Lessons on Providing Cash Transfers to Disaster Victims: A Case Study of UNICEF's Unconditional Cash Transfer Program for Super Typhoon Yolanda Victims

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PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

April 2018

Abstract

In response to the effects of super typhoon Yolanda, the United Nations Children's Fund (UNICEF) implemented an unconditional cash transfer (UCT) program that provided emergency relief to ten thousand vulnerable families in Tacloban City and neighboring areas. This paper describes and assesses the design of the UCT program. It evaluates the UCT based on data collected from three survey rounds from a sample of UCT household beneficiaries, as well as other primary data sourced from focus group discussions with beneficiaries as well as interviews of key stakeholders. The evaluation suggests that the cash transfer was able to help the beneficiaries smooth their food consumption as well as address some of their other needs such as medicines, housing repair, livelihood and education-related expenses. More than half of the cash was spent on food and this led to a decline in the malnutrition prevalence among children. Some households used part of the money to start or expand livelihood activities. The amount of the cash was very significant compared to their usual income and allowed them to purchase items that they would not ordinarily be able to purchase. Majority of the beneficiaries recovered, either partially or fully, from the devastation of Yolanda after the six-month program. Recommendations for future emergency cash programs and emergency responses are also provided.

Keywords: unconditional cash transfer, monitoring and evaluation

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1. Introduction

Super typhoon Yolanda (Haiyan), one of the strongest tropical cyclones ever recorded in history, made six landfalls in Eastern Samar, Leyte, Cebu, Iloilo and Palawan. Yolanda brought massive amounts of precipitation, strong winds, floods and storm surges. The super typhoon eventually left the country four days after it entered the Philippine Area of Responsibility on November 6, 2013 but not without causing severe damages to the areas affected.[1] The National Disaster Risk Reduction and Management Council reported that there were 6,293 reported deaths, 28,689 injured, and 1,061 missing individuals as a result of Yolanda. Moreover, nearly 3.4 million families (or about 16.1 million persons) were affected by the super typhoon. Out of these numbers, 890,895 families (or 4.1 million persons) were displaced by Yolanda with about 20,924 families staying in 381 evacuation centers for emergency shelter. Meanwhile, the number of damaged houses was reported at 1.1 million, a little less than half of which (48.3%) were recorded to be totally damaged. As a result of Yolanda, a large section of Leyte and Samar were also left without mobile phone services and electricity. Further, a total of 1,959 transmission facilities (e.g., transmission lines, steel poles, converter stations) were damaged. Overall, the cost of damages was recorded at about P40 billion, nearly half (49%) of which was classified as damages to infrastructure. Super typhoon Yolanda affected 9 of the country's 17 administrative regions, covering 12,122 barangays in 44 provinces, 591 municipalities and 57 cities. The national government, however, identified only 171 municipalities (located within the 50-km storm track) across 14 provinces[2] and 6 regions for priority assistance.

Across 8 months, the disaster humanitarian response phase saw a slew of interventions coming from the government, non-government organizations and the private sector. The responses included distribution of family food packs, shelter kits, school and medical supplies, farm implements, fishing gears and cash assistance as well as implementation of cash for work and other livelihood programs. A total of 2.3 million individuals were reported to have benefitted from various forms of livelihood programs, trainings and provision of agricultural and fishing inputs implemented by the government's humanitarian partners including the Tzu Chi Foundation, one of the earliest private relief groups to provide assistance in typhoon-stricken areas. Similar initiatives by various national government agencies (NGAs) and local government units (LGUs) also provided employment to more than 200,000 individuals.

[1] Figures cited are based on the last NDRRMC Update on Typhoon Yolanda: SitRep No. 108 dated April 3, 2014.
[2] These include the provinces of Aklan, Antique, Biliran, Capiz, Cebu, Dinagat Islands, Eastern Samar, Iloilo, Leyte, Masbate, Negros Occidental, Palawan, Southern Leyte, and Western Samar.

Given the immense catastrophic effects of Yolanda, then President Benigno S. Aquino III declared a State of National Calamity on November 11, 2013 which put in place measures such as: (i) price control for basic necessities and prime commodities, (ii) granting of non-interest loans, (iii) appropriation for calamity funds, and (iv) importations and foreign donations. The Aquino Administration also established the Office of the Presidential Assistant for Rehabilitation and Recovery (OPARR) that was mandated to put together an over-all strategic vision and integrated plans and programs.

The national government adopted several strategies to guide its post-disaster plans and programs including (i) the *Reconstruction Assistance on Yolanda (RAY),* the national government's framework for the planning and implementation of recovery and reconstruction programs, projects and activities; (ii) a *Post Disaster Needs Assessment (PDNA)* to assess the impacts and prioritize recovery and reconstruction needs, the government also conducted. The Office of Civil Defense completed the PDNA in March 2014; the PDNA was conducted in severely affected areas which included Tacloban City, Leyte, Eastern Samar, Southern Leyte, Samar, Biliran, Panay Island, northern Palawan and northern Cebu. A cluster approach was also adopted with four primary rehabilitation areas identified: infrastructure, social services, resettlement and livelihood. Cognizant of the importance and contributions of LGUs in the recovery and reconstruction process, the national government also encouraged affected LGUs to prepare their Local Government Rehabilitation and Recovery Plan (LRRP), which were subsequently integrated in the national government's Comprehensive Rehabilitation and Recovery Plan (CRRP).

As of September 2014, foreign aid pledges reached P71.7 billion, about two-thirds (62%) of which were cash pledges[3]. However, of the pledges, only a fifth (21.2%) were received. Meanwhile, the government borrowed P126.2 billion, primarily from the Asian Development Bank and the World Bank, to support its rehabilitation and recovery efforts.

On the other hand, projects of the private sector reached P11.8 billion as of July 2014[4]. Pledged commitments included (i) building of permanent/transitional houses and provision of shelter kits, (ii) building of permanent and repair of classrooms, (iii) building and repair of health units, and (iv) provision of fishing vessels.

In response to the devastating effects of Yolanda, the United Nations Children's Fund (UNICEF) implemented an emergency unconditional cash transfer (UCT) program to provide quick relief to selected children and their families. Ten thousand vulnerable families in Tacloban City and neighboring municipalities of Burauen, Dagami, Julita, La Paz, and Pastrana in Leyte were identified to receive a monthly grant of USD100 for a period of six months from February 2014 to July 2014. The 10,000 household beneficiaries of the UCT included households with pregnant and lactating women (PLWs), children suffering from moderate/severe acute malnutrition (MAM/SAM) or at risk of malnutrition, persons with disabilities (PWDs), persons with chronic illness, elderly persons, single female-headed households, child-headed households, households hosting separated children. The UCT program of UNICEF was implemented by *Action Contre la Faim* (ACF) International, a global humanitarian organization with experience in cash distribution.

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[3] Source: Foreign Aid Transparency Hub (http://www.gov.ph/faith/full-report/)
[4] Source: http://president.gov.ph/wp-content/uploads/2014/08/Revised-DraftYolanda-Rehab-Briefer-as-of-1-Aug-2014-w-status-report.pdf

Since the UCT program was the first ever cash transfer program of UNICEF in the Philippines, UNICEF commissioned the Philippine Statistical Association, Inc. (PSAI) to conduct a third-party evaluation of the UCT program. The third-party evaluation involved assessing the design of the program, including the targeting scheme employed, as well as looking into how beneficiaries made use of the assistance, and identifying areas for improvement. In this discussion paper, we firstly describe the evaluation methodology. The discussion paper also summarizes the data collected from panel survey of sample household beneficiaries, and focus group discussions and key informant interviews. We describe in particular, the uses of the cash transfer by the beneficiary households as well as the income, employment and the different dimensions of poverty of the beneficiary households, including health, nutrition and education status of children. We also provide lessons learned and recommendations for future cash transfer programs.

2. Study Methodology

While ACF, UNICEF's implementing partner for the UCT program, conducted monitoring activities, the UNICEF considered it necessary to hire a third party to independently conduct monitoring and evaluation (M&E) activities of the UCT to draw lessons from the implementation of this program that would be relevant not only for the UCT but also for other similar emergency relief interventions that might be implemented in the future.

The evaluation activities follow a mixed methods study design that seek to examine (a) the design of the UCT program, including targeting; (b) implementation of the UCT program; (c) impacts of the UCT program on households; and (d), impact on markets, traders and other economic actors. From among the list of 10,000 household beneficiaries of the UCT program, a stratified random sample of 499 beneficiaries was selected for interviews. Since the household beneficiaries came from a mixture of vulnerable households affected by Yolanda, the sampling process incorporated stratification[5] of the targeted household population into 11 strata, with these strata accounting for the UNICEF selection criteria of groups of vulnerable households. In selected cases, vulnerable groups were consolidated with other groups owing to their rareness.

The sample households were interviewed three times: April 2014 (just a few months after the start of the program), August 2014 (immediately after the end of the program), and October (several months after the program ended). The interviewed households form a panel data to determine dynamics in program outcomes across the survey reference periods.

The main objective for the conduct of the panel survey was to describe the UCT household beneficiaries, in terms of their socio-economic background and living conditions, such as income, employment, physical security, assets, and other dimensions of well-being, including health and education of household members, school attendance of children, shelter, access to water and sanitation, food consumption patterns, types of food eaten, number of meals eaten in a day, and nutritional status of children (weight for age, circumference of arm). Further, the panel survey was aimed at collecting data from household beneficiaries for monitoring and assessing the implementation of the UCT, including the targeting system employed. The survey was also meant to obtain information for evaluating how households made use of the cash

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[5] A stratified sampling design is used when within strata, we observe more homogeneity, and across strata, we find heterogeneity. Oversampling is done in one stratum when the stratum may have a lot more variability than other strata. Since there was no prior information about the extent of variability within strata, a random sample of households was chosen per stratum accounting for the reported size of the strata.

assistance. The survey questionnaire made use of the basic modules of the Community based Monitoring System (CBMS) questionnaire, together with a household profile questionnaire. Information from focus group discussions (FGDs) on attitudes, behavior and experiences of beneficiaries were also obtained to supplement information from the panel survey. Key stakeholders, such as the implementing partners and cash distribution personnel, were also interviewed.

An initial list consisting of 10,000 households provided to the PSAI by UNICEF forms the basis of the sample selection, from which 502 sample households are to be selected for interview. The percentage distribution of sample households roughly mirrors the UNICEF listing (Table 1).

Table 1. Distribution of Beneficiaries (in Study Population and Sample) by City/Municipality

	HOUSEHOLD POPULATION		SAMPLE HOUSEHOLDS		
Municipality	Frequency	Percent	(Unweighted) Frequency	Weighted Frequency	Percent
Burauen	2,027	20.25	101	2,072.13	20.7
Dagami	1,504	15.03	86	1,695.65	16.94
Julita	518	5.18	19	370.4336	3.7
La Paz	1,260	12.59	61	1,192.20	11.91
Pastrana	648	6.47	35	691.3028	6.91
Tacloban City	4,052	40.48	200	3,987.28	39.84
Total Households	10,009	100.00	502	10,009	100.00

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Subsequent information revealed 130 double counts in the list of 10,000 UCT beneficiaries. An inspection of the 502 sample households suggests that three are part of the 130 double-counted households. A mere re-weighting of the remaining 499 households, accounting for the removal of the three households from the originally selected 502 households, yielded the final list of sample households, which then provided a mechanism for the (preliminary) estimation of household weights. These design-based household weights represent the number of households that each sample household represents among the UCT beneficiary-households. These weights are inversely proportion to selection probabilities. Since some sample households may either not respond, be difficult to locate (during sampling operations), or drop out from the monitoring process, the preliminary design weights were then further adjusted to incorporate "non-response" adjustments in the final household weights. Subsequent information provided to the PSAI suggested a final list of 10,009 UCT household beneficiaries (as some beneficiaries.

Attrition in the panel survey was observed to be quite minimal with a total of 484 households of the 499 targeted households interviewed for all three survey rounds. Attrition rate from the first survey wave to the second wave 0.82% while the final attrition rate was slightly over 1 percent (1.22%).

Survey respondents and FGD participants were assured about anonymity and confidentiality of information and personal data they provided in order to protect them from possible repercussions on what they report, as well as to gain their trust, and consequently obtain accurate data about their socio-economic conditions, the UCT program implementation and the program's outcomes.

Information on program outcomes cannot strictly be attributed to the UCT program in the absence of a mechanism to estimate the counterfactual, i.e., what would have happened without the cash transfers. At best, information gathered in the panel survey only illustrate changes in indicators across time, if any.

3. Observations on Program Design and Implementation

One important decision to make regarding emergency relief assistance is whether to provide the assistance in cash or in kind. Immediately after a disaster, the supply chain is disrupted, and in this case, it is important to provide assistance in kind. For instance, providing food assistance in the proximate aftermath of a typhoon is best since food supplies would not available in the affected areas and they had to be brought into the affected areas. Since the inception of the UCT program was in February 2014, i.e., three months after Yolanda struck, the supply chain was already partly restored by then. Many stores reopened, and public transportation resumed by then, although this would still less than before Yolanda, because many vehicles were damaged with the ensuing floods that accompanied the super typhoon. Cash is also easier and less costly to distribute. Buying goods and delivering them to disaster victims would entail huge procurement, transport and distribution costs. Goods would also need storage facilities and would likely cause unpredictability in delivery dates during such abnormal conditions. However, cash assistance is not totally cost-free. For the UNICEF UCT program, a cash distribution network had to be engaged to distribute the cash grants to the beneficiaries. The ACF chose the courier company LBC for the cash distribution largely because the financial intermediary has worked before with ACF and it was easier for ACF to engage the services of LBC.

Another salient feature of the assistance provided was that the grants were unconditional, i.e., the beneficiaries were allowed use the cash for any purposes. The main argument for having the grants given without condition was that the major constraint faced by the intended beneficiaries is the lack of money, and they would be in the best position to decide how to use the money. A conditional cash transfer, on the other hand, is released only if the beneficiary follows certain conditions (or co-responsibilities), which assumes that the behavior of the beneficiary is not necessarily optimal. In this case, conditions are imposed to ensure that desired outcomes are attained. In the case of the UNICEF UCT program, the lack of any imposed conditions enabled the beneficiaries to address the specific needs of the households.

For instance, data from the panel survey revealed that the use of the funds across expenditure items and across periods varied considerably, indicating that households experienced different gaps in their needs across time. The emergency cash transfers allowed beneficiaries to use this assistance to address their most pressing needs. To many of the households, it was the first time for them to see an amount of P4370 as this is large compared to the usual income of beneficiaries as well as to cash assistance provided by other donors. Many of the FGD participants reported that this was the first time they were able to "hold" and spend such a large amount of money, which allowed beneficiaries to smooth their food consumption (and even to purchase food items that they usually were not able to purchase, such as apples, oranges and other imported fruits). In some cases, beneficiary households managed to start or expand livelihood activities such as hog-raising, food vending and personal services (e.g., " manicure-pedicure services"). Average per capita income of many households even crossed over the poverty line during the survey period (and consequently, these households became classified

as non-poor during this period). When the UCT program ended, however, the income of these families was reduced correspondingly and only those who were able to sustain their income from other income-generating activities remained non-poor.

The UNICEF UCT program was designed to provide assistance for six months. It was meant to be an emergency response intervention for assisting households to cope with the adverse impacts of super typhoon Yolanda, and was certainly not intended to reduce poverty in the long-run. Beneficiaries knew that the UCT program was only for six months and consequently many of them planned to make use of the UCT money accordingly. While all of them hoped that the program would be extended, they also knew that there was a definite end-date to the assistance. To prepare for the end of the program, some of the beneficiary households used part of the cash for income-generating activities that would somehow compensate for the loss of the cash transfer after the end of the program. It would have been interesting to observe what would have been the outcomes if the program were designed to provide two kinds of grants: having the cash in lump-sum, or having the grants in six monthly installments. The advantage of the UCT design is that it allows for the smoothening of food consumption and guarded against imprudent use of the lump-sum that could have imperiled the food security of the household beneficiaries. A lump-sum amount at the start of the program though would have afforded enterprising households more capital to start or expand a business immediately or to repair damaged houses. If the objective of UNICEF was to primarily ensure food security during the program period, then the monthly installment is certainly appropriate.

As regards the targeting of beneficiaries, utilized existing lists of pregnant and lactating women from Barangay Health Workers and lists of senior citizens and persons with disabilities from municipal governments. Since administrative reporting systems were not plentiful, ACF complemented available information by visiting households and applying its own screening procedures (asking one question on income, among other information) to assess eligibility. There was no single metric for targeting; a quota was set for each municipality so, in consequence, not all households were assessed for eligibility, and the neediest were not necessarily chosen into the program.   All beneficiaries, however, were noticeably of low income (thus leakage was not an issue) but the beneficiaries were not necessarily the poorest of the poor. The fact that ACF disseminated the list of beneficiaries in the barangays helped in ensuring that only the poor would be enrolled in the program.

Actual implementation in selecting beneficiaries appear to have varied. For instance, while beneficiaries of the government's conditional cash transfer program, *Pantawid Pamilyang Pilipino Program (4Ps)*, were eligible in Tacloban City and other municipalities, they were explicitly excluded in Julita. The rationale for excluding 4Ps beneficiary households was that cash assistance should be more widely distributed: since the 4Ps households were already getting assistance from the government, they could be excluded from the UCT. Interviews with ACF field personnel revealed, however, that this exclusion was not carried out uniformly on the ground. Using a more structured questionnaire with a definite set of criteria would have been better, particularly when trying to consistently identify a large number of program beneficiaries. For instance, a proxy means test model (as is done in the selection of 4Ps household beneficiaries), based on characteristics of the members of the households and ownership of assets could be used to determine objectively who are poor, and could qualify for the program.

Distribution of cash could have been improved. At the onset of the program, there were only two distribution centers for the cash transfers, LBC offices in Tacloban and Burauen. Since

LBC did not have branches in the other 4 municipalities where the program was being implemented, long queues were experienced with some lining up for several hours outside the LBC offices. Distribution entailed costs (money and time) on the part of beneficiaries. Beneficiaries residing outside Tacloban City and Burauen had to leave their homes at 4 o'clock in the morning to be among the first in line when the cash distribution started at 10 am. Some also had to bring their babies and small children with them since they had no one to leave their children with at home. During the FGDs, the beneficiaries mentioned that they spent on the average about Php50 for those residing in Tacloban and about Php 300 for those outside Tacloban when they got the cash assistance.

Two other centers in Tacloban were subsequently added to reduce queues, particularly after UNICEF and ACF were informed about this preliminary observation. Moreover, to reduce the length of the queues, the distribution was scheduled by barangay. Beneficiaries thought that it could have been much better if the distribution center was in the municipality, or better still, in their respective barangays. They noted that there were other firms, such as Palawan Pawnshop, could have been included as distribution points, especially as this pawnshop, which is also a remittance center, is present in more municipalities than LBC.

It was also reported that LBC had problems initially giving appropriate denomination to provide exact amounts of the cash assistance to beneficiaries.

Further, it was noted that given the extent of devastation caused by Yolanda, many government agencies, private sector, international and local development partners provided assistance, in cash or in kind. However, there was no mechanism in place in affected areas to coordinate the distribution of assistance to ensure all affected families would be assisted equitably.

4. Uses and Effects of the Cash Grants

Across the survey rounds, data suggests that the top three uses of the emergency cash transfer received by household beneficiaries of the UNICEF UCT program were on food expenses, miscellaneous expenses and for savings. (See Figure 1). Thus, the cash relief was able to help the beneficiaries smooth their food consumption, with about half of cash received spent on food.

Figure 1. Utilization of UCT, by major expenditure category, by survey round (in percent)

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

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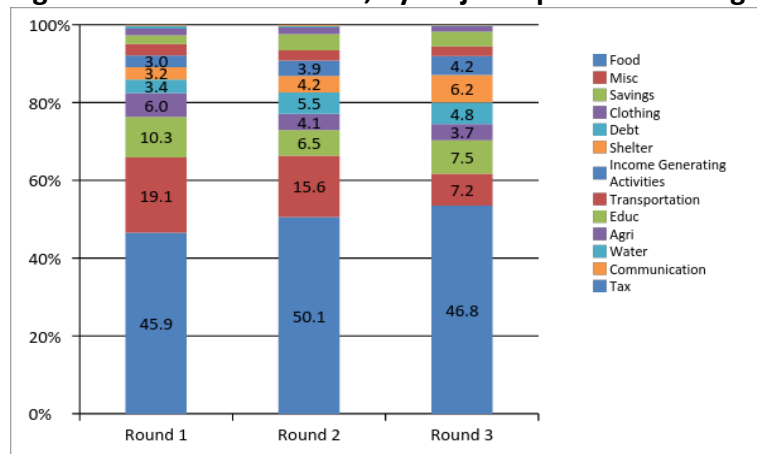
The emergency cash was also used to address some of the other needs of beneficiary households such as medicines, diapers, housing repair, livelihood and education-related expenses. The FGDs revealed that many of the households spent money on vitamins, particularly for children. Savings also became increasingly an important use of the assistance. Proportion that went to savings was highest during the first round since families saved part of transfer to be able to buy materials for repairing their houses. However, utilization for miscellaneous expenses and savings has continuously declined over time. Some households used part of the money to start or expand livelihood activities, such as pig-raising, sari-sari stores and food vending. The amount of the cash was very significant compared to their usual income and allowed them to purchase items that they would not ordinarily be able to purchase. Majority of the beneficiaries recovered, either partially or fully, from the devastation of Yolanda after the six-month program.

The UCT was also used for household expenses relating to clothing, shelter, debt, income generating activities, transportation, education, agriculture, water, and communication. Expenditure on shelter almost doubled between the first and third rounds. Utilization for income generating expenses increased by 1.2 percent since the first round.

4.1. Effects on Health and Nutrition

More than half of the cash was spent on food and this led to a significant decline in the prevalence of malnutrition, as measured by mid-upper arm circumference (MUAC), among children from 5% to about 1% to 2%.

Table 2. Malnutrition prevalence among children of UCT beneficiaries, by survey round

Indicator	Round 1		Round 2		Round 3	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Proportion of malnourished children less than 5 years old[*]	595	5.3%	105	1.0%	225	1.9%

Note: [*] malnutrition measurement makes use of mid-upper arm circumference (MUAC)
Source: Panel Survey of UNICEF UCT Beneficiaries 2014

The use of the mid-upper arm circumference (MUAC) has been shown to be useful in the nutritional assessment of children ages 6-59 months. The measurement of the circumference of the left arm is taken from the mid-point between the tip of the shoulder and the tip of the elbow (Collins *et al*, 2000). Measurement of the MUAC requires little equipment and is easily performed, particularly in the community setting where accurate weight and height measurements may be difficult to obtain (Collins et al, 2000; Dale et al 2013). MUAC measurements below 125 mm and 115 mm respectively indicate moderate and severe acute malnutrition (Mwangome, 2012; WHO, 2013). Addressing malnutrition is essential especially in its early stages due to its long-term impact on the cognitive development of children. In particular, malnutrition in the first year of life is associated with lower socioeconomic outcomes in adulthood (Galler *et al*., 2012).

Despite overall improvement in nutrition among children of beneficiary households, there were at least 21 children who were not malnourished during the first round of the survey were classified as malnourished by the third round of the survey. All of these children were located

outside of Tacloban; these children were females, less than 1-year-old and have experienced hunger.

Household beneficiaries had a fairly diverse diet: consuming at least 7 out of 12 food groups (Figure 2), but households appeared to also have a relatively slight decrease in diversity from Rounds 1 to 3 of the panel survey. Consumption of fish, meat, and seafood even increased steadily over time.

Figure 2. Household Diet Diversity Index, by survey round (in percent)
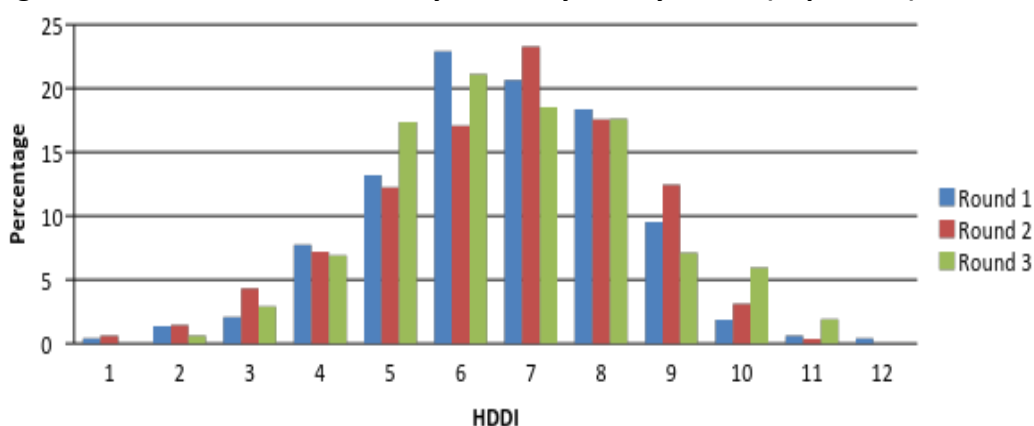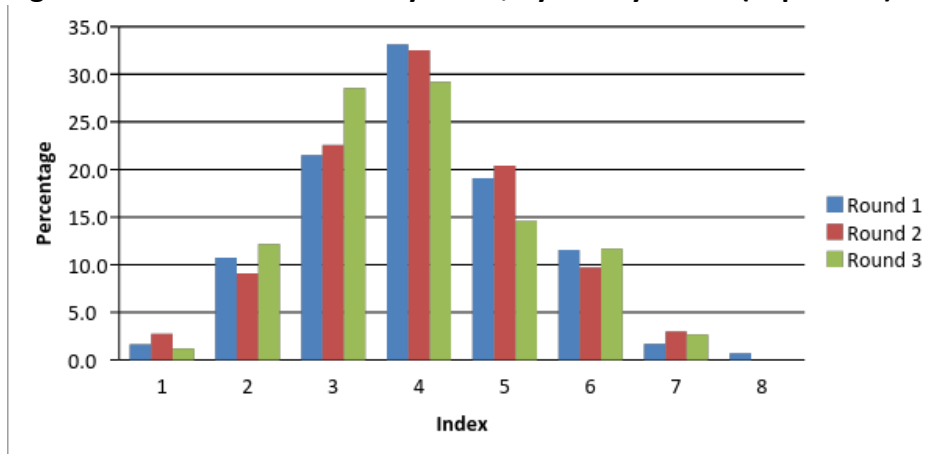

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Dietary diversity, a qualitative measure of food consumption (FAO, 2010), functions as a proxy for the adequacy of nutrient intake of individuals in a household (Steyn *et al*., 2006). The dietary diversity scores are determined by simply counting the number of food groups that a household has consumed over the past 24 hours. While several studies have attempted to assess nutrient adequacy through diversity index scores, there is no international consensus as to which food groups should be included in the scores of different age and sex groups (FAO, 2010). At the household level, the diet diversity score provides a measure of the household's economic access to food (dietary energy) while at the individual level, the score can help in assessing the probability of micronutrient adequacy of the diet (FAO, 2010). Twelve food groups are included in the household diversity diet score (HDDS), while 9 food groups are included in the women's dietary diversity score (WDDS) used in the panel survey of UCT households. Items specific to the HDDS such as condiments, sugar and beverages were included for assessing the household's ability to obtain these foods, reflecting resource capacity of the household. Note that in assessing the dietary diversity scores, it is important to determine the primary source of food procurement, i.e., whether the food was home produced, purchased, or obtained from food aid. The WDDS showed a stronger correlation to adequacy of micronutrient intake when quantities one tablespoon or less were excluded (FAO, 2010; Arimond, 2010). Several studies have proposed various cut-off levels for adequate dietary diversity scores. On a nine-food group scale, intake of five to six food groups respectively results in a 50% and 75% probability of adequate micronutrient intake (Kennedy *et al*., 2006). While there is currently no set cut-off level for adequacy of dietary diversity for the HDDS and WDDS, determination of dietary diversity scores can function for monitoring change following disasters.
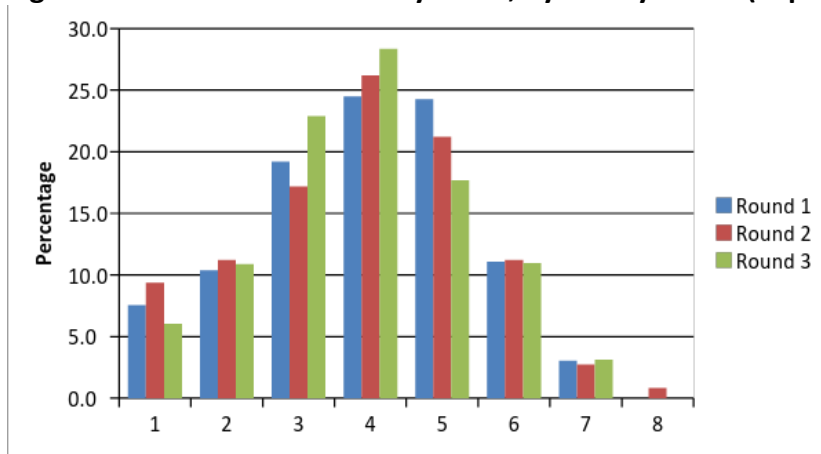
Diets of women and children beneficiaries appeared to be also fairly diverse (Figure 3 and Figure 4): with women and children consuming at least half of 8 food groups.

Figure 3. Women Diet Diversity Index, by survey round (in percent)

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Figure 4. Children Diet Diversity Index, by survey round (in percent)

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Aside from monitoring the nutrition of the beneficiaries, an evaluation of their health conditions also deserves attention. It is generally viewed that communicable diseases would be associated with populations that have been displaced after natural disaster events. Diarrheal illnesses are typically reported to occur in evacuation sites of displaced individuals, both in developing and developed countries. (Watson, 2007) Diarrhea can occur when there is a lack of access to safe drinking water. Crowding of displaced populations in the wake and aftermath of natural disasters can facilitate the transmission of communicable diseases. Following the 1991 Mt. Pinatubo eruption, for instance, a measles outbreak resulted, which affected more than 18,000 individuals and accounted for a third (31%) of deaths in the evacuation camps. (Watson, 2007; Surmieda et al, 1992) Based on the WHO immunization surveillance, the Philippines was at an 85% immunization rate for infants ages 12-23 months in 2012. The Philippine Department of Health monitored measles cases in Tacloban. The Philippine Information Agency (PIA) reported that from January to February 18, 2014, there were 180 cases of measles in Tacloban with two deaths.

While the assessment of nutritional status with MUAC data provides an indication of the health conditions of the children, other physical conditions such as diarrhea and skin rashes may be overlooked. During an ocular inspection, there was note of children with skin conditions, which can result from insufficient supplies for basic hygienic needs, overcrowding or inadequate nutrition.

4.2. Effects on Income and Employment

Average monthly income of beneficiary households across sites increased during the duration of the program, but drastically declined after the grant ended (Figure 5). In almost all sites, average monthly income after the program ended was lower compared to the period when the program started. The biggest reduction is marked in the municipality of Dagami where monthly income has been reduced by an average of at least P 3,076 per month.

Figure 5. Average monthly family income of UCT beneficiaries by municipality, by survey round
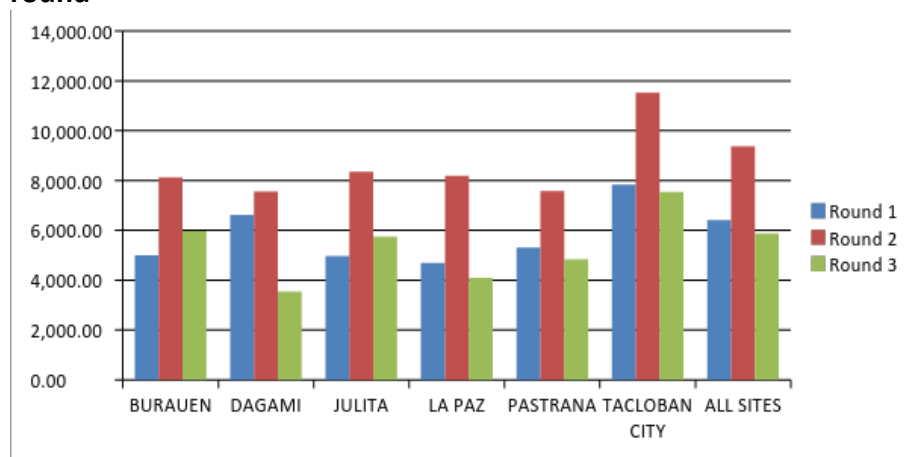
Source: Panel Survey of UNICEF UCT Beneficiaries 2014

The UCT grant was twice that of average income of households, so this yielded a substantial effect on poverty incidence reduction. However, considering that the cash transfer constituted a significant portion of total income of the households, the end of the UCT program meant a significant reduction in the total income of the households. This explains why some households fell back into poverty during the third round (Figure 6).

Figure 6. Poverty Incidence and Food Subsistence Incidence among UCT Beneficiaries
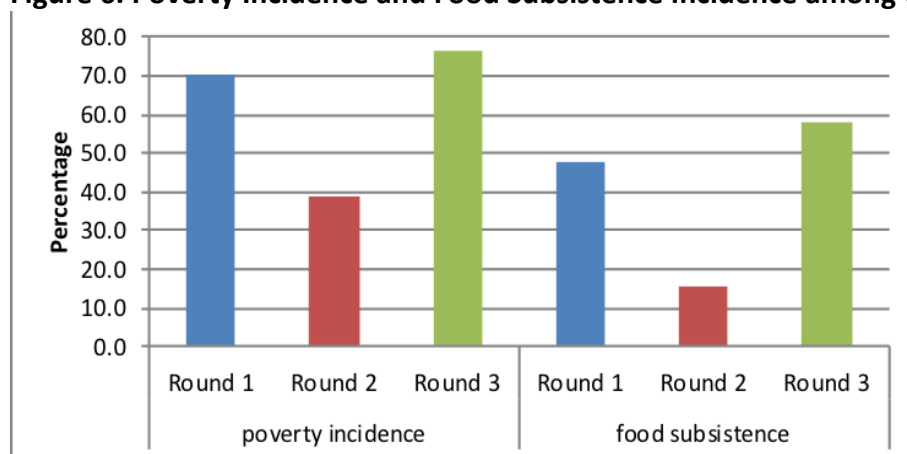
Source: Panel Survey of UNICEF UCT Beneficiaries 2014

There was a reduction of unemployment rate among the beneficiary households (see Table 3) from 13.4 percent in round 1 to 10.3 percent in round 3 of the survey. Similarly, the proportion of children who were engaged in economic activity reduced during 2nd round of survey, but

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there was a marked increase during the 3rd round of survey (even slightly higher than that of 1st round) after the end of the UCT program.

Table 3. Unemployment among household members of UCT beneficiaries across municipalities, by survey round

Municipality	Round 1		Round 2		Round 3	
	Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
BURAUEN	460	15.3	415	14.5	168	5.5
DAGAMI	368	14.4	221	8.9	335	12.2
JULITA	22	5.9	0	0	0	0
LA PAZ	42	2.7	120	7.6	370	21.8
PASTRANA	146	16.0	85	7.3	61	5.5
TACLOBAN CITY	969	14.8	725	11.1	736	10.4
Total	2007	13.4	1565	10.4	1670	10.3

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

4.3. Effects on Education

The PSAI also noticed marked improvements not only in nutrition and income, but also in the areas of educational status of children. Table 4, for instance, shows that there was an overall improvement from round 1 to round 3, though there was a slight decrease in school attendance from round 2 to round 3.

Table 4. Non-attendance in school among children of UCT beneficiaries, by survey round

Indicator	Round 1		Round 2		Round 3	
	Magnitude	Proportion (in %)	Magnitude	Proportion (in %)	Magnitude	Proportion (in %)
Proportion of children 6-11 years old not attending primary school	604	10.0	395	6.4	535	8.0
Proportion of children 12-15 years old not attending secondary school	1,218	43.2	1,076	37.9	1,219	40.8
Proportion of children 6-15 years old not attending school	562	63	398	4.4	444	4.6

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Across the three survey rounds, more males were out of school than females among children aged 6 to 15. At least 6 out of 10 children who were skipping school are in the 6-11 years old age group across the 3 survey rounds. Presence of an illness or disability, lack of interest and lack of allowance were top three causes of poor school attendance.

While returning to school after a disaster does not necessarily guarantee that children are ready to learn, studies suggest that the restorative power of the school routine in assisting children in the aftermath of the calamity (AAP, 2008). Further, increased days of school absence has been associated with exposure to traumatic events (Kataoka *et al*., 2012).

Children are more vulnerable than persons from other age groups as they are more prone to suffering, loss, injury, and death as a result of a disaster event. While it is important to monitor diseases such as diarrhea, fever, and respiratory illnesses that may impact especially the physical health of children following a natural disaster, it is also as essential to assess the psychological wellbeing of the children. Children may exhibit reactions to natural disasters differently from those of adults. After a disaster, young children may display increased aggression and oppositional behaviors, separation anxiety, as well as somatic complaints such as abdominal pain and changes in sleeping habits. Adolescents, on the other hand may display increased anxiety levels, lower academic performance and possibly, delinquent behaviors (Norris, *et al*., 2002; Peek & Stough, 2010). Children have the capacity to adapt well to the impact of disasters, particularly if provided with adequate caregiver support in the context of a nurturing and safe environment; thus it is important to provide such an environment to children (Peek & Stough, 2010).

4.4. Recovery of Beneficiaries

About 61 in every 100 beneficiary households have recovered from Typhoon Yolanda, of these 61 households, about half (28 households) have fully recovered while the other half (33 households) have partially recovered (Table 5). In particular, those who used part of their cash transfer for livelihood or for savings were more likely to have recovered. Households received on the average about 5 assistance programs. More than half of the households who received more than 10 Haiyan-related Assistance have recovered.

Table 5. Assistance to Beneficiaries by Recovery Status

Assistance	Not yet Recovered	Partially Recovered	Fully Recovered	Total
Number of Haiyan-related Assistance Received				
1-5	33.5	41.7	24.9	100
6-10	46.3	22.0	31.7	100
more than 10	30.0	18.5	51.5	100
Number of Cash Assistance Received				
1	37.2	34.2	28.6	100
2	38.7	31.9	29.4	100
3	56.2	23.3	20.5	100
4	22.9	41.1	36.0	100
5	0.0	51.5	48.6	100
6	0.0	100.0	0.0	100
Livelihood Assistance				
Did not receive livelihood assistance	36.9	35.2	27.9	100
Received assistance	49.5	20.7	29.8	100

Source: Panel Survey of UNICEF UCT Beneficiaries 2014

Results of a logistic regression analysis (see Table 6) revealed that, all other things being equal:

- households headed by females and those who reached at least high school are more likely to fully recover.
- households that have additional dependents as many as non-dependents are 0.4 times less likely to recover.
- households who merged, engaged in agriculture/coconut farming are less likely to recover.
- households are generally more likely to recover if they received a program and even more likely if assistance is prolonged.
- households who have assets to start with are generally likely to recover compared to those who do not have assets.
- household respondents who lost a job are less likely to fully recover.

Table 6. Results of Ordinal Regression Model Explaining Recovery of Household Beneficiaries

Variables Depvar: recovery_status	Not yet vs. Partial/Full		Not yet/Partial vs. Full	
	Coeff (SE)	Exp(coeff)	Coeff (SE)	Exp(coeff)
Indicator on whether or not household head is female	-0.081	0.92	0.219	1.24
	(1.29)		(3.26)**	
Indicator on whether or not household head finished at least high school	0.178	1.19	0.349	1.42
	(3.86)**		(6.95)**	
Indicator on whether or not household merged with another	-0.173	0.84	-0.514	0.6
	(2.77)**		(7.16)**	
Indicator on whether or not household is engaged in agriculture	-0.010	0.99	-0.248	0.78
	(0.22)		(4.74)**	
Proportion of dependents 14 years and below, and 65 and above	0.053	1.05	-0.907	0.4
	(0.15)		(2.66)**	
Square of proportion of dependents	-0.338	0.71	-0.338	0.71
	(1.01)		(1.01)	
Indicator on whether or not UCT used for savings of livelihood	0.805	2.24	0.576	1.78
	(15.32)**		(9.61)**	
Indicator on whether or not UCT used for livelihood	-0.400	0.67	0.177	1.19
	(5.55)**		(2.25)*	
Indicator on whether or not respondent lost job	0.169	1.18	-1.036	0.35
	(2.83)**		(14.34)**	
Indicator on whether or not household is a beneficiary of 4Ps	0.836	2.31	0.836	2.31
	(11.29)**		(11.29)**	
Indicator on whether or not a household member is Philhealth-sponsored	0.859	2.36	0.859	2.36
	(5.12)**		(5.12)**	
Municipality				
Indicator on whether or not household resides in Tacloban	Base			
Indicator on whether or not household resides in Burauen	0.853	2.35	-1.617	0.2
	(12.76)**		(19.30)**	
Indicator on whether or not household resides in Dagami	0.984	2.68	-0.053	0.95
	(13.38)**		(0.73)	

Indicator on whether or not household resides in Julita	0.086	1.09	0.086	1.09
	(0.79)		(0.79)	
Indicator on whether or not household resides in La Paz	-0.036	0.96	-1.093	0.34
	(0.45)		(11.69)**	
Indicator on whether or not household resides in Pastrana	-0.156	0.86	-0.820	0.44
	(1.57)		(7.45)**	
Indicator on whether or not household had members who got ill	-0.595	0.55	-0.140	0.87
	(12.30)**		(2.76)**	
Indicator on whether or not household received Yolanda related program for at least 6 months	-0.416	0.66	-1.399	0.25
	(3.75)**		(9.34)**	
Indicator on whether or not household has a member who is engaged in coconut farming/industry	0.482	1.62	-0.773	0.46
	(4.05)**		(5.07)**	
Indicator on whether or not household owns house	0.161	1.17	-0.283	0.75
	(2.95)**		(4.47)**	
Indicator on whether or not household has a television	0.251	1.29	-0.046	0.96
	(5.15)**		(0.88)	
Indicator on whether or not household has land	0.789	2.2	-0.119	0.89
	(8.52)**		(1.16)	
Number of bedrooms	0.120	1.13	0.120	1.13
	(5.33)**		(5.33)**	
Interaction term, i.e., indicator on whether or not household did not use UCT for livelihood but received Yolanda programs for more than 6 months	0.816	2.26	1.505	4.5
	(6.50)**		(9.34)**	
Intercept	-0.476	0.62	-0.241	0.79
	(4.41)**		(2.10)*	
	n=484, N=10,009			

Note: Generated from running econometric model on microdata of Panel Survey of UNICEF UCT Beneficiaries 2014

An ordinal logistic regression is used to explain how data fall into categories, here, whether a household has "not yet recovered", "partially recovered" and "fully recovered", which can be respectively represented by

$$\Pr(Y = k) = \Pr\{C_{k-1} < S(\boldsymbol{X}|\boldsymbol{X} = \boldsymbol{x}) \leq C_k\}, \quad k = 1,2,3$$

such that

$$S(\boldsymbol{X}) = \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_p x_p + \epsilon$$

where ϵ is a logistically distributed error term, C_1, C_2, C_3 are cutpoints, $\boldsymbol{x} = (x_1, x_2, \ldots, x_p)$ is a vector of explanatory variables and $(\beta_1, \beta_2, \ldots, \beta_p)$ is a vector of regression parameters. The ordinal logistic regression model is very similar to a simple logistic regression (a generalized linear model with the logit link), save for another assumption of proportional odds—i.e., the underlying relationship of the regressor and the outcome is the same across outcomes, hence the identical β across outcomes. For the model building process, assumptions were tested and weighed to identify an optimal model that is parsimonious yet not deviating far from assumptions. In particular, link tests were performed on each candidate model to assess whether

the model is specified correctly while receiver operating characteristic curves and surface were also investigated to assess the discriminating capacity of the model. We, however, omit details.

The results in Table 6 show the estimated coefficients of the model. Interpretation of the results follow from an examination of the odds ratio

$$\frac{\theta(X|X=a)}{\theta(X|X=b)} = \frac{\exp\{S(X|X=a)\}}{\exp\{S(X|X=b)\}}$$

where odds may be also defined as

$$\theta(X|X=x) = \left.\frac{\Pr(Y=k|X=x)}{\Pr(Y \neq k|X=x)}\right.$$

It can be verified that the odds ratio of a variable per unit change is the exponential of the coefficient, e^{β}.

5. Learning Lessons

The UNICEF UCT emergency relief assistance program has a number of learning lessons especially for future interventions to disaster victims. While most often people have a condescending view of cash assistance, whether conditional or unconditional, and think that such assistance may only be misused for vices, it appears that the UCT has actually been a big help to beneficiary households who were Yolanda victims. Not all households, however, have fully recovered almost a year after Yolanda. Six months of assistance may not have been long enough for some households to get back on their feet.

The cash grants from the UCT program allowed beneficiary families to purchase multivitamins. While multivitamins are useful in those with inadequate dietary intake of the required daily nutrients, the sustainability of purchasing these multivitamins can be challenging once the cash transfers have ceased for the beneficiary population. Ensuring sustainable sources of food with adequate nutrients is essential. The provision of food, health, water and sanitation, together with nutrition education, can lead to improved nutritional wellbeing (FAO, 2005). Food distribution should be ideally combined with efforts to improve self-reliant and sustainable access to food. In addition, it is important to find ways of increasing and diversifying agricultural production in order to guarantee food security in the household as well as serve as a source of additional income (FAO, 2005).

Since some of the households made use of the cash to save for livelihood purposes, it would have been interesting to know whether fewer tranches may have helped better for these households.

More accessible distribution points could be considered for similar programs in the future. Distribution system for cash and non-cash transfers need to be mapped out as part of disaster preparedness plans. Few and distant distribution points may pose significant costs on the part of the beneficiaries. Arbitrary distribution points may leave out some families in the communities.

As regards targeting of beneficiaries, investments should clearly be made in having an updated list of residents in each area, with household and individual level characteristics that could be used as starting point for the list of potential beneficiaries. Generating local level data, such as the CBMS, can make communities and LGUs better prepared to cope with disasters (that are certainly recurring in the country). Well-defined criteria could be used in identifying beneficiaries to lessen reliance on skilled field workers to identify who should get into the program.

Coordination on the types of assistance can be improved. Greater coordination by LGUs, who have the main face of government in the field, can ensure that all affected households are covered by the different programs.

Food programs are certainly more critical immediately after a calamity when supply chains are disrupted. Cash transfer programs are more useful when supply chains have been restored. The unconditional cash transfer program of UNICEF for Yolanda victims has clearly been responsive to the varying needs of the households. Other non-cash assistance is clearly required to address psychosocial trauma and other needs of the disaster victims.

Alternative evacuation facilities should be identified by government. Resumption of normal routine, especially prompt return to school for children (Masten & Osofsky, 2010), helps with the recovery process. Schools cannot and should not be the only evacuation sites. Psychosocial impact assessment of disasters, particularly on children, need to be undertaken. Behavioral therapy could be provided to overcome trauma. Republic Act No. 10821, otherwise known as the "Children's Emergency Relief and Protection Act". Legislates the use of schools as evacuation centers only as a last resort in order to limit the disruption in the education of children (Salvierra, 2015).

Currently, disaster responses are still coordinated among government agencies, rather than managed by a full-fledged agency that comes up with appropriate disaster risk reduction, mitigation and adaption policies. Disasters keep recurring in our country, and it is important that we learn from lessons on how best to help those in need of help the most, else our responses may not be effective in increasing capacity of victims to recover and to be resilient.

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