

Impact of Unconditional Cash Transfer on Civil Conflict

By

Kenneth Jerry Onyango

THESIS

Submitted to

KDI School of Public Policy and Management

in Partial Fulfillment of the Requirements

for the Degree of

MASTER OF DEVELOPMENT POLICY

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Abstract

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The study aims to contribute to existing research on utilization of unconditional cash transfers (UCT) in improving the economic wellbeing of conflict prone disenfranchised communities. It analyzed the use of UCT in promoting business start-ups that enhances access to economic resources through employment creation and thus deters membership to insurgent groups. The analysis exploited data obtained from randomized control experiment conducted by the Hunger and Safety Net Program (HSNP) during the period 2009 to 2014. The HSNP delivered regular UCT to households in the conflict prone region of Northern Kenya. Data on conflict was obtained from an independent source maintained by Armed Conflict Location and Event Data Project (ACLED). The summary statistics from regression analysis shows that UCT had statistically significant impact in reducing incidences of conflict. In addition, the difference in difference analysis showed substantial reduction in annual average number of conflicts in the treatment sub-locations compared to incidences reported in the control locations. The cash transfer also caused substantial increase in self-employment as recipients opted to start businesses. The business start-ups created jobs thereby reducing attractiveness of joining insurgency groups or participating in conflict.

Keywords: *Business Start-Up, Conflict, difference-in-difference, Employment and Unconditional Cash Transfer (UCT)*

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1.0 INTRODUCTION

Most conflicts are due to competition for resources. In addition, conflict prone regions register poor living conditions characterized by low education attainment levels and lack employment opportunities that could be created through opening up of more businesses or entrepreneurial activities. The poverty levels are also high. Therefore, participation in insurgent groups provides an alternative income source for households with low levels of education and have no prospects for employment. However, poverty in conflict prone areas can be reduced using cash transfer (CT) program. CT provides social safety nets required for livelihood change. It is also useful for building capacity for business start-up thus promoting enterprise development essential for employment creation.

There are two types of CT programs: Conditional Cash Transfer (CCT) and Unconditional Cash Transfer (UCT). In CCT, the recipients are required to comply with certain rules or procedures to qualify for regular receipt of CT. Rawlings & Rubio (2005) expounds on this concept by stating that CCT provide money to recipient poor families contingent on conforming to stipulated behavior such as sending children to school or taking them to health centers. This is different from UCT whereby the recipient has no pre-conditions to fulfill before receiving the money and there is flexibility on how to use the cash. Evaluation of use of UCT and CCT in South America reveals success in increasing school enrolment rate, improving access to health care and raising consumption of households. However, little research exist to highlight possible impact of either CCT or UCT on civil conflict.

In drought prone Northern Kenya, competition for pastures by pastoralist communities contributes to conflict. However, Hurrel and Sebates-Wheeler (2013) reports that a cash transfer

program facilitated a lifestyle change for pastoral households who settled and diversified into non-pastoral activities. The cash transfer increased households' purchasing power resulting in increased demand for a variety of goods and services. This necessitated entry of new traders into the market and existing traders increased stock levels immediately following the disbursement of cash. The non-reliance on livestock implied less impact from drought and thus reduced incidences of conflict. The resulting sedentary lifestyle not only created alternative employment opportunities, but also facilitated Governments provision of social infrastructure such as roads, schools and hospitals.

Indications are that CT can be used to reduce conflict. Therefore, this study analyzed use of UCT in improving the economic wellbeing of conflict prone disenfranchised communities. It exploited data from randomized control experiment conducted by the Hunger and Safety Net Program (HSNP) targeting conflict prone region of Northern Kenya. It maximized on the evidence that UCT recipients created employment opportunity by initiating new businesses. The data relating to conflict was obtained from an independent data source maintained by Armed Conflict Location and Event Data Project (ACLED, 2016).

2.0 LITERATURE REVIEW

2.1 Overview

Jack Hirshleifer (2001), points out that individuals concentrate on likings, prospects and costs. He postulates that the poor have a comparatively low opportunity cost in violence. Further, individuals without beneficial employment are more likely to optimize their usefulness by resorting to conflict (Hirshleifer, 2001). Collier's (2004) carried this idea into a more realistic and practical approach by considering the economics of, recent civil wars. Among the "greed" or as it was re-labelled, "opportunity", variables measured was unemployment, though the prominence of unemployment faded through a succession of these models. Due to paucity of data, average years of schooling was used to capture expectations of private return that promotes access to jobs arising from investment in education. Therefore, inclusion of share of youth (15-24 year old) that are male in the population, as a variable, creates young men in a community that have few or no lawful earning opportunities which predispose that society to a high exposure to civil conflict.

The provision of more opportunities for employment raises the opportunity cost of conflict, thus making it difficult to undertake insurgent recruitment. Therefore, availability of greater employment opportunities compared to number of new job seekers, makes rebel recruitment difficult. In these models, including that of Grossman (1991), unemployment is sometimes an implied rather than observable factor, and it is not the only factor causing conflict or violence but rather combines with other economic variables and indicators.

Cash transfer provides scope for poor marginalized communities to not only access health and education facilities but also to start businesses. The case in point is that of Turkana in Kenya

where Cash Transfer recipients used the money to start small businesses¹. The residents of Turkana who are mostly pastoralists known for keeping livestock, are now turning to small businesses which enables them adapt to the rapidly changing harsh climatic conditions in Northern Kenya. The Northern Kenya which is prone to resource based conflict mainly battles over livestock, is likely to experience reduced conflict incidences due to the adoption of alternative livelihood that is business dependent (Esipisu, 2015).

In this context, therefore, cash transfer has an effect of affording communities better living conditions thus providing scope for participation in beneficial economic activities. In supporting the proposition, Blattman & Ralson (2015), emphasizes that cash-for-work is an effective tool for creating employment and increasing people's incomes especially in poor and conflict prone regions. He further points that if the cash is targeted to the highest risk men, there is a possibility of reducing crime and other materially motivated violence modestly. The idea is further supported by a randomized control trial conducted in Kenya by Haushofer & Shapiro (2014), found that households that received UCT experienced an increase in monthly consumption from USD 157 to USD 194 four months after end of the transfer. The beneficiaries also experienced improvement in their psychological wellbeing and a reduction in stress levels. The psychological health that influences consumption pattern, has an effect in promoting social inclusion and therefore reducing chances of engaging in conflict.

¹ “We expected people to purchase food, as it was an emergency situation. But investing the cash received into businesses indicates how little resources can be utilized to build resilience among poor communities,” reported Evelyn Nadio, manager of the HSNP

2.2 Civil Conflict and Cash Transfer

Many middle-income and low-income countries have adopted cash transfer mechanism to tackle poverty. This is because cash transfer given to poor families not only alleviates poverty but could lead to livelihood transformation as it empowers the families by enabling them to have an income that they can use to afford life's basic needs. However, little discussion exists on possible use of cash transfer to build and sustain a stable society especially in countries coming out of conflict (Holmes, 2009). Therefore, until recently cash transfer has not been common choice as an intervention in promoting resilience to countries or regions experiencing conflict or coming out of conflict. As explained by Holmes & Harvey (2007), this is because of the concerns relating to feasibility of delivering cash, concerns of the chances of creating inflation in weak markets and difficulties in targeting. In Sierra Leone, five years after the civil conflict, there were concerns that cash would be prone to corruption, and also that long-term support creates dependency among beneficiaries.

In Nepal, after end of the eleven-year conflict in 2006, Holmes and Uphadya (2009), recognizes cash transfers as a popular form of social protection programs for marginalized families. They emphasize on the need to contextualize cash transfer programs to Nepal's major priority of inclusive growth, employment creation for the poor and peace process. For example, Holmes (2009) reports that in Nepal, cash transfer boosted growth of the local economy and recipients were empowered by having a choice over expenditure.

In a study conducted in Philippines, Crost et al. (2015) performed an experiment to determine the impact that Conditional Cash Transfers (CCT) has on civil conflict. The experiment used random control trial to assign entitlement for access to CCT. It was noted that provision of cash reduced

conflict incidences in treatment villages relative to that in control villages. While in Somali, a cash transfer program implemented by Oxfam, a relief agency working in the Horn of Africa, is reported by Ali et al (2005) to have been used to afford basic consumption needs, debt repayments and no inflation was experienced because markets were competitive and additional goods was stocked by traders in anticipation of cash transfers.

State Building and Social Cohesion: There are many countries that have introduced cash transfer programmed to promote inclusion for purpose of peace building or for conflict prevention. As pointed out by DFID (2011), cash transfer can support the building of a strong social system and also strengthen the effectiveness or legitimacy of a government which is fundamental for cementing peace and reducing conflict. Further, the OECD(2009) report underscores the contribution of cash transfer in promoting social protection and thus strengthening the ‘agreement’ between citizens and the state especially through enhancing social inclusion, integration and accountability. Further, OECD points out that cash transfer has the potential to influence economic, social, cultural, civil and political rights.

2.3 HSNP Kenya Program

The UCT program of HSNP was intended to reduce poverty, improve on food security, tackle malnutrition and generally promote the retention and accumulation of assets by beneficiaries. As reported by Oxford Policy Management (2014), the program used community based targeting in addition to dependency ratio and social pension to identify and target the beneficiaries of the cash transfer. The experimental design, obtained through randomized control trial, involved three rounds of both qualitative and quantitative research starting with a baseline during 2009 to 2010, first follow-up during 2010-2011 and final follow-up in 2012 to 2013.

The impact of the cash transfer was determined using a difference in difference analysis and the graph below shows the typical result obtained. The treatment and control households totaling 48 were considered. For these, a comparison was made of the range of impacts indicators at both baseline and follow-up. The impact was measured using the difference in difference estimate that looked at the difference between baseline and follow-up for both treatment and control households.

The program had primary impacts which includes effect on poverty, food security and assets. In addition to this, there were secondary impacts such as improving access to health, education and livelihoods. The unintended impacts were identified to include reduced dependency resulting from improved access to employment through new business initiatives. HSNP found that household's expenditure patterns varied at baseline and at follow-up. It was observed that the first transfer was mostly used to pay off debts and other uses became important over time. For example, at follow-up 2, after two years of program intervention, there was a change in spending pattern as most households reported spending the money on education, debt repayment and clothing. As mentioned by Oxford Management Group (2014), the changes are attributed to improvement in household welfare with time and thus on reducing levels of indebtedness, there is tendency to spend more on human capital, comfort and health.

Improvement in living conditions can be attributed to good health, robust human capital as evidenced by children attending school to access education and also availability of steady flow of income through employment opportunities as provided by new business initiatives. It is therefore against this background that an analysis is undertaken to determine the possible use of cash transfer to reduce conflict by affording households access to lifes basics needs such as health,

education and employment. The HSNP analysis had indicators for: Health Expenditure per Household; Education of Children by attending school and household starting new businesses.

Health Expenditure per Household: The assessment on use of HSNP transfers to access health care was used using a difference in difference impact measure to estimate the mean monthly health expenditure. This was adjusted to take into consideration any variation of household size. The impact of the transfer on health was then assessed by considering the proportion of the population reported suffering from an illness or injury few months prior to HSNP interview. The cash transfer had a small but significant impact on mean spending on health care by every household per month. The result was observed to have been driven by HSNP test households spending more on health when compared to the falling expenditure of the control households.

It is observed too from DFID's (2011), Cash Transfer Evidence Paper which mentions strong evidence from many developing countries indicating that cash transfer has improved access to health and use of health services. This is specifically the case in enhancing preventative health, and monitoring of health women and children. The report further highlights that the effect of cash transfer is significant in Low Income Countries where it plays an important role in supporting vulnerable groups.

Education-Children attending school: The impact of the HSNP transfer on education was determined by analysis of increased spending on costs related to schooling and also by increased retention of children enrolled in schools i.e lower absenteeism. This is important considering that in absence of transfers; households may resort to a coping mechanism by withdrawing their children from school. Through the cash transfer program, it was observed that there was a relative increase in school attendance for test areas compared to that in control regions. In

addition, there was a positive impact on the proportion of children who education was their main activity. Despite all these reported changes, it is noted that the strict enforcement of school attendance by government may have had an impact too. As reported in a HSNP qualitative interview, one respondent mentioned that failure to take a child to school would result into a parent being arrested by the government for denying the child the right to a free primary school education. (Hurrel & Sabates-Wheeler, 2013).

Household starting New Businesses: The HSNP transfer induced the initiation of new business activities by beneficiaries. This was seen from the increased number of shops, new business activities and expansion of existing ventures. There was also increased volume and quantity of goods and services sold in the market places. Furthermore, there was a notable increase in variety of products sold and new services being offered. In a qualitative interview, a respondent interviewed by HSNP reported that there are commuter buses that operates between major towns and the small town centers. These are mostly used by business people to bring goods (Hurrel & Sabates-Wheeler, 2013).

3.0 RESEARCH DESIGN

3.1 Statement of the Problem

Competition for scarce economic resources in marginalized areas occupied by disenfranchised communities exacerbates conflict (Collier, 2004). Improved access to these resources can be attained by use of UCT to support the establishment of economic empowerment activities through business start-ups. This contributes to increased access to income opportunities through employment creation and thus disincentive conflict.

In most occasions, conflict prone regions are marginalized and unemployment rates are high. This usually results from the absence of policies to promote employment creation opportunities supported by the provision of social amenities thus contributing to under-development and ease of communities joining insurgencies to seek self-determination and equal access to economic resources. In the absence of alternative sources of livelihood, membership of insurgent groups provides easy access to dollar payments required to afford or access life's basic needs. Therefore, UCT can be used to facilitate business start-ups and thus deters membership to insurgent groups.

3.2 Research Questions

The research study intends to find answers to the following fundamental questions: a) Does the provision of cash transfers promote new business initiatives and thus disincentives participation in civil conflict; and b) Does cash transfer change livelihoods by improving household income and thus reduce involvement in civil conflict?

3.3 Hypothesis

A combination of poor livelihood caused by low rate of employment contributes to high chances of conflict. As argued by Collier (2004), a link exists between living conditions as a measure of

unemployment and other socio-economic and political factors that contributes to marginalization and discrimination that engender conflict and violence at a more structural level. Therefore, UCT can be used to disincentives conflict by improving living conditions through employment creation and providing access to social amenities that enhances inclusive participation in both political and economic spheres in society. The hypothesis H_0 and H_1 is as follows:

H_0 : UCT does not reduce number of conflicts in the treatment sub-locations relative to that in the control locations.

3.4 Plan to Prove the Hypothesis

The scientific plan to prove the hypothesis involved use of HSNP data that was implemented in Kenya during 2009 to 2014 with an intention of using cash transfer to change livelihood of people living in marginalized conflict prone regions. The randomized control tests utilized by HSNP was used in proving the hypothesis. In as much this test was used to assess livelihood changes, the same test was found useful in determining the impact that cash transfer has on incidences of conflict.

The two tests used in proving this hypothesis, but performed by HSNP are as follows:

Treatment Test: In proving the hypothesis, six sub-locations, randomly selected in each of the four counties of Northern Kenya, was given UCT. The beneficiaries received smartcard to use in collecting cash at any time from various pay points located in small shops located across the four counties. The data relating to reported conflict in the treatment sub-locations was collected at baseline in 2009 and on follow-up in 2012.

Control Test: Six sub-locations was randomly selected in each of the four counties of Northern Kenya to act as a control. No cash transfer was provided to these areas during the randomized control test. Data relating to conflict was collected at baseline in 2009 and on follow-up in 2012.

3.5 *Scope of the Research*

The research investigated the contribution, impact and role that UCT play in reducing conflict by providing opportunity for business start-ups while promoting access to education and health.

The aim of UCT was to reduce poverty and enhance human capital development by targeting poor households in conflict prone region. Households qualified for UCT program if they had children aged 0-14 and their per capita income was lower than the regional poverty line. Estimation of per capita income was done using Proxy-Means Test (PMT) which relied on the following indicators for household members: education; consumption; access to essential basic services; assets owned; occupation; condition of housing; and tenure status of housing. Finally, the selected households were verified through spot checks. The program targets sub-locations with poverty rates greater than 50%, so that a great share of the treatment sub-locations was eligible for CT.

4.0 RESEARCH METHOD, DATA COLLECTION AND ANALYSIS

This section details out the research method used and the process for data collection and analysis. In addition, the choice of the sample size and sampling technique is also explored.

4.1 Research Method

The research follow a quantitative approach which as explained by Burns and Grove (1993) involves a systematic objective process that describes and tests any existing relationships among variables. The research also used a comparative case study as it provides scope for further analysis by comparing the control and the treated villages. In this way a detailed understanding was obtained on the possible use of cash transfer in reducing civil conflicts.

4.2 Research Design

A descriptive survey is chosen as it affords an accurate portrayal of the characteristics of a particular situation or group. The design is selected to satisfy the study objective which is to assess the impact of UCT in reducing conflict by improving people's livelihoods through sustainable income sources gained by business start-up creation opportunities.

4.3 Data Sources

The analysis exploited data obtained from randomized experiment conducted by the HSNP. The HSNP, which is an unconditional cash transfer program, delivered with funding from the UK Department for International Development (DfID). It was to reduce poverty by providing cash transfer to households in Marsabit, Mandera, Wajir and Turkana all located in the conflict prone region of Northern Kenya. No data was collected nor analysis done by HSNP on the impact of cash transfer on conflict. Therefore, using HSNP randomized control trial, data relating to conflict for both control and treatment areas was obtained from ACLED (2016).

4.4 Sample size

Type of Locality	Number of Sub-Locations	Number of Households
Control Sub-Location	24	2,500
Treatment Sub-Location	24	2,500

Table 1: Sample size and distribution per sub-location

A sample size of 5,000 households is targeted from both the control and treatment areas located in 48 sub-locations of the conflict prone Northern Kenya. The sub-locations selected are similar except the treatment areas where unconditional cash transfer was provided to households. The ACLED data was useful in studying the possible use of CT in reducing conflict. This provided indicators of possible role of cash transfer in reducing membership of insurgent groups and thus disincentives conflict.

4.5 Survey Design and Questionnaire

4.5.1 Survey Purpose

The survey used is based on that undertaken by HSNP which was tailored and correlated with conflict data to obtain information on the possible use of UCT to improve access to resources by marginalized community and achieve economic empowerment required to reduce participation in civil conflict activities. This was essential considering that cash transfer improves livelihood, provides scope for improved access to employment opportunities through new business activities that are started, and thus deters membership to insurgent groups.

4.5.2 Population

This research covered a conflict prone region with a population of 291,166 people and 56,941 households (Government of Kenya, 2016). In addition to the persistent civil conflict, the community in this region is poor and rely mostly on livestock as source of their livelihood. The

education attainment levels are very low and access to health is low too. The poverty in this area is such that people are easily recruited into armed insurgent groups as a means of earning an income.

4.5.3 Target Population

The available income data in the targeted area indicate that 92% of the households live below the poverty line. Nearly all the households in the four counties is extremely poor with reported annual household income of less than USD 900 and therefore easily recruited into insurgent groups for purpose of earning extra income.

4.5.4 Sampling Method

A simple random sampling method was used by giving equal probability of selection of the 56,941 households. As any household has the equal probability of selection, bias is minimized and analysis of result is simplified. The variation in individual results within a sample is a good indicator of existing variance in the population. This simplifies the accurate estimation of results.

4.5.6 Survey Type

Most people in the intervention area do not have access to internet or postal mail boxes and very few people own telephone handsets. However, the literacy rate is 83.2% for male and 82.1% for female (UNICEF, 2016). In view of this factors, a personal interview method of survey was used to fast track completion of questionnaire. Interviews are more personal form survey as the interviewer interacts directly with the respondent. In mail surveys, there is opportunity for interviewer to probe further using follow-up questions. Respondents find interviews easier as what is sought is opinions or impressions. The drawback of interviews is that they can be very time consuming and they are resource intensive.

4.6 Data Analysis

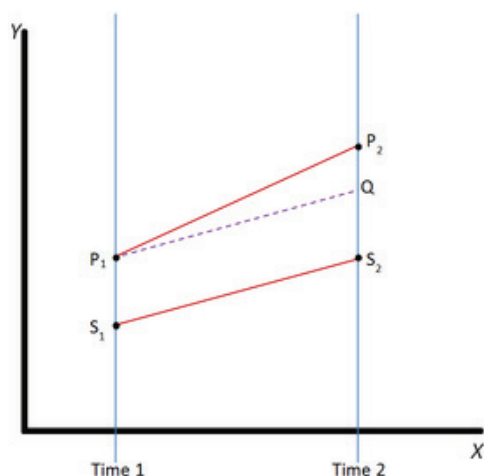
As explained by Hurrell and Sabates-Wheeler (2013), randomization took place in August 2009. The selected recipients in the first 24 sub-locations started receiving the transfer immediately upon enrollment into the programme. These are the *treatment sub-locations*. In the other 24 sub-locations, prospective recipients were not provided cash for the first two years after enrolment. These are the *control sub-locations*. The baseline data was collected by November 2010, and the follow-up data collection was done by November 2011 and the final fieldwork undertaken in November 2012.

It is of note that there was no involvement of the police, the army or any additional security at the program implementation locations. Therefore, it is unlikely that the observed decrease in conflict in the treatment sub-locations that received cash transfer was caused by any increased security measures.

In different phases of the intervention, evidence by Crost et al (2014), points out that development programs has an effect on conflict in a highly heterogeneous way (Crost, Felter, & Johnson, 2014). Therefore, the data analysis considers the three different time period: pre-randomization (before 2009) and post randomization (during 2012) and early implementation (after 2012). A comparison is therefore done for treatment and control sub-locations at both pre and post-randomization using sub-location year as the unit of observation.

4.6.1 Difference in Difference Analysis

The data collected from the treatment and control test is subjected to a difference in difference analysis.



Graph 1: Sample graphical representation of difference in differences analysis

The line P represents outcome in treatment group and line S represents outcome of control group. Measurement of outcomes (dependent) variable is done for both groups at time period 1 before any cash transfer or treatment is given (i.e., the independent or explanatory variable). Points P_1 and S_1 represents this initial period before any treatment is given. The treatment group then receives the cash transfer. Another measurement is taken at time period 2. Not all differences between the treatment and control groups at this time (that is, the difference between P_2 and S_2) can be explained as being an effect of the treatment. This is attributed to the fact that the treatment and control group did not start at the same time period 1.

The difference in difference (DID) calculates the "normal" difference in the outcome variable between the two groups (the difference that would still exist if neither group experienced the treatment), represented by the dotted line Q. It is noted that the slope from P_1 to Q is the same as the slope from S_1 to S_2 . The treatment effect is the difference between the observed outcome and the "normal" outcome (the difference between P_2 and Q).

4.6.2 Result, Data and Summary Statistics

During the period 2009 to 2014, HSNP delivered regular cash transfer to 24 sub-locations designated as treatment sites and located within the four counties of Marsabit, Mandera, Wajir and Turkana. These are conflict prone regions of Northern Kenya. This provided data on characteristics of treatment and control sub-locations at both baseline and post-treatment. It also provided data relating to health, education and number of new businesses as shown in table2 below:

Year	Period	Mean monthly per capita health expenditure per household (KES)		Proportion of Children attending school% (age 6-17)		Percentage households with new businesses %	
		Treatment	Control	Treatment	Control	Treatment	Control
Nov-10	Baseline	23	19	63.2	42.6	6	4
Nov-11	Follow-Up1	29.5	23.4	64.1	55.4	15	9
Nov-12	Follow-up2	39	22	70.3	61.6	9	0

Table 2: HSNP Survey Result on Health, Education and Business Start-Up (Source: HSNP M&E Impact Evaluation Survey Sept 09-Nov 2012)

No data was collected nor analysis done by HSNP on the effect of the cash transfer on conflict. Therefore, in using the HSNP randomized control trial, the ACLED (2016) data relating to conflict for both control and treatment areas was found useful.

The data was analyzed using Stata for difference-in-difference analysis. Regression analysis was done to determine the correlation of cash transfer to conflict. The data for both treatment and control sub-locations is the reported death or incidences of violence caused by conflict. This provided data for the dependent variable. The independent variable is the cash transfer provided to the households.

4.6.3 Result of Stata Dif-in-Dif Analysis

Using pre and post treatment data from treatment and control groups, a difference-in-difference analysis performed to evaluate the effect of cash transfer. An assumption made is that trend in control group approximates what would have happened in the treatment group in absence of the cash transfer and this effect is represented by the following equation:

$$Y = \beta_0 + \beta_1 D^{\text{Post}} + \beta_2 D^{\text{Tr}} + \beta_3 D^{\text{Post}} D^{\text{Tr}} + (\beta_4 X) + \epsilon$$

Where:

Y is the number of conflict incidences

D^{Post} is time dummy(1=after treatment)

D^{Tr} is treatment group dummy

$D^{\text{Post}} D^{\text{Tr}}$ is time x treatment interaction

β_3 is the difference in difference estimate

X is a vector of control variables.

Using Stata, the difference in difference analysis result is as shown in Table 3 below. The result indicates that the coefficient for 'did' is the difference-in difference estimates. According to the estimate in table 3 below, the control group had 0.99 or 1 more conflict than the treatment area. The DID in table 3 relate to number of conflict Y relative to post treatment conflict. i.e DiD is $Y \times D^{\text{Post}}$. Therefore, the computed coefficient for DID of 0.99 which is statistically significant indicates that there was one more conflict in the control areas when compared to post treatment.

gen did = Y* DPOST

regress Y DTR DPOST did

Source	SS	Df	MS			
Model	17971.6254	3	5990.54179	Number of obs = 40		
Residual	19218.1428	36	533.8383	F(3, 36) = 11.22		
Total	37189.7682	39	953.583799	Prob "F" = 0.0000		
				R-squared = 0.4832		
				Adj R-squared = 0.4402		
				Root MSE = 23.105		

Y	Coef.	Std.Err.	T	P> t	(95% Conf. interval)	
DTR	-0.7585031	7.306431	-0.10	0.9180	-15.57663	14.05963
DPOST	-40.58006	10.22596	-3.97	0.0000	-61.31927	-19.84086
Did	0.9999653	0.1724178	5.80	0.0000	0.6502859	1.349645
_cons	40.96075	6.327547	6.47	0.0000	28.12789	53.79361

Table 3: Result of Dif-In-Dif Analysis using Stata(*Source: Authors Computation*)

4.6.4 Discussion: Analysis of Impact of Cash Transfer on Conflict

As shown from analysis of data obtained from HSNP, provision of cash transfer improved the communities' level of income thus enabling them to access health, education and start new businesses. There was also improvement in standards of living of people in the treatment villages relative to those in the control villages. The treatment households had reduced incentives to participate in conflict as the better living conditions was now characterized by improved education attainment levels, and availability of employment from new business initiatives.

On satisfying all the basic needs including payment of pressing needs such as debts and food, the cash received is utilized on human capacity building (Hurrel and Sebates-Wheeler, 2013). Noting that some of the cash recipients initiated businesses, the people with skills gained through the capacity building activities are able to access employment in the new business set-ups. In overall, the community will have a committed youth that is actively engaged in attending school and an adult population engaged in employment activities and thereby there will be little incentive to join insurgent or rebel groups as an alternative source of engagement for income purposes.

Therefore, the improved chances of obtaining a steady income flow through employment in the new business set-ups had the unexpected impact of reducing conflict.

4.6.5 Results: Explaining Causality

As noted by Coleman (2003), conflicts resulting from sharing of resources tend to be intractable. This is the case when it involves distribution of tangible resources such as money or better jobs, as well as intangible resources such as social status. Social status is influenced by individual level of education, health and wealth as determined by business ownership or employment. Therefore, using the data on health, education and business status a determination can be made of the impact of these factors on conflict level. The table 4 below therefore presents a summary statistics and balance tests for sub-location level control variable. The control variables consists of mean monthly per capita health expenditure per household, proportion of children attending school (age 6-17) and percentage households with new business initiatives. All these variables are from HSNP.

	Treatment	Control	P(T<=t) one-tail
Conflict Incidence	11.958	13.812	0.4066
Mean monthly per capita health expenditure per household	11.437	8.05	0.0402
Proportion of children attending school (age 6-17)	24.7	19.95	0.0584
Percentage households with new business	3.75	1.625	0.0639

Table 4: Analysis of conflict incidences in treatment and control locations (Source: Based on data collected by Armed Conflict Location and Event Data Project (ACLED, 2016))

Conflict Incidences: The summary statistics above shows that the control sub-locations which did not receive any unconditional cash transfer experienced on average 13.812 incidences of conflict per year. This is a higher mean number of conflict incidences when compared to 11.958 experienced by the treatment villages that received cash transfer. Using a null hypothesis that

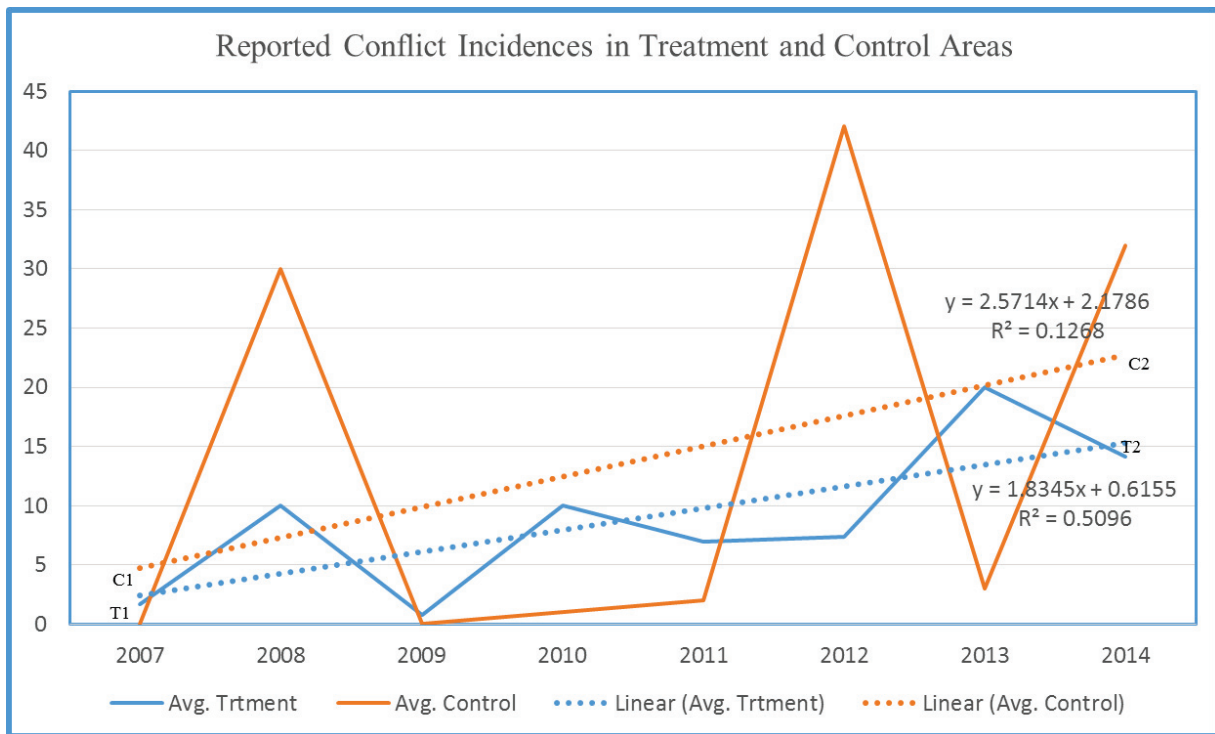
there is no impact of cash transfer on conflict, it is seen from the p-value that the probability of this being true is only about 40.6%. It implies that there is a 58.4% chance of the cash transfer having a statistically significant impact in reducing incidences of conflict.

Health Expenditure: The unconditional cash transfer increased disposable incomes of households in treatment zones relative to that in control locations. This is reflected by a comparatively higher average monthly expenditure on health. The p-value of the difference in spending in health is 0.0584 implying that the cash transfer had a statistically significant impact on spending in health.

School Attendance: The analysis further shows that children between the ages of 6 -17 years belonging to households in treatment locations reported a higher school attendance rates of rate of 24.7 compared to only 19.9 for those in control areas. The probability of households not using cash transfer to promote school attendance is only 5.8% implying that the UCT had a statistically significant impact in influencing education attainment.

New Business initiatives: Through new business initiatives, cash transfer provides a sustainable mechanism for addressing economic disenfranchisement and by extension reducing conflict incidences. This is seen from analysis of HSNP data which shows that treatment locations had on average 3.75 new businesses per year compared to only half that number i.e 1.625 in control zones. Taking the null hypothesis that cash transfer does not influence business start-ups, the probability of this being true is only 6.39%. The null hypothesis is therefore rejected considering the significant impact that cash transfer has on influencing creation of employment opportunities through new business. Individuals that are actively engaged in income generation activities are not easily recruited into insurgent groups.

The impact of unconditional cash transfer on conflict can be represented graphically as follows:



Graph 2: Conflict Incidences in Treatment and Control Areas

Line T1T2 represents the outcome of the treatment group and the control group is represented by line C1C2. The number of conflicts (dependent variable) is measured for both groups during the period 2007 before any cash transfer is given. The cash transfer is the independent or explanatory variable. The points T1 and C1 represents the initial period before any treatment is given. The treatment group then receives the cash transfer. Another measurement is taken at time 2014.

The average number of conflicts is higher in the control group than in the treatment group that received cash transfer. The occurrence of conflict is therefore not homogenous in the treatment and control groups. Further, the reported conflicts in the treatment group is not far apart from the mean when compared to that in the control group.

Coefficient of determination R²: In the treatment group, the regression line did not miss many points by significant margin and therefore the R² of the regression is 0.5096. It implies that

nearly 51% of the variation in number of conflicts can be explained by the provision of cash transfer. However, compared to the control group where no cash transfer was given, only 12.7% of the variation in conflict could be attributed to the independent variable. Therefore, in comparing the treatment group and control group, it is deduced that variation in conflict was statistically significant in the treatment group that received cash transfer.

There was differences noted between mean value of the independent variables for both the treatment and control locations. For example, the households in the treatment locations spent on average KES 9.03 more on health when compared to those in the control areas. It is also seen that children of age between 6 to 17 are 12.67% more likely to be enrolled at school if they are in the treatment households. Further, there is 5.67% chance for new business to be initiated by households that received cash transfer.

4.6.6 Extraneous Variables

The result of the randomized control experiment was impacted by the extraneous variables which influenced the relationship between the dependent and the independent variables for both the treatment area that received cash transfer and also the control area. As pointed out by Hurrell et al (2013), the selection of a wider geographical unit involving use of 24 treatment and 24 control areas ensured a high degree of comparability of the treatment and control areas. This led to selection of households in the treatment areas that was a perfect mimic of that in the control areas. Further, any varying household specific characteristics which might have a potential influence on the impact indicators being measured, was also controlled in the difference-in-difference estimate. The effect of attrition bias was reduced by using the restricted sample of households surveyed at baseline and follow-up. This notwithstanding, the following can be identified as having been the specific extraneous variables:

Sample attrition: The effect of sample attrition is real especially considering the nomadic lifestyle of certain households in the randomization area. Some of the household numbers can be reduced due to death or movement to larger town centers in search for employment opportunities. As most families sampled were fully settled with less chances of movement, and thus it was observed that the effect of sample attrition was not significant.

Existence of other cash transfer programs: The existence of other cash transfer programs targeting the same households in randomization experiment area is likely to have an impact on the dependent variable. The survey conducted at baseline and at follow-up determined that there were no significant number of households that were receiving similar cash transfer from other programs.

Spillover effect: There is a possibility that conflict moved away from the treated sub-locations to the control locations. However, considering that the data on conflict was independently sourced and the cash transfer was provided without intention of reducing conflict, there is less likelihood for a spillover effect to have contributed to any increase in conflict in the control areas. There is also no evidence that the direct effect of the program on treated areas was due to displacement of conflict to nearby sub-locations.

5.0 CONCLUSION

By relying on data obtained from HSNP's randomized control experiment, the analysis indicates the possible use of unconditional cash transfer in reducing conflict and promoting self-employment. The analysis shows three key findings: Firstly, the unconditional cash transfer has the possible effect of reducing annual average number of conflicts in the treatment sub-locations relative to that in the control locations. Secondly, there is a tendency of cash recipients to start businesses thus leading to an increase in self-employment. This is an important effect as it enhances sustainability of the program considering that the beneficiaries have dependable income sources derived from businesses that they are operating. Further, the new business initiatives promoted by the cash transfer creates jobs that provide scope for economic growth and development. There is therefore scope for more people being engaged in productive employment other than participate in conflict.

The importance of health was evident when households in treatment locations increased health expenditure upon experiencing increase in disposable income. Health is a necessary social resource and a decision to spend more on health implies an improvement in social status. A healthy community is more productive as reflected in the increased number of new businesses initiated. Indications are that provision of unconditional cash transfer has an impact in promoting access to health by members of a disenfranchised community.

Annex 1: Stata Dif-in-Dif Analysis

```
gen did = Y* DPOST
regress Y DTR DPOST did
```

Number of obs = 40
 F(3, 36) = 11.22
 Prob >F = 0.0000
 R-squared = 0.4832
 Adj R-squared = 0.4402
 Root MSE = 23.105

Source	SS	Df	MS
Model	17971.6254	3	5990.54179
Residual	19218.1428	36	533.8383
Total	37189.7682	39	953.583799

Y	Coef.	Std.Err.	T	P> t	(95% Conf. interval)
DTR	-0.7585031	7.306431	-0.10	0.9180	-15.57663 14.05963
DPOST	-40.58006	10.22596	-3.97	0.0000	-61.31927 -19.84086
Did	0.9999653	0.1724178	5.80	0.0000	0.6502859 1.349645
_cons	40.96075	6.327547	6.47	0.0000	28.12789 53.79361

Annex 2: Regression Analysis

A) TREATMENT LOCATIONS SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.807431184
R Square	0.651945116
Adjusted R Square	0.390903954
Standard Error	7.311900498
Observations	8

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>Significance F</i>
Regression	3	400.575	133.525	2.497480127	0.19877462	
Residual	4	213.8555556	53.46388889			
Total	7	614.4305556				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	10.63333333	3.269981312	3.251802478	0.031322333	1.554409727	19.71225694	1.554409727	19.71225694
Mean Monthly Per Capital Health Expenditure	-1.74515358	0.82842233	-2.10659891	0.102884322	-4.0452227	0.554915543	-4.0452227	0.554915543
Proportion Children attending school	1.074699683	0.402616937	2.669285823	0.055847491	-0.04314414	2.192543507	-0.04314414	2.192543507
Percentage of households with business start-ups	-1.40263683	1.12798521	-1.24348867	0.28158893	-4.53442584	1.729152187	-4.53442584	1.729152187

B) CONTROL LOCATIONS

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.698881
R Square	0.488435
Adjusted R Square	0.104761
Standard Error	16.73171
Observations	8

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	1069.169	356.3896	1.273047	0.396702
Residual	4	1119.8	279.95		
Total	7	2188.969			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	12.7	7.482647	1.69726	0.164883	-8.07516	33.47516	-8.07516	33.47516
Mean Monthly Per Capital Health Expenditure	-8.18078	8.742097	-0.93579	0.40236	-32.4527	16.09118	-32.4527	16.09118
Proportion Children attending school	3.397355	3.192596	1.064135	0.347241	-5.46671	12.26142	-5.46671	12.26142
Percentage of households with business start-ups	-0.49815	4.539707	-0.10973	0.917908	-13.1024	12.1061	-13.1024	12.1061

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