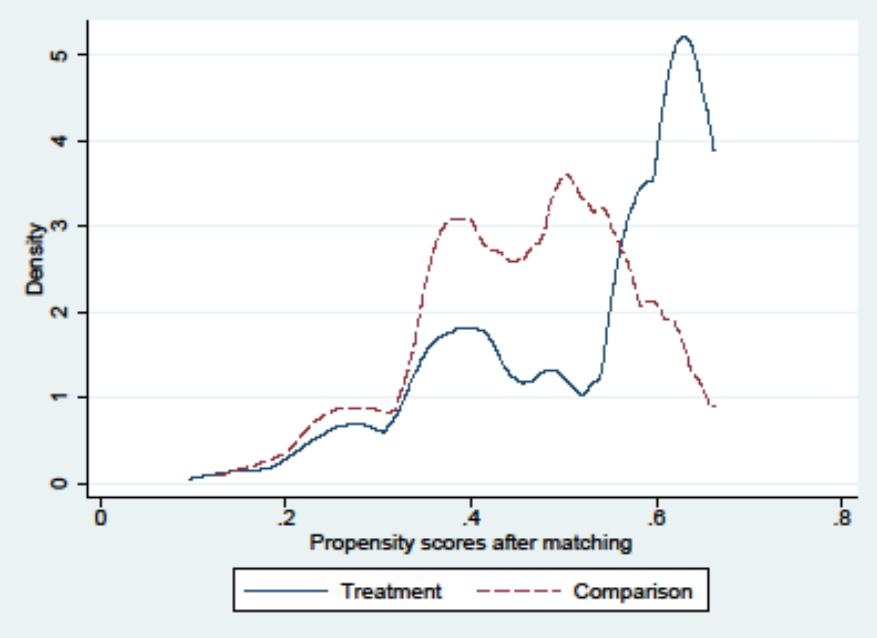
Variable	Treatment Mean (1)	Comparison Mean (2)	t-stat (3)
Resident:			
North Kivu (%)	0.72	0.64	**-4.38**
Orientale (%)	0.28	0.36	**4.38**
Implementing Partner:			
Mercy Corps (%)	0.30	0.46	**7.98**
Concern (%)	0.28	0.17	**-6.43**
Solidarités International (%)	0.42	0.37	**-2.37**
HH Head Characteristic:			
Elderly (%)	0.19	0.33	**7.99**
Single parent (%)	0.063	0.11	**4.04**
Widow/Widower (%)	0.12	0.23	**6.60**
Child (%)	0.007	0.009	0.44
Disabled (%)	0.026	0.057	**3.81**
Chronically ill (%)	0.039	0.073	0.073
N	1185	1204	

Bold font signifies significant difference at 5% p-value.

The treatment and comparison groups are statistically different along most categories. Nine of the eleven variables are statistically significantly different across treatment (Phase 1 endline) and comparison (Phase 2 baseline). Phase 1 beneficiaries were far more likely to reside in North Kivu province than Phase 2 beneficiaries. Mercy Corps provided transfers to more beneficiaries in Phase 2 than Phase 1. Concern Worldwide and Solidarités International both decreased over time. Phase 1 household heads were less likely to be elderly, a single parent, a widow(er), or disabled. Ideally, groups would be similar after the matching process. Residual differences indicate the matching process has not constructed truly equivalent subgroups.

There is a significant overlap in each phase's likelihood of receiving transfers. Figure A4.1 shows the distribution of propensity scores. From left to right, the graph measures the increasing likelihood the beneficiary has received their transfer in Phase 1. The higher the location of each group's line, the more common that propensity score value is. The PSM process of eliminating observations would have created distributions with more similar shapes.

Figure A4.1: Propensity score matching



This particular application of propensity score matching does not restrict the sample because all observations from Phase 2 baseline are within 0.05 of a Phase 1 endline propensity score. The primary way we use the propensity score is by weighting the comparison group beneficiaries by a function of their inverse probability weight. This method puts greater emphasis on observations that are more similar to the other group than observations that are outliers.

The weight is based on the quality of the match. Treatment beneficiaries whose propensity scores are similar to many observations of the comparison group received a large weight. A treatment beneficiary who have a propensity score that was similar to few comparison observations would receive a small weight. The linear regression accounts for each observation's weight and adjusts the impact estimate accordingly.

Using the weights derived from PSM should improve our ability to obtain unbiased estimates of the programme relative to standard linear regression techniques. Nevertheless, one practical limitation for this study, when implanting the PSM procedure, is that we have only a few time-invariant variables available (i.e., province, implementing partner, household head) that could be used to predict the probability of being in the treatment group. The existing data in the baseline and endline surveys primarily focus on outcomes. Missing values for some of the exogenous variables further limit their use in the matching process. Using few observable variables in the PSM process resulted in matches between the treatment and comparison groups that are of a lower quality had we been able to use a larger set of pre-determined variables for the match.

Appendix 5. Technical notes on the impacts of gender of registered beneficiaries

We conducted a series of analysis of the data collected to evaluate the differential impacts of the gender of registered beneficiaries. The first thing to note is that the sample size for this analysis is rather small, which reduces the ability to detect statistically significant differences in outcomes between the three groups considered. Our power calculations indicate that, with a sample size of only 160 households, an 80 per cent power, and 95 per cent confidence, we could only detect differences in the outcomes of the three groups as long as those differences are larger than 0.45 standard deviations, which is a large difference. Moreover, the minimum detectable effect size increases to 0.65 standard deviations for those outcomes for which we have just 96 observations from the endline survey.

Second, the unbalanced number of observations in each one of the three groups considered in the analysis may indicate that the selection of programme recipients may not have been completely random. Generally, a programme that is randomly assigned to three groups should have a similar number of observations in each one of the groups considered, unless there is an explicit reason in the original design for such an imbalance. The reported differences in the number of observations per group may be an indication that the selection of the gender of the recipients was determined by other characteristics different from the randomisation process, in which case the estimated impacts could be biased.

One way to check if the randomisation was successful is to compare the outcomes of interest at baseline for the three groups considered in this analysis to determine if statistical differences existed between the groups before the intervention took place. Generally, a randomisation process is considered successful if there are no statistically significant differences at baseline between the outcomes of the randomly assigned groups. In Table A5.1, we compare the baseline characteristics for the three groups in the analysis for some relevant outcomes. The results show that there are no statistical differences between the groups at baseline.

Table A5.1: Balance tests for RCT of gender of registered beneficiaries

	Male	Female		Any	
	Mean	Differential	ES	Differential	ES
Agricultural Income=1	0.38	0.01	0.03	-0.01	-0.03

	Male	Female		Any	
	Mean	Differential	ES	Differential	ES
		(0.13)		(0.12)	
Total Spending	17,736	-4,091	-0.24	-1,352	-0.08
		(1.08)		(0.29)	
Running out of food =1	0.67	0.02	0.04	-0.13	-0.28
		(0.21)		(1.13)	
Total Debt	18,300	1,196	0.04	1,867	0.07
		(0.25)		(0.32)	
Total Savings	107.1	5.2	0.00	792.9	0.36
		(0.04)		(0.88)	
% of 6-18yo girls enrolled in school	0.20	0.00	-0.01	-0.05	-0.14
		(0.03)		(0.60)	
% of 6-18yo boys enrolled in school	0.21	0.02	0.05	0.00	-0.01
		(0.27)		(0.03)	

Notes: Robust t-statistics in parentheses. ES (Effect Size) equals the differential estimate for each group divided by the standard deviation of the outcome. Bold indicates that estimated difference is significant at $p < .05$.

However, a close inspection to the estimated results reveals that there are some large discrepancies between the three groups in some outcomes. For example, female recipients spend CDF 4,091 less than male recipients, who on average spend CDF 17,736, and despite this large difference in spending between these two groups at baseline, which is equivalent to 0.24 standard deviations, this difference is not statistically significant. A similar situation occurs with outcomes such as the probability of running out of food or total savings where there are large differences between male recipient households and households that were allowed to choose the transfer beneficiary. These results suggest that the reason we may not find statistically significant differences at baseline between the three groups is not because the randomisation was implemented as intended, but a direct consequence of the low number of observations available for the analysis which only allows us to detect large differences between the groups' means.

A third limitation is that the large attrition rate between the PIM data collection and the endline data collection may have compromised the balance in observable and unobservable characteristics achieved in the randomisation procedure. This imbalance occurs if the households that dropped from the sample are on average different from those households that remained in it and, as a result, the estimated effects of recipient's gender on the outcomes of interest could be biased. For example, if the households that dropped from the sample are those who were experiencing lower programme impacts, then the estimated results using the remaining sample will be artificially higher.

We conduct an attrition analysis where we compare the average of some outcomes of interest at baseline between the three groups, but using only the observations that did not attrite from the sample. Under no selective attrition we should not find any statistical differences in the outcome means of the three groups. Nevertheless, the results from the attrition analysis presented in Table A5.2 show that there are large differences in the mean outcomes of some groups, with most differences in group means being between 0.2 to 0.5 standard deviations, and even two

statistically significant differences between the any recipient group and the male recipient group on the total spending and the proportion of boys enrolled in school outcomes. Thus, what this exercise demonstrates is that those households dropped from the sample were in many ways different to those who did not and, as a result, the estimated impacts of the programme may be based on a selected sample which may render biased results.

Table A5.2: Attrition analysis for RCT of gender of registered beneficiaries

	Male	Female		Any	
	Mean	Differential	ES	Differential	ES
Agricultural Income=1	0.26	-0.04	-0.09	-0.13	-0.31
		(0.31)		(0.99)	
Total Spending	22,765	-9,560	-0.47	**-14,072**	-0.70
		(1.44)		(2.08)	
Running out of food =1	0.65	-0.03	-0.05	-0.25	-0.51
		(0.21)		(1.54)	
Total Debt	20,261	-7,976	-0.39	-8,694	-0.42
		(1.28)		(1.13)	
Total Savings	0.0	125.0	0.22	0.0	0.00
		(0.99)		(1.08)	
% of 6-18yo girls enrolled in school	0.22	-0.11	-0.34	-0.08	-0.25
		(1.20)		(0.69)	
% of 6-18yo boys enrolled in school	0.29	-0.08	-0.21	**-0.26**	-0.67
		(0.72)		(2.57)	

Notes: Robust t-statistics in parentheses. ES (Effect Size) equals the differential estimate for each group divided by the standard deviation of the outcome. Bold indicates that estimated difference is significant at $p < .05$.

Appendix 6. Technical notes on the impacts of receiving one versus three instalments

We conducted a series of analysis of the data collected to evaluate the differential impacts of providing a single versus three instalments. First, we conduct power calculations for some key outcomes. The results show that the available sample size only allow us to detect relatively large differential effects between the two groups. Assuming 80 per cent power and with 95 per cent confidence, we are able to detect statistically significant differences in the outcomes of the two instalment groups as long as these differences are larger than 0.4 standard deviations, which again is considered a large difference.

We also checked whether the randomisation of the number of transfers was successfully implemented by comparing the outcome means at baseline between households that received one transfer and those that received three tranches. The results in Table A6.1 show that there are no statistically significant differences for most outcomes at the 95 per cent confidence level, except for total debt. Moreover, there is also a 0.25 standard deviation difference between the two groups for the percentage of the girl school enrolment outcome. The estimated differences for all the other outcomes are lower than 0.2 standard deviations.

Table A6.1: Balance tests for RCT of number of instalments

	One Transfer	Three Transfers	
	Mean	Differential	ES
Agricultural Income=1	0.73	-0.07	-0.15
		(0.89)	
Total Spending	40,777	-3,189	-0.07
		(0.41)	
Running out of food =1	0.70	0.07	0.15
		(0.84)	
Total Debt	10,373	**6,554**	0.27
		(2.33)	
Total Savings	45.5	520.5	0.17
		(1.82)	
% of 6-18yo girls enrolled in school	0.28	-0.10	-0.25
		(1.35)	
% of 6-18yo boys enrolled in school	0.31	-0.07	-0.16
		(0.90)	
N	42	89	

Notes: Robust t-statistics in parentheses. ES (Effect Size) equals the differential estimate for each group divided by the standard deviation of the outcome. Bold indicates that estimated difference is significant at $p < .05$.

Third, we conducted an attrition analysis for the RCT of the number of instalments to investigate if households which dropped from the sample were on average different from those who remained in the sample. The results in Table A6.2 show that the households which remained in

the sample are very similar to the full sample that participated in the experiment. This is not entirely surprising given that the attrition rate for this RCT was about 13 per cent.

Table A6.2: Attrition analysis for RCT of number of instalments

	One Transfer	Three Transfers	
	Mean	Differential	ES
Agricultural Income=1	0.70	-0.05	-0.11
		(0.62)	
Total Spending	39,324	771	0.02
		(0.09)	
Running out of food =1	0.70	0.07	0.17
		(0.88)	
Total Debt	9,889	**6,114**	0.25
		(1.99)	
Total Savings	54.1	282.0	0.17
		(1.63)	
% of 6-18yo girls enrolled in school	0.27	-0.08	-0.21
		(1.03)	
% of 6-18yo boys enrolled in school	0.28	-0.03	-0.07
		(0.35)	
N	42	89	

NOTE: Robust t-statistics in parentheses. ES (Effect Size) equals the differential estimate for each group divided by the standard deviation of the outcome. Bold indicates that estimated difference is significant at $p < .05$.

Overall, the RCT for the number of instalments seems to have been well implemented with fewer differences in group outcomes at baseline and a relatively low lower attrition rate. Nevertheless, we recommend interpreting the results presented in Section 8.1 with caution because there are still some important differences in the groups at baseline, the limited sample size of the experiment, and a larger than usual attrition rate.

Finally, given that the RCT conducted on the number of instalments did not include a pure control group that did not receive the transfer, the estimated results only allow us to establish the impact of the *differential* effect between the two groups analysed.

Appendix 7: Purchasing categories

Sector / Cluster	Category	Expenditure Group
Food Security (Livelihood)	**Livestock**	Guinea pigs, chickens, ducks, rabbits, goats, pigs, cows
	Agricultural Inputs	Seeds, agricultural tools, fishing items, pesticides, feed for livestock
	Non-Agricultural Productive Assets	Sewing machines or related tools, masonry or carpentry tools, milling equipment, bicycles, metal containers for local alcohol or palm oil production, solar panels, stoves, charcoal/fuel
	Land[47]	Land purchase, land rental (primarily for farming activity, but could also be for home construction)
Food Security (Food)	**Food**	Cereals, tubers, legumes, vegetables, fruits, meat, poultry, caterpillars, eggs, fish, seafood, dairy products, sugars, oils or fats, other foods (condiments, spices, etc)
NFI	**Clothing**	All Clothing, including traditional clothe ('pagne') to be made into clothing, shoes, and boots. This was further disaggregated into men's, women's, and children's clothing
	Household Items	Kitchenware, coal stoves, gas stoves, radios, blankets, bedsheets, sleeping mats, mattress/foam pads, padlocks, lamps, flashlights, lamp wicks, suitcases, other bag (plastic, cloth), bags (purse, backpack, briefcase), basket, iron, umbrella, cushion, mosquito net, mirror, block, USB Key/Memory card, broom, mop, cloth
WASH	**Household Items – WASH**	Cans/jerry-cans, water pipes, basins, buckets, large plastic bowls
	Hygiene Products	Soap, toothbrushes, beauty products (lotion, toothpaste, makeup, shaving, after-shave lotion, shampoo, talcum / baby oil, etc.), sanitary products (tampons, pads, toilet paper)
Shelter	**Housing**	Plastic tarpaulin, corrugated tin roofing sheets, building tools (hammers, saws, rope, shovels, shears, barbed wire, wheelbarrows, etc.), cement, lumber / board
	Furniture	Tables, chairs, couches, cupboards, shelves, bedframes, stools
	Services-housing	Rent payment; costs for repair/construction of houses
Education	**Services**	School fees, test/exam fees, and other educational expenses including school supplies, and school uniforms
Health		Health center consultations and other related fees (transport, hospitalization, lab tests, medication, etc.);
Debt Payment		Repayment of debts
Saving		Savings
Others	**Services**	Mobile telephone communication (phones, chargers, sim cards, phone credits); transportation costs (fuel, bus, motorcycle taxi, etc.); ceremonies (weddings, funerals, etc.); gift/transfer to other households; payment to military, political, administrative or religious authorities; loans of money to

[47] This includes land primarily used for agricultural activities, but it could have also included housing construction. This distinction was not made.

		other people; recreation (books, music, videos, sports), haircuts, beauty salon, etc.)
	Personal Items	Jewelry (watches, rings, bracelets, necklaces, etc.), belts, hairbrushes, combs, handkerchiefs, scarves, caps
	Utility Items	Batteries, candles, mosquito repellents, shoe polish/wax
	Antisocial Items	Alcohol, cigarettes, gambling
	Other	Other

Appendix 8: Construction of the resilience index

Resilience is a constructed measure of households' ability to provide for their basic needs and especially to do so in the face of negative shocks. The FAO states that "Resilience analysis aims to identify the different responses adopted by a household and capture the `dynamic' components of the adopted strategies." Whereas vulnerability tracks a household's susceptibility to negative shocks, resilience measures the capacity to respond to these shocks.

Resilience is not a standardized measure of wellbeing but instead a context-specific index. There is not a single set of variables that uniformly encapsulates resilience. However, there are key dimensions that factor prominently into resilience. We use the dimensions outlined in the FAO Resilience Index Measurement and Analysis (RIMA) as a starting point for defining the resilience index for our analysis of the ARCC II programme.[48] The RIMA model advocates considering the following dimensions: income and food access; access to basic services; assets; social safety nets; climate change; enabling institutional environment; adaptive capacity; and sensitivity. We adapt the index to fit the context of eastern DRC and to accommodate the data collected by baseline and endline surveys.

We use regression techniques to generate a resilience value for each household. The resilience index is created by completing the following steps:

1. Select a proxy for resilience. This proxy must be a household characteristic that is measureable and will correspond as closely as possible to the concept of resilience appropriate to the context.
2. Select the dimensions of resilience. These dimensions must also be measureable and should directly affect a household's resilience.
3. Use multiple regression techniques to estimate the equation:
4. $Proxy = \alpha_0 + \alpha_1 \cdot Dimension\_1 + \cdots + \alpha_N \cdot Dimension\_N$
5. The regression estimation will yield a unique multiplier for each of the N dimensions.
6. For each household, multiply the dimension by that dimension's multiplier. This creates the household's score for that dimension.

[48] Food and Agriculture Organization of the United Nations. (2014). *Resilience Index Measurement and Analysis Model*. Retrieved from http://www.fao.org/3/a-i4102e.pdf

7. Add up all of the dimension scores for each household. The total score is the household's value for the resilience index.

For the primary resilience index presented in this paper, we use household income as the proxy for resilience. The choice of a proxy for resilience is quite important as it determines the relationship between the resilience dimensions and the ultimate resilience index. Income is a good choice for resilience. When a household has a high income, they will have the capacity to use that money to meet their basic needs without undertaking negative coping strategies. There are many other household characteristics that can proxy resilience and we consider alternatives.

To construct our measure of resilience we use income and food access, access to basic services, agricultural assets, non-agricultural assets, social safety nets, adaptive capacity, exposure to shocks, and education. These dimensions are measured as follows:

1. *Access to basic services*: Indicator variable for household having taken some or all of their children to a health clinic in the last 2 months.
2. *Agricultural assets*: Indicator variable for household having access to cultivatable land
3. *Non-agricultural assets*: Indicator variable for household using livestock as a store of wealth
4. *Social safety nets*: Indicator variable for any household member being in any community group
5. *Adaptive capacity*: Number of household income sources (up to three)
6. *Exposure to shocks*: Sum of severity of negative shocks affecting the household
7. *Education*: Indicator variable for the respondent at least beginning secondary school

Using income as the proxy for resilience and the seven dimensions of resilience, we calculate a household's resilience with the following formula:

$$\begin{aligned} Resilience \; = \; & 613.0 \cdot (Access\ to\ basic\ services) + \; 1117.5 \cdot (Agricultural\ Assets) \\ & + \; 406.3 \cdot (Non - Agricultural\ Assets) + \; 341.4 \cdot (Social\ Safety\ Network) \\ & - \; 205.9 \cdot Shocks \; + \; 1058.0 \cdot (Adaptive\ Capacity) + \; 477.8 \cdot (Education) \end{aligned}$$

We consider four standardized indices as alternative proxies for resilience to test the robustness of our estimation technique. We repeat the process using the Non-Food Item score, Household Hunger Index, Food Consumption Score, and the Coping Strategy Index in place of income as the proxy of resilience. Each of these measures a related but different aspect of resiliency. Each of these alternatives yields similar results for the resilience index. The correlation coefficients are each between 0.65 and 0.76. A value of 0.70 or above is considered a strong linear relationship. This suggests that the selection of income is a reasonable way to estimate a household's resilience.

Resilience proxy	Correlation
Non-Food Item Score	0.7568
Household Hunger Index	0.6605
Food Consumption Score	0.7560

Coping Strategy Index	0.6534

We consider alternative dimensions of resilience that closely reflect the context of eastern DRC. UNICEF held discussions with funders and implementing partners to review the ARCC II programme following the completion of Phase 2 programming.[49] Among other topics, the groups discussed what it meant for a household to be resilient. The conclusions identified the majority of the dimensions used in the above resilience index as important. This signals that the RIMA model was applied appropriately in the context of ARCC II communities. However, there were several dimensions of resilience that can be added based on the results of these discussions.

We construct a new resilience index from a combination of the existing dimensions and new dimensions. The dimensions of resilience carried over from the previous index include Social Safety Network, Non-Agricultural Assets, Agricultural Assets, and Adaptive Capacity. Participants identified the variables used to measure these dimensions as primary resilience dimensions. In addition, we have added the following dimensions:

1. Debt: an indicator variable signifying the household holds any amount of debt
2. Savings: an indicator variable signifying the household has any amount of savings
3. NFI Score: standard 0-5 scale
4. Food Consumption Score: standard 0-112 scale
5. School Access: an indicator variable signifying the household has children enrolled in school

Using the four previous dimensions of resilience and the five newly identified dimensions of resilience, we re-estimate the resilience index, again with income as the resilience proxy. Using this specification, we generate the following multipliers:

$$\begin{aligned} NewResilience \\ &= 660.5 \cdot (Agricultural\ Assets) - 1195.7 \cdot (Non - Agricultural\ Assets) \\ &+ 2123.6 \cdot (Social\ Safety\ Network) + 431.3 \cdot (Adaptive\ Capacity) \\ &- 884.8 \cdot (Debt) + 100.5 \cdot (Saving) - 369.4 \cdot (NFI\ Score) + 27.1 \cdot (FCS) \\ &- 755.4 \cdot (Access\ to\ Education) \end{aligned}$$

It should be noted that none of these results are statistically significant, which could explain some of the paradoxical results. For example, children's access to school is negatively related to resilience. Despite these oddities, the use of either the initial or this revised resilience index yield similar results. The correlation between the two indices is high, at 0.6219. Thus, the FAO index and the ARCC II discussion group's index are generally compatible.

[49] Discussions involved UNICEF, DFID, Concern Worldwide, Mercy Corps and Solidarités International.

Appendix 9. Additional quantitative tables

Table A9.1: Phase 1 descriptive statistics

	Phase 1 Baseline Mean	Endline Mean	T.Stat.
Number of people in the household	5.25	5.05	-1.65
	(2.47)	(2.63)	
Income from the first main economic activity	10,657.10	17,649.20	10.54***
	(12,524.46)	(17,902.61)	
Income from household's second main income source	6,256.93	8,781.14	4.51***
	(8,957.09)	(10,286.91)	
Income from household's third main income source	4,319.58	6,248.64	1.72***
	(7,649.86)	(12,803.40)	
Income from top 3 income sources	14,041.93	23,180.27	10.67***
	(17,118.22)	(22,977.26)	
Number of different income sources	1.62	1.73	3.51
	(0.77)	(0.73)	
Total household expenditures	28,550.41	53,122.50	8.16***
	(77,806.09)	(60,455.33)	
Do you pay rent for your home? (Yes)	0.07	0.05	-1.96
	(0.25)	(0.21)	
Do you pay rent for your land? (Yes)	0.08	0.15	5.11
	(0.27)	(0.35)	
Do you own land? (Yes)	0.05	0.02	-3.24**
	(0.22)	(0.14)	
Land Access	0.50	0.68	8.78*
	(0.50)	(0.46)	
Do you have debts? (Yes)	0.66	0.54	-5.81***
	(0.47)	(0.50)	
What is the current amount of debt incurred?	19,139.71	21,189.59	0.92
	(32,327.45)	(49,305.20)	
Do you hold village savings and loan association debt? (Yes)	0.00	0.01	1.07
	(0.05)	(0.08)	
Do you have savings? (Yes)	0.05	0.16	8.59***
	(0.22)	(0.37)	

	Phase 1 Baseline Mean	Endline Mean	T.Stat.
What is the current total amount of your savings?	8,289.41	15,337.36	2.74***
	(11,045.26)	(19,216.23)	
Do you have other stores of wealth [assets]?(Yes)	1.00	0.39	-42.68***
	(0.00)	(0.49)	
Is the house made out of sturdier materials? (Yes)	0.24	0.23	-0.58
	(0.43)	(0.42)	
In the last 30 days, has it happened that there is not enough food to eat?	0.79	0.42	-19.00***
	(0.41)	(0.49)	
Over the past 4 weeks, how many times did you or any member of your household have no food to eat?	1.76	1.27	-14.77***
	(0.60)	(0.46)	
Over the past 4 weeks, did you or any member of your household slept hungry at night?	0.78	0.36	-21.47***
	(0.42)	(0.48)	
In the last 30 days, how many times did you not have enough food to eat at night?	1.70	1.25	-13.07***
	(0.59)	(0.45)	
Over the last 4 weeks, did you or any member of your household had to spend the day hungry?	0.61	0.23	-19.10***
	(0.49)	(0.42)	
Over the last 4 weeks, how many times did a member of your household spend the day hungry?	1.60	1.25	-7.98***
	(0.62)	(0.46)	
Did you eat meat or dairy in the last week? (Yes)	0.02	0.10	7.09***
	(0.13)	(0.30)	
Skipped children's treatment due to lack of money	0.25	0.08	-10.71***
	(0.43)	(0.27)	
Skipped children’s treatment because treatment was not needed	0.04	0.04	-0.42
	(0.20)	(0.20)	
Number of positive vibes	0.50	0.60	3.90
	(0.59)	(0.65)	
Household dealing with shocks by asset selling	0.12	0.13	0.33***
	(0.33)	(0.34)	
Household dealing with shocks by cutting back consumption	0.37	0.25	-6.17***
	(0.48)	(0.43)	
	0.04	0.01	-4.53***

	Phase 1 Baseline Mean	Endline Mean	T.Stat.
Household has experienced a shock affecting children	(0.19)	(0.09)	
Female makes decisions	0.32	0.25	-3.19**
	(0.47)	(0.44)	
Couple make decisions	0.20	0.27	3.89***
	(0.40)	(0.45)	
Belong to at least one social group	0.46	0.47	0.75
	(0.50)	(0.50)	

Standard deviations are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.2: Phase 2 descriptive statistics

	Phase 2 Baseline Mean	Endline Mean	T.Stat.
Number of people in the household	5.07	5.24	1.45
	(2.53)	(2.75)	
Income from the first main economic activity	11,497.71	18,450.87	5.80***
	(20,768.50)	(31,930.28)	
Income from household's second main income source	6,750.18	11,543.76	4.59***
	(10,003.66)	(23,322.43)	
Income from household's third main income source	3,865.66	9,143.18	4.45***
	(4,395.10)	(14,460.20)	
Income from top 3 income sources	15,390.54	25,542.96	7.06***
	(23,112.08)	(40,593.83)	
Number of different income sources	1.67	1.68	0.37
	(0.74)	(0.76)	
Total household expenditures	26,979.62	48,035.25	4.83***
	(29,846.43)	(144,454.13)	
Do you pay rent for your home? (Yes)	0.07	0.07	-0.09
	(0.26)	(0.26)	
Do you pay rent for your land? (Yes)	0.15	0.16	1.01
	(0.35)	(0.37)	
Do you own land? (Yes)	0.07	0.04	-2.11**
	(0.26)	(0.21)	

	Phase 2 Baseline Mean	Endline Mean	T.Stat.
Land Access	0.73	0.77	1.66*
	(0.44)	(0.42)	
Do you have debts? (Yes)	0.65	0.52	-5.98***
	(0.48)	(0.50)	
What is the current amount of debt incurred?	18,864.44	19,690.72	0.21
	(30,720.63)	(93,535.71)	
Do you hold village savings and loan association debt? (Yes)	0.00	0.00	-0.22
	(0.07)	(0.06)	
Do you have savings? (Yes)	0.06	0.17	7.41***
	(0.24)	(0.37)	
What is the current total amount of your savings?	4,797.70	17,583.53	3.91***
	(6,378.59)	(27,721.00)	
Do you have other stores of wealth [assets]? (Yes)	0.92	1.00	8.33***
	(0.27)	(0.00)	
Is the house made out of sturdier materials? (Yes)	0.26	0.28	0.90
	(0.44)	(0.45)	
In the last 30 days, has it happened that there is not enough food to eat?	0.77	0.40	-17.76***
	(0.42)	(0.49)	
Over the past 4 weeks, how many times did you or any member of your household have no food to eat?	1.61	1.25	-9.99***
	(0.59)	(0.49)	
Over the past 4 weeks, did you or any member of your household slept hungry at night?	0.75	0.35	-7.34***
	(1.51)	(0.48)	
In the last 30 days, how many times did you not have enough food to eat at night?	1.57	1.32	-6.34***
	(0.58)	(0.52)	
Over the last 4 weeks, did you or any member of your household have to spend the day hungry?	0.47	0.25	-10.38***
	(0.50)	(0.43)	
Over the last 4 weeks, how many times did a member of your household spend the day hungry?	1.47	1.24	-4.96***
	(0.59)	(0.45)	
Did you eat meat or dairy in the last week? (Yes)	0.01	0.15	10.95***
	(0.10)	(0.36)	
	0.33	0.07	-14.71***

	Phase 2 Baseline Mean	Endline Mean	T.Stat.
Skipped children's treatment due to lack of money	(0.47)	(0.25)	
Skipped children's treatment because treatment was not needed	0.03	0.02	-1.51
	(0.18)	(0.15)	
Number of positive vibes	0.59	0.61	0.66
	(0.67)	(0.61)	
Household dealing with shocks by asset selling	0.10	0.15	3.82***
	(0.29)	(0.36)	
Household dealing with shocks by cutting back consumption	0.12	0.05	-5.01***
	(0.32)	(0.22)	
Household has experienced a shock affecting children	0.16	0.12	-2.68***
	(0.37)	(0.32)	
Female make decisions	0.29	0.25	-2.10**
	(0.45)	(0.43)	
Couple make decisions	0.31	0.36	2.70***
	(0.46)	(0.48)	
Belong to at least one social group	0.43	0.47	1.57
	(0.50)	(0.50)	

Standard deviations are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.3: Summary statistics of variables used in propensity score matching (after matching)

	Phase 1 Mean	Phase 2 Mean	T.Stat.
Land access	0.62	0.70	3.08***
	(0.48)	(0.46)	
Number of people in the household	5.06	4.95	-0.87
	(2.60)	(2.54)	
Household status: Returned	0.30	0.48	7.62***
	(0.46)	(0.50)	
Household status: Moved/expelled	0.38	0.20	-8.20***
	(0.49)	(0.40)	
Household status: Refugee	0.31	0.29	-1.06
	(0.46)	(0.45)	

	Phase 1 Mean	Phase 2 Mean	T.Stat.
Household status: Resident	0.00	0.02	3.52***
	(0.05)	(0.15)	
What kind of household do you live in? [Host family]	0.60	0.58	-0.99
	(0.49)	(0.49)	
What kind of household do you live in? [Rented house]	0.03	0.06	3.01***
	(0.17)	(0.24)	
What kind of household do you live in? [House provided free]	0.04	0.11	4.77***
	(0.20)	(0.31)	
What kind of household do you live in? [Camp]	0.30	0.24	-2.40**
	(0.46)	(0.43)	
What kind of household do you live in? [Collective site]	0.00	0.00	0.04
	(0.06)	(0.06)	
What kind of household do you live in? [Hut/tent offsite]	0.01	0.00	-1.14
	(0.07)	(0.05)	
What kind of household do you live in? [Public Building]	0.02	0.00	-3.56***
	(0.13)	(0.03)	
Head of household: Old person	0.34	0.34	0.13
	(0.47)	(0.48)	
Head of household: Old person	0.38	0.33	-2.09**
	(0.49)	(0.47)	
Head of household: Single parent	0.11	0.13	1.08
	(0.31)	(0.33)	
Head of household: Widow/widower	0.24	0.23	-0.40
	(0.43)	(0.42)	
Head of household: Child	0.01	0.01	-0.29
	(0.10)	(0.10)	
Head of household: Handicapped	0.04	0.06	1.55
	(0.20)	(0.24)	
Head of household: Chronically ill	0.07	0.08	1.12
	(0.25)	(0.27)	

Standard deviations are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.4: Descriptive statistics of outcomes after propensity score matching

	Phase 1 Mean	Phase 2 Mean	T.Stat.
Income from the first main economic activity	19,101.45	11,886.25	-6.82***
	(19,103.83)	(22,463.21)	
Income from top 3 income sources	24,518.33	15,983.96	-7.02***
	(24,830.85)	(24,750.69)	
Number of different income sources	1.60	1.63	0.90
	(0.69)	(0.75)	
Total household expenditures	49,113.26	26,747.54	-9.73***
	(61,703.71)	(30,714.27)	
Do you own land? (Yes)	0.01	0.08	5.35***
	(0.09)	(0.27)	
Do you have debts? (Yes)	0.46	0.64	7.36***
	(0.50)	(0.48)	
What is the current amount of debt incurred?	19,296.48	20,368.97	0.41
	(49,073.16)	(31,626.62)	
Do you hold village savings and loan association debt? (Yes)	0.01	0.01	-0.17
	(0.08)	(0.07)	
Do you have savings? (Yes)	0.14	0.07	-4.87***
	(0.34)	(0.25)	
What is the current total amount of your savings?	16,619.03	5,074.68	-4.30***
	(20,406.49)	(6,798.16)	
Is the house made out of sturdier materials? (Yes)	0.26	0.30	1.76*
	(0.44)	(0.46)	
In the last 30 days, has it happened that there is not enough food to eat?	0.43	0.79	16.12***
	(0.50)	(0.41)	
Over the past 4 weeks, how many times did you or any member of your household have no food to eat?	1.31	1.65	9.24***
	(0.47)	(0.59)	
Over the past 4 weeks, did you or any member of your household slept hungry at night?	0.43	0.74	13.97***
	(0.49)	(0.44)	
In the last 30 days, how many times did you not have enough food to eat at night?	1.27	1.57	8.16***
	(0.47)	(0.57)	
Over the last 4 weeks, did you or any member of your household have to spend the day hungry?	0.29	0.53	10.09***
	(0.45)	(0.50)	
	1.27	1.47	4.46***

	Phase 1 Mean	Phase 2 Mean	T.Stat.
Over the last 4 weeks, how many times did a member of your household spend the day hungry?	(0.48)	(0.59)	
Did you eat meat or dairy in the last week? (Yes)	0.07	0.00	-6.61***
	(0.25)	(0.06)	
Female makes decisions	0.26	0.29	1.39
	(0.44)	(0.46)	
Couple make decisions	0.28	0.33	2.42**
	(0.45)	(0.47)	
Belong to at least one social group	0.43	0.41	-1.01
	(0.50)	(0.49)	
Vibes	0.01	0.01	1.19
	(0.08)	(0.11)	
Number of positive vibes	0.64	0.58	-1.77*
	(0.70)	(0.70)	
Household has experienced a shock affecting children	0.01	0.17	11.37***
	(0.10)	(0.38)	
Household dealing with shocks by asset selling	0.17	0.10	-4.03***
	(0.38)	(0.30)	
Do you have other stores of wealth [assets]?(Yes)	0.23	0.97	49.99***
	(0.42)	(0.17)	
Skipped children's treatment due to lack of money	0.10	0.38	13.90***
	(0.30)	(0.49)	
Skipped children’s treatment because treatment was not needed	0.03	0.01	-1.97**
	(0.17)	(0.12)	
Household dealing with shocks by cutting back consumption	0.27	0.14	-6.58***
	(0.44)	(0.35)	

Standard deviations are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.5: Impact estimates of gender of registered beneficiary

Dependent Variable	Female	Choice
Income from the first main economic activity	363.10	591.30
	(1,557.03)	(2,489.61)
Income from top 3 income sources	474.46	713.62
	(1,598.50)	(2,269.79)
Number of different income sources	-0.07	0.10

Dependent Variable	Female	Choice
	(0.17)	(0.25)
Total household expenditures	795.82	-2,425.10
	(4,019.07)	(3,943.36)
Do you own land? (Yes)	0.17**	
	(0.08)	
Do you have debts? (Yes)	0.16	0.21
	(0.13)	(0.17)
What is the current amount of debt incurred?	-15,066.67	-16,577.78
	(11,045.10)	(12,687.23)
Do you hold village savings and loan association debt? (Yes)		
Do you have savings? (Yes)	0.11	0.02
	(0.07)	(0.08)
What is the current total amount of your savings?		
Is the house made out of sturdier materials? (Yes)	-0.04	-0.26*
	(0.13)	(0.14)
In the last 30 days, has it happened that there is not enough food to eat?	0.13	0.05
	(0.13)	(0.16)
Over the past 4 weeks, how many times did you or any member of your household have no food to eat?	-0.01	-0.21
	(0.21)	(0.24)
Over the past 4 weeks, did you or any member of your household slept hungry at night?	0.05	-0.04
	(0.12)	(0.15)
In the last 30 days, how many times did you not have enough food to eat at night?	-0.43**	-0.86***
	(0.20)	(0.14)
Over the last 4 weeks, did you or any member of your household have to spend the day hungry?	0.11	0.05
	(0.12)	(0.15)
Over the last 4 weeks, how many times did a member of your household spend the day hungry?	-0.42	-0.30
	(0.24)	(0.33)
Did you eat meat or dairy in the last week? (Yes)	0.04	0.08
	(0.31)	(0.39)
Female makes decisions	-0.02	-0.22**
	(0.11)	(0.09)
Couple make decisions	-0.18	0.01
	(0.13)	(0.16)

Dependent Variable	Female	Choice
Belong to at least one social group	0.02	-0.12
	(0.11)	(0.15)
Number of positive vibes	0.05	-0.12
	(0.14)	(0.19)
Household has experienced a shock affecting children	-0.04	0.04
	(0.05)	(0.08)
Household dealing with shocks by asset selling	-0.01	-0.02
	(0.03)	(0.02)
Do you have other stores of wealth [assets]?(Yes)	0.01	0.03
	(0.08)	(0.10)
Skipped children's treatment due to lack of money	0.03	-0.04
	(0.06)	(0.04)
Skipped children's treatment because treatment was not needed	-0.04	0.02
	(0.04)	(0.08)
Household dealing with shocks by cutting back consumption	0.02	0.03
	(0.05)	(0.07)

Male is the omitted category. Standard errors are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.6: Differential effects of expenditure patterns by gender of recipient

	Male Recipient	Female Recipient	Choice Recipient	M/F t-test	M/C t-test	F/C t-test
Livestock	10,769	17,255	18,493	-1.73	-1.41	-0.24
	(19,481)	(21,244)	(25,069)			
Agriculture	380.9	510.1	1,140	-0.34	-0.95	-0.79
	(1,738)	(2,519)	(4,113)			
Non-Agricultural	0	**2,967**	1,579	**-1.99**	-1.22	0.7
	0	(14,039)	(6,976)			
Land	12,000	3,900	10,200	1.76	0.27	-1.18
	(27,591)	(16,565)	(27,536)			
Housing	15,543	9,773	15,600	1.09	-0.01	-0.97
	(29,949)	(23,606)	(29,773)			
Furniture	0	202.2	0	-1.00	.	1.00
	0	(1,908)	0			
Household	7,326	10,533	8,490	-1.2	-0.35	0.64

	(13,210)	(16,373)	(14,572)			
Clothing	7,791	9,400	11,285	-0.71	-1.05	-0.57
	(10,437)	(15,016)	(15,346)			
Personal items	0	20.2	0	-1.00	.	1.00
	0	(190.8)	0			
Food	4,026	3,615	3,200	0.35	0.68	0.41
	(6,243)	(6,496)	(4,133)			
Common articles	0	0	0	.	.	.
	0	0	0			
Hygiene	132.1	30.3	0	0.91	1.22	1.00
	(699.8)	(286.2)	0			
Antisocial articles	0	0	600	.	-1.00	-1.00
	0	0	(3,286)			
Services	36,264	**36,655**	**20,136**	-0.07	**2.48**	**3.17**
	(31,838)	(28,565)	(23,243)			
Other	52.4	404.5	750	-1.4	-1.3	-0.59
	(339.5)	(2,314)	(2,914)			

Table A9.7: Impact estimates of number of instalments on total expenditures

Dependent Variable	Three Transfers Dummy Coefficient
Breeding	607.42
	(7,339.15)
Agricultural inputs	3,317.98
	(4,801.66)
Productive assets non-farm	73.33
	(57.80)
Land	3,972.35
	(3,687.60)
Housing	8,877.02
	(8,464.82)
Furniture	72.00
	(56.75)
Household	7,963.13
	(5,221.11)
Clothing	4,795.06*

Dependent Variable	Three Transfers Dummy Coefficient
	(2,615.33)
Personal items	46.67
	(37.19)
Food	-13,019.34
	(13,351.08)
Common articles	0.67
	(0.53)
Hygiene	205.33
	(152.32)
Anti-social articles	
Services	2,007.67
	(7,969.76)
Other	-7,181.40
	(9,982.90)

Single Transfer is the omitted category. Standard errors are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.8: Impact estimates of number of instalments on probability of any spending

Dependent Variable	Three Transfers Dummy Coefficient
Breeding	0.12**
	(0.05)
Agricultural inputs	0.12***
	(0.03)
Productive assets non-farm	0.01
	(0.01)
Land	0.07
	(0.06)
Housing	-0.05
	(0.04)
Furniture	0.01
	(0.01)
Household	0.09*

Dependent Variable	Three Transfers Dummy Coefficient
	(0.05)
Clothing	0.22**
	(0.08)
Personal items	0.01
	(0.01)
Food	0.27***
	(0.07)
Common articles	0.01
	(0.01)
Hygiene	0.06***
	(0.02)
Anti-social articles	0.00***
Services	0.24***
	(0.04)
Other	-0.02
	(0.07)
School fees	0.16**
	(0.06)
Debt	0.02
	(0.05)
Savings	0.00
	(0.03)

Single Transfer is the omitted category. Standard errors are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.9: Impact estimates of number of instalments on household welfare outcomes

Dependent Variable	Three Transfers
Income from the first main economic activity	535.97
	(2,125.61)
Income from top 3 income sources	-1,745.01
	(3,063.09)
Number of different income sources	-0.04
	(0.13)
Total household expenditures	4,398.43

Dependent Variable	Three Transfers
	(11,043.12)
Do you own land? (Yes)	0.06
	(0.05)
Do you have debts? (Yes)	0.07
	(0.09)
What is the current amount of debt incurred?	3,243.06
	(7,994.64)
Do you hold village savings and loan association debt? (Yes)	0.02*
	(0.01)
Do you have savings? (Yes)	0.14**
	(0.06)
What is the current total amount of your savings?	10,150.00
	(11,068.79)
Is the house made out of sturdier materials? (Yes)	0.09
	(0.09)
In the last 30 days, has it happened that there is not enough food to eat?	-0.05
	(0.09)
Over the past 4 weeks, how many times did you or any member of your household have no food to eat?	0.40**
	(0.19)
Over the past 4 weeks, did you or any member of your household slept hungry at night?	0.06
	(0.08)
In the last 30 days, how many times did you not have enough food to eat at night?	0.19
	(0.21)
Over the last 4 weeks, did you or any member of your household have to spend the day hungry?	0.10
	(0.07)
Over the last 4 weeks, how many times did a member of your household spend the day hungry?	-0.25
	(0.36)
Did you eat meat or dairy in the last week? (Yes)	0.00
	(0.04)
Female makes decisions	-0.20**
	(0.09)
Couple make decisions	0.20**
	(0.09)
Belong to at least one social group	-0.21**
	(0.09)

Dependent Variable	Three Transfers
Household has experienced a shock affecting children	-0.09
	(0.06)
Household dealing with shocks by asset selling	0.24***
	(0.03)
Do you have other stores of wealth [assets]? (Yes)	0.18**
	(0.08)
Skipped children's treatment due to lack of money	-0.06
	(0.05)
Skipped children's treatment because treatment was not needed	-0.01
	(0.03)
Household dealing with shocks by cutting back consumption	-0.01
	(0.03)

Single Transfer is the omitted category. Standard errors are reported in the parenthesis. * Significant at .1 level, ** Significant at .05, *** Significant at .01 level

Table A9.10: PIM descriptive statistics

Variable	Obs	Mean	Std. Dev.
Number of tranches that better meets the needs of your household:			
-One tranche	164	0.79	0.41
-Three tranches	164	0.12	0.33
-Other tranche option	164	0.06	0.24
If you could choose, what type of assistance would you prefer?			
-Cash	971	0.81	0.39
-Mobile money	971	0.05	0.22
-Coupon	971	0.07	0.25
-Other Assistance Option	873	0.05	0.22
Who in your household decided to use the money/coupons?			
-I decide	975	0.42	0.49
-Spouse decides	975	0.09	0.28
-We both decide	975	0.37	0.48
- Other person decides	975	0.12	0.33
Who in your household spent the money? Used the coupons?			
-I decide	975	0.42	0.49

Variable	Obs	Mean	Std. Dev.
-Spouse decides	975	0.11	0.31
-We both decide	975	0.29	0.46
- Other person decides	975	0.18	0.38
Has the programme changed your relationship with your community?	969	0.22	0.50
Has control of money or decisions on its use changed relationships within your household?	970	0.52	0.61
Do your share your money/coupons or purchases with other non-beneficiaries?	969	0.23	0.42
If you shared, how much?	165	8843.92	9201.87
If you shared, why?			
-Persons in need	442	0.06	0.24
-Other family members	456	0.21	0.41
-To avoid conflict	448	0.03	0.18
- Equity with non-beneficiaries	442	0.03	0.17
-Shared for other reasons	447	0.02	0.14
For how long do you walk to make purchases?	925	60.55	51.63
If you use monetary transfers to pay school fees for your daughters, specify how many girls?	395	1.09	0.97
If you use monetary transfers to pay school fees for your sons, specify how many boys?	414	1.19	1.05
Right now, how much money do you have in savings?	437	10641.30	14740.02
Do you encounter problems when shopping?	955	0.03	0.16
Are you satisfied with the assistance received?	805	0.89	0.30
In case you undergo an injustice, what institution would you trust to repair this damage?			
-No institution	975	0.24	0.43
-Mwami	975	0.08	0.27
-Head of locality/town/group	975	0.43	0.50
-Church	975	0.11	0.32
-PNC	975	0.01	0.08
-FARDC	975	0.00	0.03
-Armed Group	975	0.00	0.00
Are there any other NGOs in your community?	952	0.28	0.45
How would you rate the level of well-being before being selected to receive this assistance?	973	-0.89	0.75
How would you rate the level of well-being at this time?	973	0.45	0.67

Variable	Obs	Mean	Std. Dev.
How do you see the future of your household in 5 years?	807	0.40	0.77

Appendix 10. Participant consent documents

Participant consent form

UNICEF, American Institutes for Research (AIR), and our field researchers Gordien Nahimana and Rose Bashwira are conducting a study with community members throughout [name of district]. The purpose of this this discussion is to obtain more in-depth information about your experience with household decision-making, well-being, and experiences with the ARCC programme.

Your name will be kept private and separate from the evaluation. Only AIR and researchers working with AIR will have access to your name and the details of your results, and this will only be used for follow-up and directly related research purposes. All information that is collected in this study will be treated confidentially. Although aggregated results will be made available, no individuals will be identified in any report of the results of the study. Minimal risk is involved in the assessment, though some of the questions are of a sensitive nature. You also do not have to answer any questions you do not want to answer. Not answering the questionnaire will not hinder your access to any service you are currently receiving or may receive from the ARCC Programme or UNICEF. Everything you say will be kept confidential. You may indicate at any time if you do not want to be quoted.

Participation in this discussion is voluntary, and any individual may withdraw at any time.

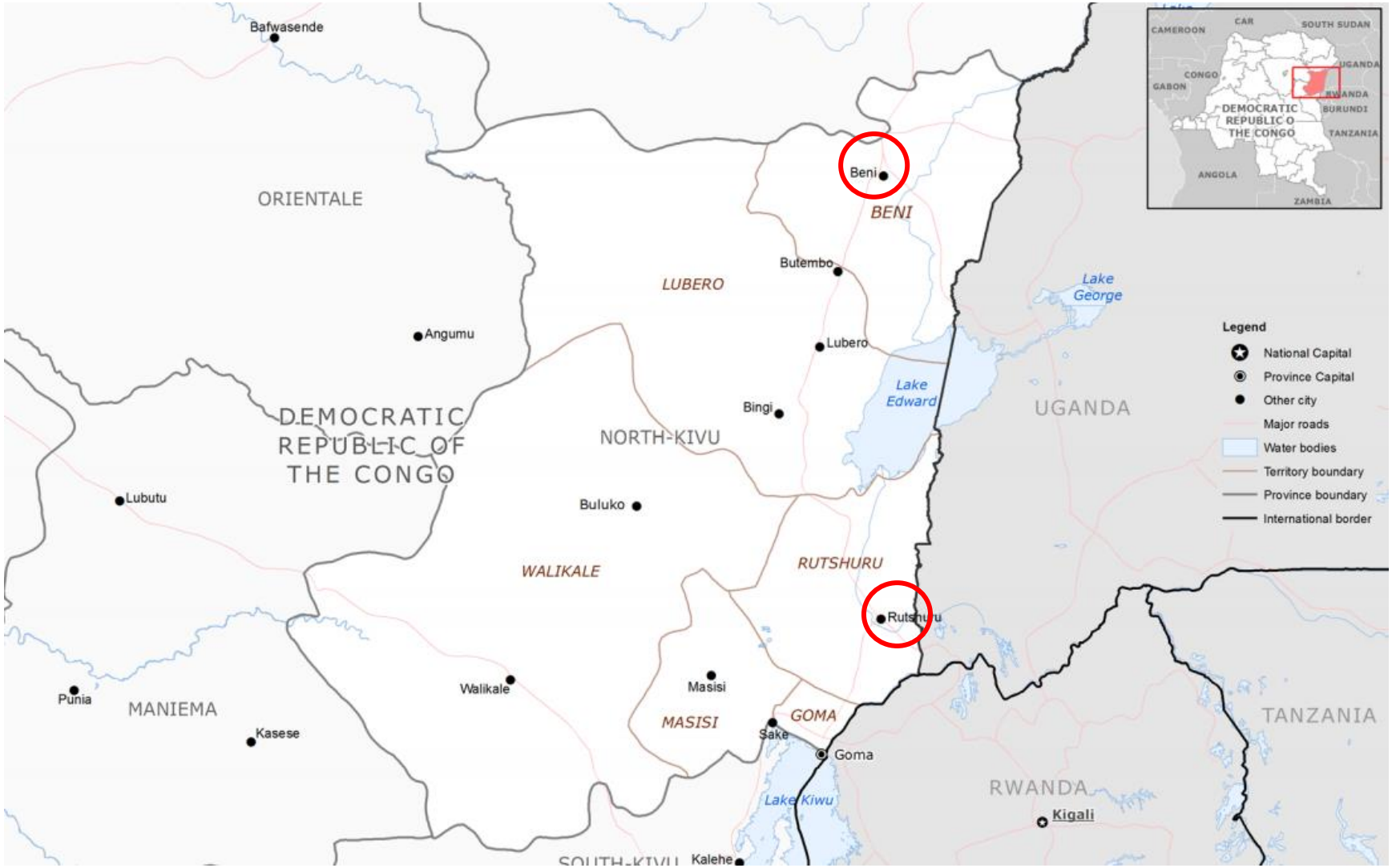
Today's session will take about 1 hour. For reference and to clarify notes, we would like to record the session. You may request that we stop recording at any point during the interview. The recording will be saved on a secure computer network, and no one outside of our research team will have access to the recording. If you would like us to turn off the recorder at any point, you may say so.

If you have questions about the interview, please contact either:

Hannah Ring, American Institutes for Research (Tel. +1 202-403-6715)
1000 Thomas Jefferson St. NW
Washington, DC 20007
USA

If you have concerns or questions about your rights as a participant, contact the American Institutes for Research Institutional Review Board (which is responsible for the protection of project participants) at IRB@air.org, or +1 202-403-5542, or by postal mail: AIR c/o IRB, 1000 Thomas Jefferson Street, NW, Washington, DC 20007, USA

Appendix 11: Map of sample communities



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