Oxford Policy Management

Kenya Hunger Safety Net Programme Monitoring and Evaluation Component

Impact Evaluation Final Report: 2009 to 2012

Fred Merttens, Alex Hurrell, Marta Marzi, Ramla Attah, Maham Farhat, Andrew Kardan and Ian MacAuslan

June 2013

Acknowledgements

The authors thank all the individuals who have contributed to undertaking the Hunger Safety Net Programme (HSNP) Monitoring and Evaluation (M&E) survey fieldwork and to producing this report.

They include: the HSNP Secretariat and other HSNP management consultants that have provided support and cooperation in the inception and data collection phases; the Ministry of State for the Development of Northern Kenya and Other Arid Lands and DFID for their support in the evaluation design; the staff members of Research Solutions and Research Guide Africa, both past and present, and in particular the M&E survey field teams who undertook the data collection for this report, usually under challenging conditions; and last, but not least, the respondents who generously gave their time for interviews.

The authors would also like to acknowledge DFID's vision in the design of the HSNP. Their generous support in funding the programme and the impact evaluation is deeply appreciated.

Peer review was provided by Patrick Ward and Rachel Sabates-Wheeler. All opinions expressed, and any mistakes, remain the responsibility of the authors.

This assessment is being carried out by Oxford Policy Management (OPM) and partners. The project manager is Fred Merttens. The team members are Patrick Ward, Rachel Sabates-Wheeler, Dr Ludo Carraro, Marta Marzi, Alex Hurrell, Andrew Kardan, Ramlatu Attah and Ian MacAuslan.

The client is DFID Kenya. The contact point for the client is Liz Drake.

Oxford Policy Management Limited
6 St Aldates Courtyard
38 St Aldates
Oxford OX1 1BN
United Kingdom
Registered in England: 3122495
Tel +44 (0) 1865 207300
Fax +44 (0) 1865 207301
Email admin@opml.co.uk
Website www.opml.co.uk

Executive summary

The Hunger Safety Net Programme

The HSNP is an unconditional cash transfer programme that aims to reduce poverty in northern Kenya. During the pilot phase the HSNP delivered regular cash transfers to beneficiary households (for community-based targeting (CBT) and dependency ratio (DR) beneficiaries) or to individuals (for social pension (SP) beneficiaries) in the counties of Mandera, Marsabit, Turkana and Wajir. The pilot programme operated under the Ministry of State for the Development of Northern Kenya and Other Arid Lands and was delivered by several contracted service providers, with financial support from the UK Department for International Development (DFID).

Study design

The impact of the HSNP has been assessed using rigorous scientific methods. Using a randomised controlled trial approach, a number of geographical areas (sub-locations) were randomly chosen to be assessed by the evaluation. These sub-locations were then randomly assigned to be either 'treatment' areas, where the programme began to operate straight away, or 'control' areas, in which the programme did not start for two years (the duration of the impact evaluation). The programme's selection process was implemented (prior to the baseline survey) identically in both treatment and control areas. Impact was then assessed by comparing HSNP beneficiary households in treatment areas with households in control areas that were selected for the programme but who would not come into the programme for two years. For the final impact analysis there were 20 treatment and 20 comparison (control) sub-locations, with 1,224 HSNP households (the treatment group) and 1,212 control group households.

Qualitative research was also conducted in four HSNP treatment sub-locations in each greater district. Qualitative methods included focus group discussions (with female and male beneficiaries and non-beneficiaries), key informant interviews (with community elders, teachers, labourers, minority groups and traders), household case studies (a 'qualitative panel' of beneficiaries and non-beneficiaries), and participatory methods (social mapping, timelines and community wealth ranking).

This report relates to the impact of the programme on HSNP households after 24 months from the point of targeting. It compares the situation of HSNP and control households at the time of their selection into the programme (baseline), with their situation 24 months later (year 2 follow-up). Over this 24-month period most of the HSNP households covered by the evaluation had received 11 or 12 bi-monthly transfers (initially KES 2,150, increased to KES 3,500 by the end of the evaluation period). The first impact report, published in May 2012, assessed the impact of the programme on HSNP households after 12 months, at which point most had received four or five transfer payments.

This report is accompanied by the final Operational Monitoring Report, which assesses the effectiveness of the implementation of the various components of the programme, and a follow-up year 2 qualitative evaluation report, which provides the extended results of the qualitative research conducted during the second follow-up evaluation round.

Key results

The HSNP stops or slows the slide into poverty

The HSNP is having a significant impact on increasing consumption expenditure and reducing extreme poverty in northern Kenya. HSNP households are 10 percentage points less likely to fall into the bottom national poverty decile than control households. In addition, both the poverty gap (how far on average a household is below a given poverty line – in this case the bottom national decile) and the severity of poverty (a measure giving more weight to poorer households) improve in comparison to control households by seven percentage points each. HSNP households have seen their consumption expenditure increase by KES 247 per adult equivalent per month on average.

This impact was achieved despite a very severe drought (even by the extreme standards of northern Kenya) that affected programme districts in 2011. Programme impact on consumption and poverty was characterised by significant decreases in consumption among control households, rather than increases for HSNP households. In other words, **the HSNP is fulfilling its title and acting as a vital safety net**, mitigating the negative impact of drought and other adverse shocks for HSNP households.

The poverty impact is driven by poorer and smaller households, who are experiencing the largest reductions in poverty as a result of the programme. This is as expected given the greater size of the transfer relative to their consumption expenditure. This implies that in order to maximise its poverty impact going forward, the HSNP must make efforts to target the poorest households and consider measures for indexing the value of the transfer to household size so as to ensure that larger poor households are not left behind.

HSNP households spend more on food

The programme is having a significant impact on food security, another of its key objectives, reflected in a significant positive impact on food consumption. Eighty-seven per cent of HSNP households report eating more and/or larger meals. HSNP households spend approximately KES 213 more on food per month per adult equivalent than control households.

As with general consumption, the impact on food consumption is driven by a significant fall among control households rather than improvements for HSNP beneficiaries, highlighting the successful safety net function of the programme. Once again the impacts are most pronounced for smaller and poorer households.

Dietary diversity, food aid and child nutrition

In addition to expenditure on food, the evaluation assesses programme impact on food security by considering: whether households are consuming more varied diets; whether households are being deprioritised for food aid and other food support programmes; and whether child nutrition is improving.

In contrast to the findings after one year of programme operations, after two years we do not find an impact on dietary diversity for HSNP households overall. However, ***poorer*** **HSNP household are increasing the diversity of their diets**.

There were concerns that HSNP households would be deprioritised for food aid and other support such as school and supplementary feeding programmes, but this has not happened. **HSNP beneficiaries are not less likely to receive food aid**, probably because food aid distributions are driven by their own programming decisions.

In terms of the mode of support, **HSNP households expressed a clear preference for cash support** over food aid, since it provides the flexibility to meet a wider range of needs. However, it was also clearly expressed that, at current levels, the value of the transfer is not large enough to fully replace food aid.

The evaluation found no significant impact on child nutrition. This is not surprising given the variety of factors external to the HSNP and beyond simple access to food that affect child nutrition, which a cash transfer by itself is unlikely to influence.

Evidence suggests the HSNP is helping households to retain livestock

The evaluation finds some evidence of positive impact on retention of livestock, with HSNP households six percentage points more likely to own some form of livestock after two years of programme operations than control households; this result is even more pronounced for goats/sheep, at seven percentage points. However, this result is not robust when you control for community- and household-level factors, nor for any specific categories of households under the heterogeneity analysis. At the same time, there is much qualitative testimony to the positive impact of the programme enabling households to retain livestock. Therefore, **there is some strong evidence that the HSNP is enabling households to retain livestock but it is not fully conclusive**.

In terms of the retention and accumulation of non-livestock productive assets, **the HSNP is not having a significant impact on ownership of a range of key productive assets**. However, the qualitative research did reveal some beneficiaries buying consumer goods (‘non-productive assets’), such as housing materials, clothing, or basic household items.

Secondary impact areas

The HSNP is enabling households to spend more on health care

The HSNP is having a small but significant positive impact on health expenditure. This result is being driven by poorer households.

The magnitude of this impact on health expenditure is relatively small. For every additional KES 2000 received per household member over the evaluation period, average spending on health expenditure is increased by just KES 5 per household member per month. Alongside health sector supply-side constraints, this may help explain why **the programme is not having an impact on health status**. Qualitative research reveals a possible link between receipt of the HSNP and the type of health care that beneficiaries choose, because the cash transfers give people access to

more expensive health care providers than were previously affordable. However, any difference in services received does not seem to translate into actual reduced incidence of illness or injury. The quantitative research also highlights the fact that cash is a fungible asset and that health spending confronts households as a necessity. Households often face little choice but to meet the required expenditure to cope with a health shock, regardless of whether they can 'afford' it. This implies that, although both treatment and control households strive to meet that expenditure, treatment households are able to do so without adopting more destructive coping strategies, such as reducing food consumption or drawing down on their assets (two areas where the HSNP does show a positive impact).

The HSNP is not increasing attendance or expenditure on education, but beneficiary children are improving their performance in school

The evaluation also finds no significant impact on education enrolment or attendance rates, or on education expenditure by households. However, for those children already in school, the HSNP is shown to have a significant positive impact on school performance – there is a statistically significant increase in the average highest class achieved for children aged 6–17 and in the proportion of children aged 10–17 passing Standard IV, though this latter result only emerges once we control for community- and household-level factors. This impact is being driven by poorer and smaller households. Households report using HSNP cash for uniforms, stationery, books and other expenses, and even (in isolated cases) secondary school fees and to send children to private schools, which are more expensive but perceived to be better quality.

That the HSNP is not having an impact on education expenditure and school attendance may seem disappointing, but these results are not surprising given that, at baseline, the evaluation revealed that cost and access are not the key barriers to schooling in the HSNP districts. Rather, it was the need for children to contribute to household production and domestic duties. In light of these findings the programme can be expected to have an impact on educational outcomes only to the extent that it reduces the need for children to perform domestic duties and/or participate in home production. In fact, children are no less likely to be engaged in domestic or productive work as a result of the programme.

The positive HSNP impacts on school performance are not driven by increased educational expenditure or school attendance. Rather, they appear to be caused by the improved psycho-social experience of school for beneficiary children. Arriving at school better fed, presentable, and adequately equipped with uniform and school supplies is reported to be improving children's confidence and capacity to concentrate, which in turn seems to be positively affecting their school performance.

The HSNP is not causing inflation or stabilising prices over time

While food prices rose dramatically during the period covered by this evaluation, the evidence shows that **the HSNP is not causing inflation**. Similarly, a comparison of monthly price changes for key commodities reveals that **HSNP cash transfers are not contributing to food price stabilisation over time** (e.g. between seasons). This implies that the scale of the HSNP (coverage rates and value of the transfer) is not sufficient to substantially affect trading patterns, food prices or supplies in local markets. Instead, it is seen how price inflation can erode the value of HSNP cash transfers. Recognising this, the HSNP has increased the value of the transfer on

successive occasions, but the impact of inflation on the purchasing power of the transfer remains an important area of consideration. Traders insist they are not raising their prices opportunistically, but rather that the circulation of HSNP cash transfers is increasing competition among traders.

The HSNP is not creating dependency or disrupting pastoralist livelihoods

The main livelihood activity in the HSNP operational area is livestock rearing. However, droughts, as well as economic, social and political changes, have disrupted pastoralist livelihoods and led to increasing reliance on other sources of income, such as casual labour and selling bush products. It is these broader forces, rather than the HSNP, which have affected people's livelihoods.

Among some policy-makers there is a worry that unconditional cash transfers could cause 'dependency', meaning that people will not be incentivised to work. However, the evaluation reveals no impact on labour supply (measured by the proportion of adults engaged in productive work), either in HSNP or control households, indicating that **the programme is not creating dependency** among beneficiaries.

Moreover, **some livelihoods have been positively affected by HSNP** – a small but significant proportion of beneficiaries have started or expanded a business using HSNP cash as working capital. Several individuals reported upgrading their livelihoods thanks to HSNP, in one case from casual labourer to trader, while others have set up kiosks to sell food and grocery items.

The HSNP may be positively benefiting the local economy

The evaluation produces **lots of qualitative testimony as to the positive impact of the HSNP on the local economy**. Traders claim the influx of cash increases demand to which they respond. Beneficiaries claim to have started or improved their businesses where they have them. Moreover, non-beneficiaries claim to benefit from the provision of goods and services to beneficiaries. **However, this evaluation does not provide a definitive robust quantitative measure of programme impact on the local economy**. This would be a very useful area for a future impact evaluation to focus on.

Saving, borrowing and credit

The HSNP is significantly improving households' ability to save cash, as well as access loans and credit.

Households in rural northern Kenya have little access to formal financial institutions like banks, because their incomes are low and volatile and because they lack assets for collateral when trying to seek loans. Saving money is therefore challenging, and local people tend to borrow from shops, relatives and neighbours or other informal lenders. Despite this, the evaluation finds that **the programme is having a significant positive impact on the ability of households to save and borrow**. HSNP households are seven percentage points more likely than control households to have cash savings, and 10 percentage points more likely to access loans. Both impacts are stronger for better-off households, which likely reflects the fact that wealthier households are better equipped to both save and borrow.

The evaluation also finds that **the HSNP is having an impact on increasing households' uptake of credit**, but that this result is only apparent once we control for other factors and adjust for variation in the cumulative *per capita* value of transfers received. As with many other impacts, this result is being driven by poorer HSNP households.

This is especially in relation to poorer households' ability to buy food and other basic items on credit from shops that are acting as HSNP paypoints, because shopkeepers trust the borrowers' ability to repay when they receive future transfers. Importantly, HSNP cash is also used to pay off debts induced by purchases on credit, with beneficiaries owing significantly less credit debt than control households. This suggests that **the HSNP is allowing beneficiaries to manage credit well, borrowing to smooth consumption but avoiding damaging levels of indebtedness**. This evidence is made more compelling when viewed in the light of the kinds of strategies HSNP households claim to use when coping with shocks, with access to credit one of the main strategies employed.

The HSNP can help households cope with shocks

HSNP and non-HSNP households in the programme area were equally exposed to covariate shocks during the evaluation period, principally drought and inflation. But there is some evidence, though not conclusive, that **HSNP cash transfers provided partial protection against those shocks, by enabling some households to avoid certain types of negative coping strategy**. Beneficiaries and non-beneficiaries adopted the same set of coping strategies, but beneficiaries reported that they adopted them less intensively (they sold fewer animals and rationed food consumption less severely, for instance). These testimonies are supported by the quantitative findings on poverty and consumption expenditure, livestock ownership and food consumption.

Does the HSNP empower women?

The question of whether women in particular are being empowered by the HSNP is complicated. Much clearly depends on the definition and indicators of empowerment assessed. In the case of the HSNP, **the majority of nominated programme beneficiaries are women. The programme also seems to be benefiting women's economic and social empowerment by enabling some women (specifically those in female-headed households) to take more control of the household budget and to increase their potential for undertaking income-generating activities**. Once again, these findings are driven by smaller and poorer households.

However, there is also some evidence, particularly from the qualitative research, that in some individual cases this is having the unintended consequence of creating tensions within households, especially between female HSNP recipients and their husbands. Such testimonies are not strongly reinforced by findings from the quantitative survey on the incidence of divorce or relationship break-up. These findings could be interpreted as indicative of women being empowered to claim more equality with their husbands, but such an interpretation is far from clear cut. Complicating the matter further is the evidence that women, while remaining largely the nominal beneficiaries of the HSNP, seem, at least to a degree, to be losing control over how the transfer is spent to older male household heads.

Do older people or children benefit from the HSNP differently to other groups?

The wellbeing of older persons is supported directly through the SP component of HSNP and indirectly through the CBT and DR components. **There is no evidence that the HSNP is having an impact on older persons' involvement in paid or unpaid work**, though both treatment and control groups do show a significant increase in the proportion of older people engaging in paid work (excluding unpaid domestic work). This increase could be in response to the generally adverse economic and climatic conditions in the HSNP areas, which have increased the need for older people to find paid employment. However, once other factors have been controlled for the HSNP does appear to be having a statistically significant impact in terms of shifting older persons towards doing more unpaid domestic work and away from other types of work. There are anecdotal reports of tensions between older persons and younger relatives over control of the HSNP cash transfers, especially in SP areas where older persons are the designated beneficiaries, but these are not reflected in any of the aggregate quantitative indicators relating to tension within communities or who controls the transfer within households. **There is no evidence that old people are improving their health status as a result of receiving the transfer**.

As in relation to older people above, whether the HSNP benefits children especially is another important question. Beyond measures of impact associated with education or child nutrition outcomes, to assess HSNP impact on children we look at whether children suffer less incidence of illness or injury as a result of the transfer, or whether they are less likely to be engaged in paid or unpaid work. In relation to the latter, **there is some evidence that the HSNP is reducing the incidence of both paid and unpaid child labour** in beneficiary households, but only once household- and community-level factors are controlled for and only for some categories of HSNP households rather than across the board – e.g. child labour is significantly reduced for poorer and smaller households, where the relative or *per capita* value of the cash transfer is higher. We find **no evidence that the HSNP is reducing incidence of illness or injury for children particularly**.

Unintended impacts

The HSNP interacts with informal social networks in complex ways

It is possible that the HSNP may be having some kind of impact on informal safety nets in northern Kenya, where the average value of informal in-kind support received by wealthier beneficiary households significantly decreased in comparison to control households. One interpretation of this is that these wealthier households are less dependent on support from others as a result of HSNP, but given the complexity of informal support networks, especially across the diverse populations in the four counties covered by HSNP, further investigation is required before any firm conclusions should be drawn. Findings from the qualitative research do not point towards a decisive impact on informal networks, where, despite reports that HSNP transfers are sometimes shared by beneficiaries, it is shown that sharing and reciprocity arrangements are much more strongly determined by social and cultural factors. This said, some **25% of beneficiary households reported sharing at least some of their transfers with other households**.

The HSNP is not causing tension within or between communities

The evaluation finds no evidence that the HSNP has been a source of tension, either within HSNP communities or between HSNP operational areas and other sub-locations. There are some individual reports from qualitative fieldwork relating to tensions within households between husbands and wives over control of HSNP cash, as noted above, but we find no strong evidence from the quantitative survey that this is causing higher rates of divorce in programme areas than non-programme areas.

We cannot say whether the HSNP is affecting household composition

In terms of household composition the evaluation does not find a big influence of the HSNP but does throw up some counter-intuitive results, such as the falling numbers of beneficiary households with children and falling numbers of children per household amongst beneficiaries (typically, you might expect a cash transfer programme to attract more children in beneficiary households). There is also seemingly an impact on the proportion of beneficiary households containing no member aged 18–54. However, **it is not viable to make clear inferences on the impact of the HSNP on household composition** based on these data because of the complexity of factors influencing these and the recent population dynamics in HSNP areas.

Conclusions and implications for social protection policy

Implications for HSNP design and other potential interventions

The quantitative analysis conducted by the evaluation provides a robust estimate of aggregate programme impact. The qualitative data demonstrate a diversity of individual experience behind that aggregate impact, indicating that different types of household respond in different ways to the transfer. This reality of **the way different households respond differently to the transfer could be dampening the overall average impact of the programme**.

The analysis shows that **the impact of the programme is more pronounced on smaller and poorer households and on households that received a greater cumulative *per capita* value of transfer**. This indicates that targeting the transfer at the poorest households, and ensuring the payments system functions effectively so that all households receive their full entitlement, are the best ways to maximise programme impact and value for money. In addition, these findings raise questions about the effective minimum value of the transfer and whether it could be effectively indexed to household size.

The above findings also show that, in the context of northern Kenya at least, an unconditional cash transfer such as **the HSNP does not have an impact across hundreds of different domains**. There is therefore a need to be realistic about where such an intervention can make a real difference. In some areas, complementary interventions may be needed in order to enable the cash transfer to make a tangible impact. In others, conditionalities may be appropriate. In yet others, different interventions altogether may be required that focus more on the supply side.

Implications for social protection policy

Cash transfers in Kenya are being consolidated into a single National Safety Net Programme (NSNP). This incorporates the HSNP, the Cash Transfer for Orphans and Vulnerable Children (CT-OVC), the Older Persons Cash Transfer (OPCT), the Persons with Severe Disability Cash Transfer (PwSD-CT) and the Urban Food Subsidy Cash Transfer (UFS-CT). **Lessons from this evaluation will be useful for the NSNP as whole, and not just the HSNP.**

This evaluation provides further evidence that cash transfers have positive impacts without creating dependency. The evaluation also demonstrates that the impact is stronger for smaller and poorer households across a variety of domains. This may imply that **the NSNP considers an option for *per capita* rather than per household transfers**. Also, the HSNP seems to have a stronger impact on food security and other domains during shock periods. This **underlines the usefulness of cash transfers as a shock response system** and provides justification for introducing a shock responsiveness function across the NSNP. A useful next step for the NSNP would be to explore complementarities with other programmes, and in particular supply-side activities.

The HSNP is moving under the control of the National Drought Management Agency (NDMA) under the Ministry of Devolution and Planning. This will require careful management as the current operational arrangements are complex and HSNP impacts are sensitive to effective programme implementation.

Areas for future research

The aim of the HSNP is to reduce poverty, hunger, and vulnerability for the poorest in Kenya's arid lands. **A cost-effectiveness assessment** should estimate the cost to achieve these objectives, broken down into different types of costs as specified by the NSNP M&E framework. This assessment would help to identify areas in which efficiency savings could potentially be made and assess their effectiveness compared with other programmes.

The HSNP Phase 2 is producing a comprehensive registration dataset which theoretically includes information on every household in the HSNP target counties. This will provide a useful resource for the conduct of future evaluations and will help minimise the need for and/or cost of any future independent impact evaluations. However, further evaluation across a variety of domains is advisable in order to monitor programme performance and achievements.

A future impact evaluation could usefully focus on the impact on the local economy. The evaluation produces much qualitative testimony and some quantitative evidence indicating that the HSNP may well be having positive impacts on the local economy. However, it does not provide a robust quantitative measure of this. Providing an estimate of the programme multiplier effect – how much income is generated for the local economy for each dollar transferred to the community by the programme – would be a very persuasive piece of evidence in the debate over the effectiveness and efficiency of cash transfers.

Other areas that would benefit from further qualitative research in particular include the impact of the HSNP on gender relations and its interactions with informal transfer networks. Understanding these interactions would be useful for comprehending how the HSNP does or does not achieve particular impacts, how it transmits those impacts to other members of the population beyond

direct beneficiaries, and for fine tuning the design of the programme. It would also be useful for devising alternative or complementary interventions.

Table of contents

List of tables, figures and boxes

Acronyms and abbreviations

ASAL	Arid and Semi-Arid Lands
ATT	Average Treatment Effect on the Treated
CBT	Community-Based Targeting
CT-OVC	Cash Transfer for Orphans and Vulnerable Children
DFID	Department for International Development
DHS	Demographic and Health Survey
DR	Dependency Ratio
FGD	Focus Group Discussion
HH	Household
HSNP	Hunger Safety Net Programme
KII	Key Informant Interview
KES	Kenya Shillings
M&E	Monitoring and Evaluation
MIS	Management Information System
NDMA	National Drought Management Agency
NGO	Non-Governmental Organisation
NSNP	National Safety Net Programme
OPCT	Older Persons Cash Transfer
OPM	Oxford Policy Management
PwSD-CT	Persons with Severe Disability Cash Transfer
QPS	Qualitative Panel Survey
SRS	Simple Random Sampling
SP	Social Pension
TLU	Tropical Livestock Unit
UFS-CT	Urban Food Subsidy Cash Transfer
WFP	World Food Programme
WHO	World Health Organisation

1 Introduction

This chapter introduces the subject of the evaluation, the Hunger Safety Net Programme (HSNP), and describes the evaluation methodology.

1.1 The Hunger Safety Net Programme

The HSNP is an unconditional cash transfer programme that aims to reduce poverty in northern Kenya by delivering regular cash transfers to beneficiary households or individuals in four counties in the arid and semi-arid lands (ASALs) of northern Kenya: Mandera, Marsabit, Turkana and Wajir.

Under phase 1, the programme operated under the Ministry of State for the Development of Northern Kenya and Other Arid Lands and was delivered by several contracted service providers, with financial support from DFID. The HSNP originally provided KES 2,150 to each beneficiary household (or individual in the case of the SP) every two months. This was calculated as 75% of the value of the World Food Programme (WFP) food aid ration in 2006 when the value of the transfer was originally set. Over time, the value of the transfer has increased and at the end of the evaluation period stood at KES 3,500.[1] Beneficiaries are given a biometric smartcard which they use to collect their cash at any time from a range of paypoints (mainly small shops called *dukas*) across the four counties.

The overall goal of the HSNP is to reduce poverty, food insecurity and malnutrition, and promote asset retention and accumulation for beneficiary households. It was anticipated that the programme would also have positive impacts on a wider range of indicators of wellbeing and wealth, such as resilience to shocks, health and education uptake, and access to financial services. During the pilot phase approximately 300,000 beneficiaries (60,000 households) were targeted under three different targeting mechanisms:

- **Community-based targeting (CBT):** the community collectively selects households they consider most in need of cash transfers, up to a quota of 50% of all households;
- **Dependency ratio (DR):** households are selected if the proportion of members under 18 or over 55 years old, disabled or chronically ill exceeds a specified number; and
- **Social pension (SP):** Any individual aged 55 or over is eligible for cash transfers (so one household could receive multiple transfers).

Although these targeting mechanisms do not explicitly target the income poor (with the partial exception of CBT), the programme is poverty targeted by virtue of its geographic targeting. Poverty rates in the HSNP counties are very high, with some 85% of the population falling below the national poverty line at the time of the 2005/6 Kenya integrated Household Budget Survey (KIHBS) and some 54% falling into the bottom national decile.

[1] The value of the HSNP transfer was initially increased from KES 2,150 to KES 3,000 with effect from payment cycle 16 (Sept/Oct 2011). It was subsequently increased to KES 3,500 with effect from cycle 19 (Mar/Apr 2012). A one-off doubling of the transfer occurred in Jul/Aug 2011 to support households coping with drought.

1.2 The evaluation

A consortium led by Oxford Policy Management (OPM) has been contracted by DFID to undertake a rigorous evaluation of the programme's impact. The impact evaluation is based on quantitative and qualitative information collected over three years between August 2009 and November 2012. The evaluation gathers and presents data on the targeting and operational effectiveness of the HSNP as well as on the following potential impacts:

Key intended impacts:

1. Increased consumption expenditure and poverty reduction;
2. Increased food security (increased food expenditure, reduced reliance on food aid and reduced malnutrition rates); and
3. Increased asset retention and accumulation.

Secondary intended impacts:

4. Increased uptake of health services;
5. Increased uptake of education services;
6. Stabilised food prices and supplies of key commodities in local markets;
7. Increased diversity of livelihood activities;
8. Increased financial saving;
9. Decreased vulnerability to shocks;
10. Increased empowerment of women; and
11. Improved wellbeing of older people and children.

Possible unintended impacts:

12. Increases in the prices of key commodities in local markets;
13. Disruption of informal transfer systems;
14. Changes to households' composition;
15. Social tensions, conflict and insecurity;
16. Changes to household mobility; and
17. Dependency.

The impact evaluation is underpinned by an experimental quantitative survey design. The HSNP was randomly allocated to 'treatment' sub-locations, in which selected households entered the programme and started receiving the transfer immediately, and 'control' sub-locations, in which selected households only began to receive transfers two years later. A sample of just over 5,000 households was randomly selected at baseline (prior to the programme roll-out) for interview on an annual basis in 48 evaluation sub-locations (24 treatment and 24 control), also selected at random. The baseline data collection was completed in November 2010, the first round of follow-up data collection finished in November 2011, while the final round of fieldwork completed in November 2012 (for a more detailed description of the sample design and fieldwork model, see Section 2 below and Annex A).

The analysis of the baseline data is presented in three separate reports: (1) the main Baseline Report, which provides a situation analysis of the HSNP districts, with a particular focus on the

characteristics of the mobile pastoralist population; (2) the Targeting Report, which presents the analysis of targeting effectiveness, based on a comparison of poverty rates and other characteristics between households selected for the programme and those not selected; and (3) the Payments Monitoring Report, which presents analysis relating to the operational performance of the payments system.[2]

A subsequent set of reports presents an analysis of programme impact after 12 months of programme operations: (1) a report summarising the findings of the quantitative impact research; (2) a report summarising the findings of the qualitative impact research; (3) an Operational Monitoring Report presenting findings on the operational effectiveness of the programme; and (4) a Synthesis Report which summarises the findings from the three larger impact reports and presents conclusions and recommendations for the HSNP that stem from those findings.[3]

This report presents the final impact evaluation results after two years of programme operations. It draws on both quantitative and qualitative data. A separate report synthesises the consolidated findings of the routine quarterly operational monitoring that the M&E has carried out over the life of the pilot phase and contextualises these in relation to findings from the operational monitoring conducted over the life of the evaluation.[4] The full findings from the follow-up 2 qualitative study are presented in a separate report[5] (see Table 1 below for summary description of the main evaluation reports).

The measure of programme impact derives from a comparison of baseline and follow-up 2 data, i.e. the change in the situation of beneficiary households across a variety of outcome indicators after two years of programme operations. Put simply, the measure of programme impact is given by comparing the situation of treatment and control households at the time of their selection into the programme (baseline), with their situation 24 months later (year 2 follow-up). Over this 24-month period most of the HSNP beneficiary households covered by the evaluation had received between 10 and 12 bi-monthly transfers (initially KES 2,150, rising to KES 3,500 towards the end of the period). Where relevant, findings from the year 1 impact study are referred to in the text.

The report is structured as follows: the rest of the introduction outlines the data and analysis methodology. Section 2 describes the evaluation methodology. Section 3 presents analysis of the use of the HSNP cash transfers by programme households in order to provide context to the main impact analysis. Sections 4, 5 and 6 present the results of the analysis of key, secondary and

[2] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Baseline Report, June 2011; Kenya Hunger Safety Net Programme Monitoring and Evaluation Component HSNP Targeting Effectiveness Evaluation Report, December 2011; Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Payments Monitoring Report, June 2011.
[3] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Quantitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012; Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012; Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Consolidated Operational Monitoring Report, May 2012; Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Impact Analysis Synthesis Report, May 2012.
[4] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Consolidated Operational Monitoring Report for follow-up 2, May 2013.
[5] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2009 to 2012, March 2013. All the evaluation reports can be found at http://www.opml.co.uk/projects/kenya-hunger-safety-net-programme-monitoring-and-evaluation-component.

unintended impact areas respectively[6]. Section 7 provides conclusions and policy implications for the HSNP.

A technical annexure is provided detailing the evaluation design and sampling strategy, the econometric methods used in the impact analysis, a summary of the impact heterogeneity analysis results, additional tabulations and data which are referenced in the main body of the report, and information on the precision of impact indicators.

[6] But with some modifications: the analysis of the programme's potential impact on local-level price inflation is considered together with assessing the programme's impact on stabilising food prices and supplies of key commodities in local markets (see Section 5.3); dependency is covered under Section 5.4 as part of the analysis of the programme's impact on livelihood activities.

Table 1 Description of HSNP evaluation outputs

Report title	Evaluation round	Description of content
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Impact Evaluation Final Report: 2009 to 2012, June 2013	Final round (After two years of programme operations)	Comprehensive and consolidated findings on impact of HSNP after two years of programme operations, drawing on both the quantitative survey and the qualitative research
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2011 to 2012, June 2013	Final round (After two years of programme operations)	Detailed findings from the qualitative research conducted during the final round of the impact evaluation, focusing specifically on impacts on the local economy, impacts on education, and impacts on nutritional status
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Operational Monitoring Final Report: 2009 to 2012, June 2013	Final round (After two years of programme operations)	Consolidated findings on programme operations, focusing on second year of operations but contextualising evolution of the programme since baseline, drawing on quantitative and qualitative data
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Quantitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012	First follow-up round (After one year of programme operations)	Comprehensive results from the quantitative assessment of programme impact after one year of operations
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012	First follow-up round (After one year of programme operations)	Comprehensive results from the qualitative research on programme impact after one year of operations
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Impact Analysis Synthesis Report, May 2012	First follow-up round (After one year of programme operations)	Consolidated findings on impact of HSNP after one year of programme operations, drawing on both the quantitative survey and the qualitative research
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Consolidated Operational Monitoring Report, May 2012	First follow-up round (After one year of programme operations)	Consolidated findings on programme operations, focusing on first year of operations but contextualising evolution of the programme since baseline, drawing on quantitative and qualitative data
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component HSNP Targeting Effectiveness Evaluation Report, December 2011	Baseline (After enrolment but prior to payments commencing)	Detailed assessment of targeting performance of the programme under three different targeting mechanisms: CBT, SP targeting, and DR targeting
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Payments Monitoring Report, June 2011	Baseline (After enrolment but prior to payments commencing)	Results from a quantitative survey focusing on performance of the HSNP payments system in non-evaluation areas during the baseline period
Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Baseline Report, June 2011	Baseline (After enrolment but prior to payments commencing)	Comprehensive description of the evaluation methodology and characteristics of the population in programme areas, including both beneficiaries and non-beneficiaries

Notes: All the evaluation reports can be found at http://www.opml.co.uk/projects/kenya-hunger-safety-net-programme-monitoring-and-evaluation-component.

2 Impact evaluation methodology

The HSNP M&E unit conducted an extensive impact evaluation of the HSNP cash transfer pilot phase over three years using a mixed methods approach.

- The evaluation was conducted in all four counties (Mandera, Marsabit, Turkana and Wajir) in which the HSNP operates.
- The quantitative component of the evaluation is based on a randomised controlled trial design using a panelled household survey.
- The impact evaluation data were collected over the course of three rounds comprising a baseline round (August 2009 – November 2010), a follow-up 1 round (November 2010 – November 2011), and follow-up 2 round (February 2012 – November 2012).
- The final round was conducted on a reduced sample size, with two sub-locations in each county dropped.
- The findings in this report represent impact results after two years of programme operations.

2.1 Sample structure

The impact analysis is based on a comparison of treatment and control households. Targeting was undertaken across all programme sub-locations, which were then matched into pairs – a sub-location is an official administrative unit with formally defined geographical boundaries; not all sub-locations in the each of the four counties were included in the pilot. Forty-eight programme sub-locations were then randomly selected from the pool of all programme sub-locations and then from those each pair were randomly assigned between treatment and control at a public lottery event (*bahati na sibu)* facilitated by the HSNP Secretariat and attended by officials from the district and the two sub-locations in question.[7] A detailed explanation of the evaluation survey design and sampling strategy is provided in Annex A.

An important feature of the evaluation design, and one that is uncommon in many studies of this kind, is that the household selection process used in treatment areas was replicated exactly in the same way in control areas. This is known as 'perfect mimicry'. When it is combined with random allocation of treatment, perfect mimicry ensures comparability between selected households in treatment and control areas.

We consider a household to be 'treated' if it was selected by the programme to be a beneficiary in a treatment sub-location. We refer to these as Group A households – this is the treatment group. Treated households began receiving HSNP cash transfers following the completion of the baseline survey in their specific sub-location. We refer to selected households in control sub-locations as Group B households – this is the control group. Control households only began to receive cash upon completion of the final round of data collection (follow-up 2 survey), i.e. two years after the baseline survey.

[7] At baseline there was some worry about the ethics of randomly allocating sub-locations between treatment and control. However, during the pilot phase the HSNP was not able to reach all sub-locations in the four programme counties so there was a natural pool from which control sub-locations could be selected, and control sub-locations which were selected for the evaluation were guaranteed to enter the programme on a priority basis as soon as the pilot phase was concluded. Households in control sub-locations also each received a small gift for participating in the targeting process.

Figure 1 Evaluation study groups

	Treatment	Control
Selected into HSNP	Group A	Group B
Not selected (data only gathered at FU1)	Group C	Group D

Detailed information was collected from both treatment and control households. Initially, data were gathered via a baseline survey conducted after targeting but before households began receiving transfers. The same households were then re-interviewed 12 months after baseline, and again after 24 months.

Households that are not selected are those households that were identified as being ineligible for the programme under the targeting process. We refer to these households as groups C and D. We gather information on these households at baseline and follow-up 1 for the purposes of the targeting analysis[8] and in order that an analysis of programme spill-over effects may be conducted. Spill-over effects are what we term the impact of the programme on non-beneficiary households and may occur because of programme impacts on local markets and/or sharing of the transfer between beneficiary and non-beneficiary households. An analysis of programme spill-over effects is not presented in this report.[9]

Data collection was undertaken continuously over the course of around one year for each survey round, with one sub-location being surveyed in each county each month. This fieldwork model was designed in order to account for seasonal differences. A breakdown of the actual dates of data collection in each sub-location is given in Annex A.

For all outcome indicators presented in this report, the statistical significance of all mean differences at baseline between HSNP and control households were tested. Overall, these significance tests show the randomisation process was broadly successful in ensuring almost no significant differences between the treatment and control groups at baseline.[10] This implies that the study methodology is robust. Further detail on the robustness checks carried out by the analysis is given in Section 2.5 below.

2.2 Sample size

Table 2 below shows the final sample sizes achieved for each round of the survey.[11] The sample size at follow-up 1 is smaller than at baseline due to sample attrition. In other words, some

[8] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component HSNP Targeting Effectiveness Evaluation Report, December 2011.
[9] Information on group C and D households was only collected at baseline and follow-up 1 (that is, after one year of programme impacts). No information on Cs and Ds was collected at follow-up 2.
[10] The only indicators to show statistically significant differences at baseline were: proportion of households containing an orphan (single or double); proportion of households reporting being food insecure in the worst recent period of food shortage; proportion of households going entire days without eating solids; proportion of households receiving food aid; proportion of households owning any livestock; proportion of households owning any goats/sheep; proportion of children aged under five who are stunted; proportion of children aged 6–17 currently attending school; proportion of children aged 6–12 currently attending school; and proportion of children aged 13–17 currently attending school.
[11] Note that a sample of non-selected households in both treatment and control areas was included in the original sample. At baseline these households were crucial because they enabled analysis of the targeting effectiveness of the

households interviewed at baseline that could not be interviewed at follow-up 1. At follow-up 2, in addition to attrition (see Section A.2 in Annex A), the sample size is further reduced because the follow-up 2 survey covered eight fewer sub-locations, i.e. 40 rather than 48.

Table 2 Panel sample size by treatment status and survey round

Baseline	Treatment areas	Control areas	Overall
Selected for HSNP	1,571 [Group A] *Treatment households*	1,536 [Group B] *Control households*	3,107
Not selected	968 [Group C]	1,033 [Group D]	2,001
Overall	2,539	2,569	5,108
Follow-up 1	**Treatment areas**	**Control areas**	**Overall**
Selected for HSNP	1,434 [Group A] *Treatment households*	1,433 [Group B] *Control households*	2,867
Not selected	881 [Group C]	889 [Group D]	1,770
Overall	2,315	2,322	4,637
Follow-up 2	**Treatment areas**	**Control areas**	**Overall**
Selected for HSNP	1,224 [Group A] *Treatment households*	1,212 [Group B] *Control households*	2,436
Overall	1,224	1,212	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

The reduction in the number of sub-locations surveyed at follow-up 2 was the result of decisions made by the programme and its stakeholders, rather than a technical decision by the evaluation team. This reduction in sample size is unfortunate for a number of reasons. Firstly, it undermines the study design to the extent that the smaller sample size reduces the ability to detect impact with statistical significance. Secondly, it affects the balance of the sample, meaning that treatment and control populations are less balanced at baseline than they were with the original sample structure. Lastly, the sample was designed to be seasonally balanced across the whole calendar year, which is no longer the case as sub-locations that would have been surveyed in the latter and early part of the calendar were dropped. Another implication of the reduced sample at follow-up 2 is that the baseline estimates presented in this report differ from those presented in the baseline and follow-up 1 impact reports. This is because the estimates now relate to slightly different populations.

This said, and as reported above (see Section 2.1), the study design remains robust and the sample broadly balanced. The ability to detect statistical significant differences is slightly reduced, but the trends observed remain viable and the conclusions drawn from analysis of the data are still

selection process by comparing poverty rates and other characteristics between selected and non-selected households. They were also covered in the follow-up 1 survey, allowing for potentially confounding cluster-level trends to be identified and accounted for. A comparison of group C and D households over time also enables an assessment of the potential spill-over effects.

valid. The dropping of the sub-locations perhaps places a bit more emphasis on the models controlling for community- and household-level factors, but this is reflected in the way the data are interpreted.

Analysis of the survey data shows that attrition at follow-up 2 is largely driven by Mandera and Wajir and by fully mobile households (who are more prevalent in these counties). Since these households have particular characteristics it has been necessary to adjust the survey weights used for the analysis. Annex A provides detailed information on attrition rates and the factors associated with them, as well as how the weights are constructed.

The composition of individual households also changed over the life of the survey, largely driven by lifecycle changes for individual household members. These changes are discussed in Section 6.2, which assesses the impact of the programme on household composition.

The final impact analysis is therefore based on the comparison of 1,224 treatment group households with 1,212 control group households for which we have observations at both baseline and follow-up 2. The application of sampling weights to all descriptive and impact estimates means the results are representative of all HSNP households in treatment areas covered by the evaluation and the corresponding control households in the control areas. All tables in this report are labelled accordingly. A detailed description of how the sampling weights were calculated and applied is provided in Annex A.

2.3 Difference-in-difference impact analysis methodology

The quantitative impact analysis presented in this report is based on the difference-in-difference ('dif-in-dif') methodology. The measure of impact is given by comparing how much beneficiaries improved (or did not improve) across a range of indicators with changes across those same indicators in comparable control households over the same period. The control households, who did not receive the payment, provide a measure of what would have been expected to have happened to beneficiary households had they not received the cash transfer. The dif-in-dif measure thus captures the difference between treatment households at baseline and follow-up (c.24 months later), minus the difference between control households at baseline and follow-up. This constitutes the primary measure of programme impact. A detailed description of the analytical approach, as well as additional econometric methods used, is provided in Annex B.

Box 1 How to read the tables in this report

Most tables in this report follow a standard format. Columns 1 and 2 give the mean levels at baseline and follow-up for each indicator in HSNP households, while column 3 calculates the difference between them. Columns 4, 5 and 6 provide corresponding estimates for control households. Column 7 gives the 'dif-in-dif' impact measure – the difference between follow-up and baseline for HSNP households minus the corresponding difference for control households. Column 8 shows the number of observations at follow-up (FU1) which is 2,867 (the sample of households comprising the treatment plus control panel) minus any missing values. Significant differences are denoted in these tables by three (***), two (**) or one (*) asterisks, signifying differences at 99%, 95% and 90% confidence respectively.

In addition to the estimate of impact provided by the 'pure' dif-in-dif measure, impact is also estimated using a model that controls for various community-, household- or member-level factors that may influence the impact indicators of interest (see Section 2.5 below).

2.4 Analysis of impact heterogeneity

In addition to estimating the overall average programme impact, the impact evaluation also assesses the degree to which programme impact varies across different types of households. This is referred to as impact heterogeneity analysis. The impact heterogeneity analysis assesses the variation in programme impact across a number of dimensions:[12]

1. By consumption expenditure – *is programme impact stronger for relatively poorer households?*
2. By household size – *since the transfer value is not indexed to household size, the effective per capita value of the transfer is larger for smaller households, therefore is the programme impact stronger for smaller HSNP households?*[13]
3. By total cumulative value of transfers received (*per capita*) – *in addition to the large household dilution effect, due to delays some HSNP households received fewer transfers than others over the 24-month evaluation period, so is programme impact lower for households that have received less total support per household member over the evaluation period (i.e. adjusting for household size and number of transfers received)?*

It must be noted that when disaggregating the data in this way, the original randomisation no longer ensures comparability (by design) between treatment and control, because this property only applies to the full sample.[14] Controlling for covariates thus becomes essential, as does the assumption of common trends in observable and unobservable characteristics, which is a key hypothesis of dif-in-dif models.

Annex B provides a detailed explanation of the econometric methods employed for the impact heterogeneity analysis. The results are presented in Annex C.

Box 2 Adjusting for cumulative value of transfers received *per capita*

Adjusting for the cumulative value of transfers received *per capita* asks the question: **is receipt of a larger total value of transfers per household member associated with a higher level of programme impact?**

That is to say, using the actual data collected by the impact evaluation it compares the impact of the programme on a household that has received an average total *per capita* value of transfers, with the impact of the programme on a household that has received an additional KES 2,000 total per household member over two years.

[12] Variations in impact between targeting mechanisms were analysed at follow-up 1 but did not reveal any systematic differences across the targeting mechanisms. This finding is not surprising since the targeting report shows a large degree of overlap in terms of the characteristics of SP, DR and CBT beneficiaries, so it makes sense that the HSNP impact does not vary by mechanism. Because the sample was reduced at follow-up 2 the balance by targeting mechanism was not maintained so these results are not presented in this report.
At follow-up 1 we also analysed heterogeneity of programme impact across households by mobility status, i.e. whether the programme was having a differential impact on HSNP households depending on whether they are partially or fully mobile or fully settled. However, due to sample attrition, which particularly affected mobile households, and the reduction in overall sample size, we do not present this analysis here. The results of the heterogeneity analysis by mobility status are presented in Table C.2, Table C.3 and Table C.4.

[13] Households are classed as small if they have fewer members than the median household size found at baseline.

[14] In addition, comparability is already compromised somewhat by the fact that eight sub-locations were dropped from the sample at follow-up 2 (see Section 2.2).

2.5 Robustness tests

It is important to test the robustness of the estimate impact provided by the dif-in-dif measure. To do this, we conduct a series of checks to account for various factors that could potentially affect each impact indicator. These factors are referred to as covariates. In general, the randomisation of the treatment over a sufficient number of geographical units (sub-locations in this case), combined with the dif-in-dif methodology, is intended to ensure treatment and control group households are as similar as possible, i.e. similar not just in their observable and unobservable characteristics at baseline but also in terms of observable and unobservable time-varying factors that affect the impact indicators of interest.

As stated above, the randomisation of the programme across treatment and control areas was broadly successful in ensuring treatment and control households were indeed comparable at baseline (the only exceptions being significant differences in a handful of indicators relating to food security, school enrolment and the prevalence of orphans). In other words, the property of balance is maintained after attrition for the panel sample.

However, a number of exogenous time-varying community-level factors could have affected treatment and control areas to differing extents. These include: supply of food aid and other aid programmes including emergency support; road access; severity of the drought; and supply of education and health facilities. Although Table 3 below shows that on average there have not been significant differences in the degree to which treatment and control areas have been affected by such factors, there are still substantial differences in the degree to which households in the sample have been affected by the time-varying factors it is important to control for.

To check the robustness of the basic dif-in-dif impact estimates, impact is thus also estimated using a number of alternative approaches: (1) including dummies for each pair of sub-locations over which the treatment randomisation was made; (2) including household-level covariates (and individual-level covariates in the case of household member-level indicators); (3) including household/member- and community-level covariates; and (4) controlling for changes in time-variant household characteristics that are included only as baseline levels in the other specifications (see Annex B for a full description of the econometric estimation methods used).

Table 3 Comparison of non-programme factors affecting treatment and control areas

Proportion of households living in communities:	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
With no road	4.9	0	-4.9	15.4	4.1	-11.3*	6.4	2,435
Reporting very bad long rains	22.5	5.4	-17.1*	22.3	2.2	-20.1**	3.0	2,435
Reporting very bad short rains	8.5	16.1	7.6	1.7	5.5	3.8	3.8	2,435
With primary school	52.5	77.4	24.9**	52	74.9	22.9***	2.0	2,435
With health facility	29.8	63.5	33.7**	24.2	57.4	33.3***	-2.5	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

The results of these checks reveal that the findings are generally robust across different specifications.[15] Only the results of models controlling for household/member- and community-level covariates are presented in this report, alongside the impact heterogeneity results detailed in Annex C.

It can be noted from Table 3 above that both treatment and control communities show similarly large increases in the availability of primary schools and health facilities between baseline and follow-up 2. Reports from the field suggest that, in the case of health facilities, the increase is driven by a government-sponsored mobile clinic programme across the four counties. In the case of primary schools, a partnership programme between the community and the government was established for the construction of classes to start primary schools.

[15] There some exceptions under model (3) where estimates are of the opposite sign to the other specifications but these are almost always insignificant (i.e. where a positive result changes into a negative result or vice versa). The only significant exceptions are: ownership of livestock, ownership of goats/sheep, and ownership of camels, which under model (3) are of opposite sign to the other specifications and not significant where the other models are significant, or vice versa.

3 The cash transfer

This chapter provides information on the cash transfer. It finds that:

- The level of exposure to the programme for different households can vary for a variety of reasons. Ninety-eight per cent of households received between eight and 11 transfers over the 24-month period of programme operations.
- For two-thirds of beneficiary households the transfer has a *per capita* value of between KES 350 and KES 700.
- Evidence suggests that women may be losing control of the transfer in favour of male heads of household and main providers.
- Households overwhelmingly spend the transfer on food.

3.1 Variability in programme exposure

Before we consider the impact of HSNP it is worth considering how different HSNP households benefit from the programme to different extents. This is referred to as variation in *exposure* to the programme. Programme exposure varies for three reasons:

1. Some HSNP households, particularly SP households, contain multiple nominated beneficiaries (see Table 4 below);
2. Some HSNP households have received more payments cycles than others. This is sometimes due to variations in the lag between targeting and start of payments across different sub-locations, but in some cases it is due to individual households experiencing delays in enrolment, missing payments, or having problems accessing payments (e.g. due to missing smartcard or faulty fingerprints); and
3. The effective value of the transfer per household member (*per capita*) is smaller for larger households.

It might be expected that the programme would have a lower impact on households that have received less 'exposure', either as a result of living in a large household (where the effective *per capita* value of the transfer is lower), having received fewer payment cycles, and/or because they contain just one rather than two or more beneficiaries. These effects are taken into account as part of the impact heterogeneity analysis presented in this report (see Box 2 above).

Table 4 Proportion of households containing multiple beneficiaries and mean number of beneficiaries

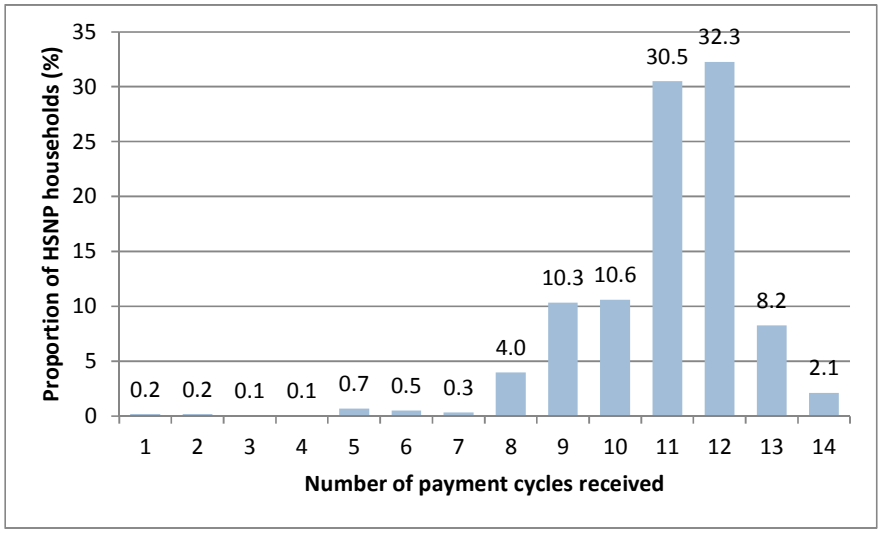
Indicator	CBT areas	DR areas	SP areas	All HSNP areas
Proportion of HSNP households containing more than one beneficiary (%)	3.9	2.6	13.4	5.1
Mean number of beneficiaries per household	1.04	1.03	1.13	1.05

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

It should be noted that there is a distinction in HSNP terminology between nominated 'beneficiaries' – named as an individual in the programme Management Information System (MIS)

– and ‘recipients’ (either ‘primary’ or ‘secondary’) – also named as individuals in the programme MIS. Nominated beneficiaries may also be primary and/or secondary recipients. Table 4 above refers to nominated beneficiaries.

Figure 2 Variation in number of HSNP payment cycles received

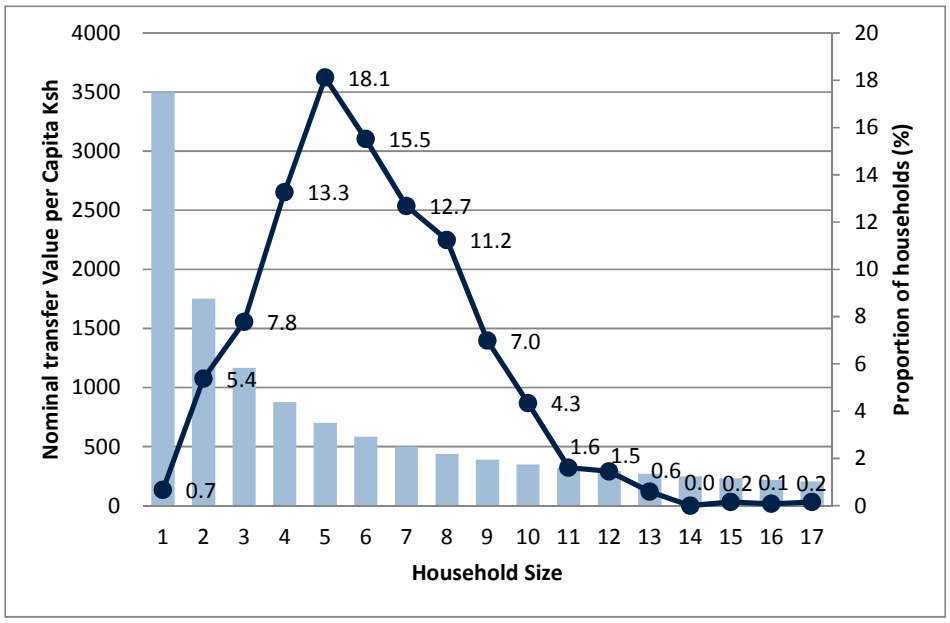


Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

It should be noted that there is a distinction in HSNP terminology between nominated ‘beneficiaries’ – named as an individual in the programme Management Information System (MIS) – and ‘recipients’ (either ‘primary’ or ‘secondary’) – also named as individuals in the programme MIS. Nominated beneficiaries may also be primary and/or secondary recipients. Table 4 above refers to nominated beneficiaries.

Figure 2 shows that there has been quite a difference in the numbers of transfers individual households have received over the two years the pilot programme has been operating. Around 73% have received more than 11 transfers, with another 25% receiving from eight to 10 transfers (accounting for 98% of all households together). For just over two-thirds of beneficiary households, the transfer has a nominal *per capita* value of between KES 350 and KES 700 (Figure 3).

Figure 3 Distribution of HSNP households and nominal *per capita* transfer value by household size



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: *Per capita* transfer value assumes just one beneficiary per household.

3.2 Control over HSNP transfers

Table 5 and Table 6 below describe the characteristics of HSNP beneficiaries and the person in the household that usually decides how the cash transfers from HSNP is used. Table 5 shows that the characteristics of beneficiaries have largely remained stable over time, implying that in most cases the same person registered as the beneficiary at baseline remains the beneficiary after two years of programme operations. It shows that HSNP beneficiaries are predominantly registered as primary recipients (in around 90% of cases) and in only a very small number of cases are they neither the primary nor the secondary recipient (c.4%). In three-quarters of cases beneficiaries are women, and in just over half of all cases they are heads of household. The average age of beneficiaries is around 41 years.

An interesting story starts to emerge, however, when one looks at how the characteristics of the person who usually decides how the HSNP cash is spent have changed over time. At follow-up 1, in around 81% of cases the person in charge of the HSNP transfer was also the beneficiary. By follow-up 2 this proportion has fallen to 73%, a statistically significant difference. At the same time, the proportion of cases where the person deciding how the HSNP cash is spent was neither the primary nor the secondary recipient has increased from 10% to 15%. This indicates that the person in charge of the HSNP cash is changing over time. The interesting question is thus: who is taking charge of the transfer?

Table 5 Characteristics of beneficiaries (in treatment areas only)

Proportion that are…	Baseline	Follow-up 1	Follow-up 2
Primary recipient	91.0	88.8	90.9
Secondary recipient	14.8	15.6	12.4
Neither primary nor secondary recipient	2.7	4.4	4.5
Household head	52.5	51.9	55.1
Main provider	43.0	41.4	44.6
Female	74.6	75.3	75.0
Aged 55+	39.3	41.5	42.0
Mean age	48	49	50

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes (1) Baseline data taken from Hunger Safety Net Programme – M&E Payments Monitoring Report, June 2011.

Table 6 shows that, at follow-up, in 61% of households the person in control of the HSNP transfers was the household head and in 47% of cases it was the main provider. By follow-up 2 these proportions have risen to 71% and 62% respectively, demonstrating that heads of household and main providers are wresting control of the transfer. At the same time, we see the proportion of persons in control of the transfer who are women declining between the two rounds of survey, from 69% to 59%.[16] While it is true that the proportion of cases where decisions as to how the HSNP transfer is spent is made in collaboration with other household members has risen over time, only in around 30% of cases is the collaboration between husband and wife; in other cases, it is with the household head or main provider (if different from the household head), sometimes the eldest son, or some other household or non-household member. These findings suggests that, to some extent at least, women may be losing control of the transfer to heads of household and main providers, who are more likely to be male (perhaps also older males) and less likely to be either the primary or secondary recipients of the HSNP.

[16] It should be noted we also see the average age of the person deciding how HSNP cash is spent rising, but not by markedly more than the 12 months you would expect given the 12-month gap between survey rounds.

Table 6 Characteristics of the person that usually decides how the cash transfer from HSNP is used (in treatment areas only)

Proportion that are…	Follow-up 1	Follow-up 2
Beneficiary	80.9	73.1*
Primary recipient	79.6	75.3
Secondary recipient	19.0	17.5
Neither primary nor secondary recipient	9.8	15.0**
Household head	61.0	71.5**
Main provider	47.2	61.9**
Female	69.1	58.7*
Aged 55+	40.4	42.3
Mean age	49	51**

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes (1) Baseline data taken from Hunger Safety Net Programme – M&E Payments Monitoring Report, June 2011.

3.3 Use of HSNP transfers

Table 7 shows the most common items purchased by households using the HSNP transfers. Almost all households use the transfer to purchase food, but debt repayment is also very common. This finding that the vast majority of the transfer is spent on food is corroborated by the qualitative research, which showed that for most households food expenditure is the priority.

It has been reported anecdotally that HSNP households tended to spend the first transfer very differently to subsequent transfers: the first transfer might often be used to pay off debts, while other usages would become more important over time. At follow-up 1 this was not supported by the results of the evaluation study, which find almost identical spending patterns between the first and last transfer.[17] However, at follow-up 2, after two years of programme operations, there is some evidence of changes in transfer-spending patterns, with slightly fewer households reporting spending money on food and more households reporting spending the money on debt repayment, clothing and education. While only slight, these findings might be interpreted as the behaviours of households with slightly improved welfare, i.e. with less need to spend on immediate foods needs and more ability to reduce levels of indebtedness, spend on comfort and wellbeing, and invest in human capital. Though this could be partially explained by receipt of the HSNP, it could also be explained by a global improvement in conditions in follow-up year 2, after the particularly bad drought of 2011.

At follow-up 1 it was revealed that for most HSNP households the HSNP cash is not treated separately from the rest of the household's money, although a minority (14%) do keep the HSNP separately in this way.

At follow-up 2 we see a similar proportion (17%) reporting that they sometimes hold back some of the HSNP cash to use at a later date, representing a slight improvement on the same data at

[17] A comparison of the distribution of main items purchased with the first and most recent transfers respectively also revealed almost no variation.

follow-up 1 (13%). These findings may be indicative of growing trust in the programme: after two years of operations households are beginning to save more, perhaps reflecting more trust in the programme as a reliable source of income.

In light of the moderate trends observed, we do not conclude that the way households spend and treat the transfer has changed radically over time.

Table 7 Most commonly reported items purchased HSNP transfer – first versus most recent

Proportion of beneficiary households reporting spending the transfer on (%):	First transfer	Most recent transfer at FU1	Most recent transfer at FU2
Food	88	88	85
Debt Repayment	40	40	45
Clothing	23	25	31
Health	21	22	17
Education	18	21	24
Livestock	11	12	7

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table 8 Saving of HSNP transfers

Proportion of beneficiary households reporting to (%):	HSNP households
Use the HSNP cash transfer separately from the rest of the household's money	14(1)
Sometimes keep some cash from the HSNP transfer to use later	17

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Data from follow-up 1.

4 HSNP impact – key impact areas

This chapter reviews the quantitative and qualitative evidence from fieldwork of HSNP impacts on poverty, consumption, food security, food aid dependence, child nutrition, and asset retention and accumulation. It finds that:

- The HSNP is having a positive impact on consumption expenditure and poverty. HSNP households are less likely to be extremely poor.
- Reduced hunger was the most fundamental impact of the HSNP as referred to by respondents and this is reflected in a positive programme impact on food consumption expenditure.
- These results are driven by a combination of declining welfare among control households and improved consumption for HSNP beneficiaries, especially amongst the poorest.
- This indicates that the HSNP is fulfilling its function as a safety net.
- The HSNP is not having an impact on child nutrition, nor is it helping households to accumulate non-livestock assets. However, HSNP does seem to be having a positive impact on livestock retention, though the evidence is not fully conclusive.
- The programme is not having a negative substitution effect on receipt of food aid.

4.1 Poverty and consumption

Cash transfers are expected to reduce poverty directly by raising household incomes. However, incomes are difficult to measure accurately and are subject to short-term variations so surveys tend to estimate consumption instead – 'monthly household consumption expenditure per adult equivalent' is a standard proxy for household welfare.

HSNP cash transfers are expected to raise household spending across a range of goods and services – food, household items, water, health care, education, clothing, transport, etc. – and to stabilise consumption of food and other essentials across seasons and years. Some of the transfers might also be invested in income-earning activities or assets, which might further reduce poverty. At the same time, some of the transfers might be allocated to non-consumption transactions such as repaying debts, saving, or providing informal support to vulnerable relatives.

To assess the impact of the programme on household consumption, mean monthly consumption expenditure per adult equivalent is compared pre- and post-transfer for HSNP and control households.[18] The same 'dif-in-dif' comparison is made for poverty rates, with households defined

[18] Monthly household per adult equivalent consumption expenditure is a standard proxy for household welfare. Variation in this measure is easier to measure than income, less prone to measurement error and less subject to short-term economic effects. Consumption expenditure also provides an indirect measure of permanent income. The evaluation questionnaire collected information on households' consumption and expenditure in the recent past, including both food and non-food consumption. Households were asked to estimate the quantities and value of food consumed over the preceding seven days, including food that was purchased, home-produced, or received as a gift or as food aid. Expenditure on non-food items was collected using longer recall periods of between one and 12 months, depending on the item. The estimates of average monthly total consumption are adjusted for the regional and time variation in prices as well as for the demographic composition of the household using the number of 'adult equivalents'. It thus provides a standard money-metric measure which is widely used across the world (including in Kenya) to assess household welfare and national poverty rates. While collecting these data has its challenges, particularly in the context of the HSNP districts (where consumption levels are generally very low and households are often very reliant on food aid and home production, both of which can be hard to value), it is generally regarded as the most reliable money-metric welfare measure in low-income countries.

as poor based on the measure of consumption expenditure using two alternative approaches: (i) proportion of households that fall within the poorest 10% of Kenyan households (i.e. bottom national decile); and (ii) proportion of households below the national absolute poverty line.[19] These two poverty lines are used because they relate the study population to the national poverty context. The poverty line that is mostly focused on in this report is that distinguishing the bottom national decile. This is because the proportion of households falling below the national absolute poverty line in the HSNP counties is very high. Utilising a more extreme poverty line thus enables us to distinguish better between households in a population that is very poor overall.

The evaluation also looks at depth of poverty (how far below the poverty line, on average, a household lies – in this case the poverty line is that distinguishing the bottom national decile) and severity of poverty (an aggregate measure that gives more weight to households far below the poverty line – again the bottom national decile).

4.1.1 Poverty context at baseline and after one year of programme operations

In order to understand the impact of HSNP on poverty it is important first to consider what contribution the HSNP makes to households' resources relative to their consumption expenditure prior to receiving the benefit. In this regard, the M&E baseline survey found that HSNP cash transfers constituted on average 12% to the total monthly consumption expenditure of beneficiary households, though this contribution was higher (28%) for households in the poorest quintile (Table 9). Since the poorest households spent KES 500 per month on food per adult equivalent, the transfer of KES 235 per adult equivalent amounted to 47% of their monthly food consumption.

[19] The poverty rates were calculated using adjusted KIHBS poverty lines. The adjustment was made by first taking the proportion of households in the HSNP districts below the absolute poverty line / in the bottom national decile according to the 2005/06 KIHBS data. The adjusted poverty lines are then defined using the evaluation dataset such that the proportion of households at baseline matches the KIHBS 05/06 poverty rates (calculated at the 85th and 54th percentile of the cumulative adult equivalent consumption distribution respectively according to authors' calculations based on KIHBS 2005/06 data).

Table 9 Mean monthly consumption expenditure and HSNP transfer values at baseline

Outcome	Quintile					Overall
	Q1	Q2	Q3	Q4	Q5	
Mean total monthly household consumption expenditure per adult equivalent (price adjusted) (KES)	846	1,324	1,777	2,369	3,752	1,903
Mean total monthly household food expenditure per adult equivalent (price adjusted) (KES)	500	741	953	1,240	1,900	1,014
Mean number of adult equivalents per household	4.6	4.7	4.8	4.7	4.1	4.6
Mean value of the transfer per adult equivalent (assuming one transfer per household) (KES)	235	227	222	229	263	233
Transfer as a proportion of total household consumption (%)	28	17	12	10	7	12
Transfer as a proportion of food consumption (%)	47	31	23	18	14	23
Proportion of HSNP beneficiaries falling in this quintile (%)	23	21	22	17	17	100

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2010. Notes: This table refers to beneficiary households only.

Overall, given that it was not especially well targeted at poor households,[20] the HSNP was making a small but significant contribution to household consumption, and especially to food consumption, which is more significant the poorer the household is to begin with. Given this, it would be expected that the HSNP should have an impact on consumption expenditure, especially for the poorest households, and thus in turn might have an impact on the poverty rates of beneficiaries.

One point to take into consideration in assessing the impact of HSNP on consumption poverty is that in 2011 the Horn of Africa suffered serious drought (even by usual standards), which sparked a severe food crisis and high malnutrition rates. In addition, evaluation areas across all four programme counties experienced sporadic periods of localised conflict and insecurity, as well as population displacement. Recognising the severity of this situation, the HSNP made a one-off payment of double the normal transfer value in July/August 2011 to support households coping with the drought. It was in this context that beneficiary households received HSNP transfers for the first 12 months, a situation that at least partially determined the overall impact of the programme after one year.

What we found was that, although the programme did not register a statistically significant impact on either consumption or poverty rates after 12 months, the trends did point towards it fulfilling its function as a safety net by having a stabilising effect for beneficiaries. The study found that, while treatment households remained stable, control households showed a statistically significant

[20] Kenya Hunger Safety Net Programme Monitoring and Evaluation Component HSNP Targeting Effectiveness Evaluation Report, December 2011.

reduction in their expenditure levels of just under 10%, which was reflected in statistically significant increases in poverty rates of around 5%, and in the poverty gap of around 3%.[21]

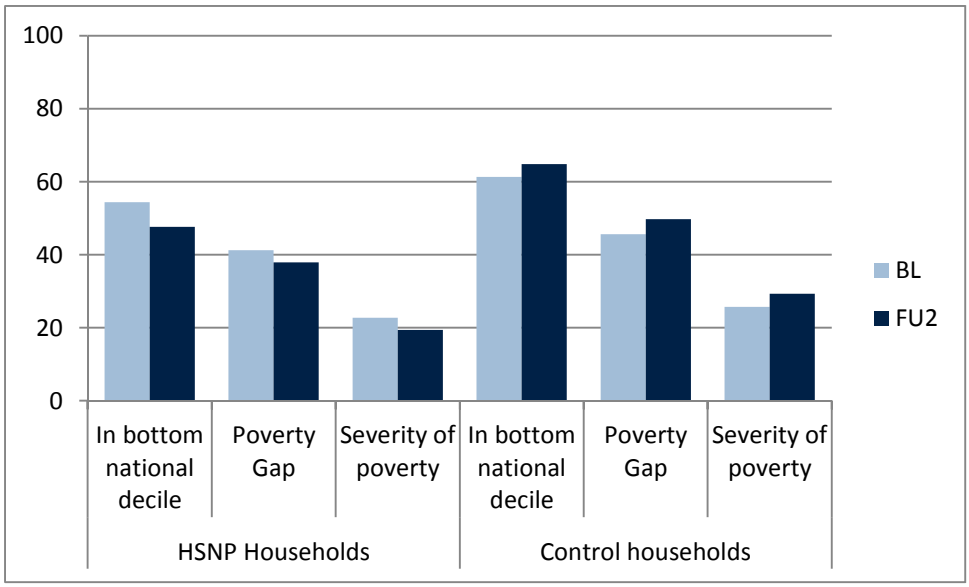
4.1.2 HSNP impact on consumption and poverty

So, what is the situation one year on? Has the programme been able to accumulate its effects to have a positive impact on household consumption and poverty?

After two years of programme operations, we do indeed find that the programme is having a significant impact on consumption expenditure and poverty, with HSNP households some 10 percentage points less likely to fall into the bottom national decile. The poverty gap and severity of poverty has also decreased for HSNP households, each by seven percentage points (Table 10 below). This implies that the programme has helped 6,000 to 7,000 households (up to around 42,000 individuals) escape from the bottom national decile.[22]

As implied by the trends observed at follow-up 1, this impact is partly being driven by significant decreases in consumption among control households, which did not occur for HSNP households (Figure 4), and partly by improvements in consumption for the poorest HSNP households; although the trends observed for HSNP households in relation to consumption, poverty gap and severity of poverty are not statistically significant, they are all positive. In other words, we find that the programme is still having a vital cushioning effect, acting as a safety net and mitigating the negative impact of drought and other adverse shocks for HSNP households. Importantly, these results are robust against controlling for community- and household-level factors (see Table C.2).

Figure 4 Household poverty rates at baseline and follow-up 2 by treatment status



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

[21] For more detail see Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Quantitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012.
[22] The programme targeted 60,000 households at the start of phase 1 but a further 9,191 households came in as late entrants; mean household size is around six.

In addition, we find a larger significant impact on poorer and smaller households, as would be expected given the greater size of the transfer relative to consumption expenditure for these (Table C.2). In other words, the impact on poverty is being driven by HSNP households that are relatively poorer, smaller or have received a larger cumulative *per capita* value of transfer. This is consistent with the trends observed at follow-up 1, where, although the impacts on consumption and poverty were not significant overall, HSNP households that were poorer, mobile, smaller, or had received a greater cumulative *per capita* value of transfers did experience an impact.

Table 10 Household consumption expenditure and poverty

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Mean consumption expenditure (KES)	1,941	2,024	83	1,753	1,589	-165**	247**	2,435
Proportion of households (%):								
in the bottom national decile	54.4	47.6	-6.8*	61.3	64.8	3.4	-10.3**	2,435
below absolute poverty line	88.0	87.8	-0.3	93.2	96.8	3.7***	-3.9	2,435
Poverty gap	41.2	37.9	-3.3	45.6	49.7	4.1**	-7.5**	2,435
Severity of poverty	22.7	19.4	-3.3	25.7	29.3	3.6*	-6.9**	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. (2) Consumption expenditure is defined as mean total monthly inflation-adjusted household consumption expenditure per adult equivalent (KES); (3) A household is in the bottom national decile if its total monthly per adult equivalent consumption expenditure is below KES 1,794; (4) A household is below the absolute poverty line if its total monthly per adult equivalent consumption expenditure is below KES 3,128. This cut-off value is the total monthly per adult equivalent consumption expenditure of the household at the 85th percentile of the cumulative distribution of total monthly per adult equivalent consumption expenditure at baseline. (5) Poverty gap is defined as the mean shortfall of the population from the poverty line, expressed as a percentage of the poverty line.

The qualitative research at follow-up 1 produced multiple testimonies to the fact that many respondents perceive the HSNP as having raised beneficiaries out of extreme poverty, or as lifting them to a higher wealth category. However, the average effect of the programme of course obscures a diversity of individual experiences, and it was also recognised that these positive impacts were constrained by contextual factors beyond the control of the HSNP:

> *"The gap has been narrowing since the HSNP began. Poor HSNP beneficiaries are now meeting their needs just like rich people in the community. There are, however, some natural factors like drought, hunger, animal diseases or human diseases which hinder the rapid and quick positive changes for the poor beneficiaries" [Male elder, Turkana].*

Other respondents noted that it would be unrealistic to expect major impacts from the HSNP, given the small value of the transfer:

> *"You don't expect any immediate change because the amount HSNP is paying is small and cannot make an abrupt big change" [Male elder, Wajir].*

According to this view, substantial impacts on poverty could be achieved only if the transfer amount was raised:

> *"The best way is to reduce the payment period to one month instead of two months. Also, the amount should be increased to at least KES 5,000 so that livestock are saved from being sold. In this way, at the end of at least two years the livestock numbers will increase, and one would be able to accumulate and save good money to enable him start a business" [Male elder, Wajir].*

This statement is shown as prescient, as after two years and multiple raisings of the transfer value the HSNP does indeed show a positive impact on reducing poverty and enabling households to retain livestock.

4.2 Food security and reliance on food aid

Cash transfers might allow additional food to be purchased by households facing food deficits or hunger, and might also be invested in food production and income-generating activities. Household food security is therefore expected to improve, especially among poorer households, which typically spend higher proportions of their income on food than do wealthier households.

Many respondents referred to reduced hunger as the most fundamental impact the HSNP has had on their wellbeing, with 87% of HSNP households reporting at follow-up 2 that since receiving the cash transfers they have been able to have more and/or larger meals (an increase of 16 percentage points from follow-up 1):

> *"The HSNP has brought many benefits, the first being that it has satisfied the hunger in the community" [Male elder, Mandera].*

> *"Hunger is the worst thing in this world so this money has really saved us from hunger" [FGD with beneficiaries, Wajir].*

Household food acquisition, access and consumption are all therefore expected to improve as a result of the programme. It is also expected that the transfers will enable beneficiary households to afford a wider range of food items. Provided there are no significant supply-side constraints in local food markets, a regular transfer of cash should substantially reduce food insecurity. Poorer households are likely to use more of the cash payment on food purchase than wealthier households. In economic terms, since food and other basic needs are 'normal' goods, households are expected to increase their consumption of these items as their income increases. However, the share spent on these items will generally decrease as income increases (this is known as Engel's law – where the income elasticities of food items are less than one).

The impact of the programme on food (in)security is assessed by estimating the dif-in-dif impact measure for mean monthly food consumption expenditure (per adult equivalent), the share of food spending in total household expenditure, dietary diversity (as measured by a dietary diversity

index), and whether any household members went entire days without eating solid foods during the worst recent period of food shortage.[23]

Table 11 Food security

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Mean food consumption expenditure (KES)	1,446	1,537	91	1,385	1,264	-122**	213**	2,435
Mean food share of consumption expenditure (%)	76.5	77.3	0.8	79.8	81.0	1.2	-0.4	2,435
Mean dietary diversity score	6.7	7.2	0.4	6.1	6.2	0.1	0.3	2,435
Proportion of households food insecure in worst recent food shortage period (%)	61.8**	42.1	-19.7**	74.8	38.1	-36.7***	17.0	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. (2) Food consumption = Mean monthly inflation-adjusted food consumption expenditure per adult equivalent (KES). Food insecure in recent food shortage period = households that went entire days without eating in the worst recent period of food shortage.

In fact, Table 11 shows the programme is having a significant impact on food consumption. Like the poverty results, this is driven by a significant fall among control households rather than improvements for HSNP beneficiaries – again illustrating the safety net function of the programme. Unlike at follow-up 1, we find no significant impact on dietary diversity. This is a slightly odd result, but it might be explained either by control households reinvigorating their diets after a particularly harsh year in 2011 and/or by increased availability of diverse food stuffs in local markets (see Section 5.3.2) or by control households consuming a smaller volume of food but equally diverse diets as HSNP households.

Heterogeneity analysis at follow-up 1 revealed that the impact on dietary diversity was most marked for households that were poorer, smaller or mobile, and here we do find a positive impact on dietary diversity for relatively poorer households at follow-up 2, although not for any other group. As with consumption expenditure above, we also find an increased impact on food expenditure for poorer households, smaller households, and for households receiving a higher cumulative *per capita* value of transfer over the last year.

These findings need to be put into context. The situation in northern Kenya and in the evaluation areas is one characterised by high levels of food insecurity. As is reported below in Section 5.6, the quantitative data show that even though there has been some improvement between baseline and

[23] The dietary diversity index is a simple count of the number of 12 food groups that the household consumed in the past week. The 12 food groups are: cereals; eggs; fish; fruits; meat; milk and milk products; oils and fats; pulses, legumes and nuts; roots and tubers; salt and spices; sugar; and vegetables.

follow-up, a high portion of households remain very vulnerable and adopt coping strategies that in particular relate to poor food security. These include borrowing food, selling livestock to buy food, reducing the number and size of meals consumed, and going whole days without eating (Table 22). Data from the qualitative research support these findings, indicating that skipping meals is still a prevalent practice amongst households. These findings imply that, despite the many interventions providing food or cash support in northern Kenya, the problem of pervasive food insecurity persists:

> *"Sometimes when the food prepared at home seems to be scarce, we normally eat breakfast and lunch and forget about dinner, or sometimes we don't take food at all during the day and take dinner" [FGD with children, Wajir Township, Wajir].*

And although most respondents seem to prefer the fungibility of the HSNP cash transfer in comparison to food aid (see Box 3 below), they also insist that food aid is crucial in maintaining an adequate level of food intake:

> *"Our families mostly rely on food aid" [FGD with children, Lafaley, Wajir].*

Despite these conditions, the quantitative survey findings on the HSNP food security impact are supported by the qualitative fieldwork. Many households reported that they were able to sustain their food consumption thanks to HSNP, despite the drought, as well as spending on food items they would not normally consume, such as milk, sugar and meat:

> *"Food insecurity has been reduced by a great margin. We no longer borrow much from our neighbours. We are sure of our own safety in terms of hunger" [Qualitative Panel Survey (QPS) with female beneficiary, Lonyaripichau, Marsabit].*

> *"Before HSNP we cooked only maize. But since HSNP has started we are able to buy beans, kale, potatoes, meat and oil" [FGD with female beneficiaries, Badasa, Marsabit].*

Several traders confirmed that HSNP beneficiaries spent most of their cash transfers on food, and a health worker observed an improvement in children's nutrition status thanks to HSNP:

> *"When the mothers receive payment they buy a lot of nutritious foods for their children, like vegetables. … in my observation, I have seen that the nutritional level among young children has risen" [Health worker, Wajir].*

Once again, the qualitative research shows that behind the average effect of programme impact detected by the quantitative assessment lies a diversity of individual experiences. Some beneficiaries, for instance, were less convinced, making the point that cash transfers were used to buy items they had previously received as food aid, so there was no increase in dietary diversity:

> *"Food aid is basically maize, peas and beans. We still buy these foods with the HSNP cash, so there are not many changes" [FGD with female beneficiaries, Marsabit].*

The qualitative fieldwork also articulated some of the linkages between food security impacts and other factors that are not so immediately apparent from the quantitative survey. For instance, the notion that HSNP households are able to use their receipt of regular cash transfers to buy food and other commodities on credit from local shopkeepers (see Section 5.5), or that many households also mention that they are able to sustain their consumption without selling livestock as a result of

the HSNP – which is a 'normal' but costly coping strategy, as livestock are always sold at low prices during a drought (see Section 4.4 below).

4.2.1 HSNP and food aid

Although the HSNP is intended to reduce household dependence on food aid, the frequency and severity of food shortages in northern Kenya and the low purchasing power of HSNP transfers mean that regular cash transfers and food aid should be seen as complementary interventions, not as substitutes for each other. However, it has also been the intention of the HSNP pilot to test the notion of whether cash could be an effective substitute for food aid, and it was always possible that HSNP beneficiaries might receive less food aid (including school feeding and supplementary feeding) over time, either because they genuinely need less assistance or because they are perceived as needing less assistance due to receipt of the HSNP transfers.

Box 3 Preference for cash support

Despite food price inflation and the drought, at follow-up 1 both HSNP and control households indicated a strong preference for receiving support in cash (72% and 62% respectively) rather than food (2% and 6%), with some preference for a combination of cash and food (26% and 29%). The main advantage mentioned was the flexibility of cash, which allows beneficiaries to meet a wider range of needs than food aid can.

At follow-up 2 we find very similar preferences being expressed, with 71% of all households preferring cash support, 28% preferring food plus cash, and just 1% claiming to prefer food only. Amongst beneficiaries, 94% of households prefer cash.

To test for the possibility of a substitution effect between cash and food for treated households we measure the proportion of households receiving food aid, school feeding and supplementary feeding (Table 12), as well as the mean total number of months for which support was received and the mean estimated monthly value for each type of support (Annex Table D.1).

The results suggest that HSNP households have not been deprioritised for food aid and other support such as school and supplementary feeding programmes. In fact, the only significant result is a puzzling positive impact on the mean number of months of school feeding received by those receiving it. Table C.2 in Annex C indicates that this surprising result persists even after other factors are controlled for, and the heterogeneity analysis suggests the effect is most pronounced among less poor, smaller and settled households. However, the analysis at follow-up 1 showed that it is very important to take into account supply-side factors when analysing these food aid reliance indicators. Unfortunately, it was not possible to control for community-level food aid supply at follow-up 2 because the non-beneficiary households (sample groups C and D) were dropped from the sample. In other words, it is possible that this puzzling result is simply being driven by community-level variations in food aid supply that are unrelated to HSNP.

Taken together with the follow-up 1 results, it seems reasonable to conclude that the HSNP is not having a negative substitution effect on other forms of aid for beneficiary households. This result is ambiguous. It indicates a positive result in so far as households in desperate need of food support are not being deprioritised as a result of also receiving HSNP cash transfers. On the other hand, unless the value and coverage of the transfer is greatly increased, it looks unlikely that HSNP cash support on its own will be enough to effectively alleviate food insecurity in these highly food-insecure areas.

Table 12 Proportion of households receiving food aid, school feeding and supplementary feeding in the past year (%)

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Food aid	70.5**	66.2	-4.3	88.7	79.4	-9.3***	5.0	2,436
School feeding	57.2	54.3	-3.0	53.7	58.4	4.7	-7.7	2,436
Supplementary feeding	16.5	4.7	-11.8**	10.6	5.3	-5.2	-6.6	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

4.3 Child nutrition

Child nutrition is dependent on a variety of exogenous factors such as public health and sanitation conditions and cultural feeding practices. However, by improving food consumption and dietary diversity it is possible that HSNP could have an impact on child nutrition. To assess this we gather anthropometric data for all children under five years of age to measure stunting, wasting and children classed as underweight (a description of the methodology for the analysis of anthropometrical data is given in Annex E):

- Stunting: identifies past or present chronic undernutrition, but cannot measure short-term changes in undernutrition.
- Wasting identifies children suffering from current or acute undernutrition, with weight significantly below the weight expected of a child of the same length or height in the standard population.
- Underweight: is a composite measure of stunting and wasting. As such, it measures both past (chronic) and present (acute) undernutrition, although it is not possible to distinguish between the two.

Table 13 below suggests the HSNP is not having a significant impact on child nutrition. However, there are a number of important caveats surrounding the data used to construct these indicators.

Firstly, the evaluation team has some reservations about the overall quality of the anthropometric data gathered at both baseline and follow-up. The challenges associated with gathering these data are widely acknowledged, especially in the case of age data, and in an environment where around four out of five children do not have any date of birth documentation such challenges are exacerbated. A full description of the quality of the anthropometric data is given in Annex E.

Table 13 Nutritional status of children (% of children under five)

Outcome	HSNP households			Control households			Dif-in-dif	Number of observation (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Stunting								
Moderate: HAZ<-2SD	26.7**	29.6	2.9	35.6	31.5	-4.1	7.0	1,062
Severe: HAZ<-3SD	11.6	13.4	1.8	15.2	15.1	-0.1	1.9	1,062
Wasting								
Moderate: HAZ<-2SD	25.3	23.1	-2.2	24.2	17.3	-6.9	4.7	1,062
Severe: HAZ<-3SD	6.8	6.2	-0.6	8.0	3.5	-4.5	3.9	1,062
Underweight								
Moderate: HAZ<-2SD	30.7	24.9	-5.8	33.7	24	-9.7**	3.9	1,062
Severe: HAZ<-3SD	9.8	8.9	-0.9	10.9	6.9	-4.1	3.2	1,062

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. Measures of malnutrition are disaggregated into two cases: moderate (below -2 SD) and severe (below -3 SD).

Despite these reservations the evaluation findings closely corroborate the results of other anthropometric studies conducted in these areas, indicating that the evaluation data are probably no less robust than those collected elsewhere. We see stunting rates of around 30%, similar to the rates found by Demographic and Health Survey (DHS) 2008/09 for the North Eastern region; wasting rates of 17–23%, as compared to the DHS's 18.4%; and rates of children underweight around 25%, compared to the DHS estimate of 31%. More recent studies conducted in various sub-regions of Mandera, Wajir and Turkana produce similar findings, with moderate wasting rates ranging from 10% to 31%, and severe wasting rates between 2% and 8% (see Section E.1 and Table E.9), as against severe wasting in the study population of 4% to 6%. These rates of malnutrition would be described as poor by World Health Organisation (WHO) (1995) standards.

Child nutrition is also an area where time-varying external factors (e.g. severity of drought, supply of food aid, etc.) may have been experienced to different extents by HSNP and control areas. However, the sample size is relatively small here, so the heterogeneity analysis does not show up conclusive patterns.

In conclusion, we do not find evidence that HSNP has impacted child malnutrition rates, but consider this unsurprising given the variety of exogenous factors that affect nutrition, which a cash transfer by itself is unlikely to influence.

The qualitative research produced instructive results in this regards. While there is some evidence to indicate that the quantity of food consumed by beneficiaries increased, it is unlikely that the HSNP had any effect on feeding or hygiene practices, as this was not part of the design of the programme. In the qualitative research locations, health workers noted that malnutrition was highly seasonal in nature, and severe cases of malnutrition were being treated under programmes run by the government and NGOs in various locations. Supplementary feeding in health centres (using Ready-to-Use Therapeutic Foods) and schools (porridge provided to younger children), as well as medical treatment of children with severe acute malnutrition, was recorded in all research areas. Programmes on nutrition behaviour change and WASH were also being run in several locations.

Respondents felt that, in general, people's eating habits have changed over time, mainly due to the severe drought in 2011 and the general trend of settling and depending less on livestock keeping. At the same time, perceptions of what constitutes nutritious food or a balanced diet vary. Some respondents perceive sweeter foods to have more vitamins and minerals, while others thought that meat and milk were nutritious food as they contained vitamins. In some areas, health workers insisted that local dietary practices and perceptions made it difficult to convince households to consume a balanced diet:

> *"If you tell them to eat something like ugali (maize) and sukuma wiki (kale) they will tell you that it is goat's food. In fact, it's difficult to convince them that they need to eat a balanced diet" [KII with health worker, Badasa, Marsabit].*

Even where a general awareness of a balanced diet existed, the unavailability and inaccessibility of varied ingredients like meat, milk or fresh vegetables meant that people relied mostly on a diet of beans, maize and rice to sustain them:

> *"I take tea in the morning; I take maize and beans for lunch and the same for supper" [FGD with male beneficiaries, Mado, Mandera].*

> *"Those kinds of (nutritious) food like vegetables are not available locally; we don't have them here" [KII with health worker, Mado, Mandera].*

This highlights a crucial point for the efficacy of the cash transfer more broadly, in that it relies on functioning and effective markets to maximise its impact. Where markets are not functioning effectively for exogenous reasons, for instance due to geographical remoteness or lack of access due to poor roads and other infrastructure, the cash transfers are not able to fulfil their maximum potential (see Section 5.3 below).

4.4 Asset retention and accumulation

In addition to covering consumption gaps, cash transfers may allow beneficiaries to hold onto livestock and other assets that otherwise they might have been forced to sell in times of distress. Cash transfers may even allow households to invest in accumulating more assets over time as a potential pathway out of poverty. In other words, it is possible that cash transfers could provide more than just a safety net, on the one hand protecting from the loss of assets at times of hardship but on the other hand facilitating investment in productive assets, and hence enabling households to move out of poverty (or at least extreme poverty) in a sustainable way.

4.4.1 Livestock assets

To assess whether households are able to retain and accumulate livestock assets in this way, dif-in-dif impact measures are estimated for the proportion of households owning livestock, both overall and specifically for goats/sheep, camels and cattle.[24]

[24] For some households in the HSNP districts, some proportion of the household's livestock holdings are considered to be owned by the main provider separately from the rest of the household's livestock. However, for the purposes of defining the livestock impact indicators these 'main provider' owned livestock are still

Table 14 indicates that the programme is having a significant impact on livestock ownership, driven by the increased likelihood of HSNP households owning goats and sheep. However, as at follow-up 1, these livestock retention and accumulation results, while seemingly encouraging, are not fully conclusive.

Table 14 Proportion of households owning livestock, by livestock type (%)

Livestock	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Any livestock	61.5**	63.8	2.4	85.1	81.4	-3.8	6.1*	2,436
Goats/sheep	58.3**	62.1	3.8**	83	79.6	-3.3	7.1**	2,436
Camels	31.0	30.1	-0.9	37.2	37.1	0.0	-0.9	2,436
Cattle	16.5	12.1	-4.4**	20.1	17.6	-2.5	-1.8	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

At follow-up 1 when we controlled for other factors, the positive impact on livestock ownership persisted only for large households and fully mobile households, and actually showed a negative impact on camel ownership. Similarly, at follow-up 2 the positive impacts on goat and overall livestock ownership do not persist once other factors are controlled for, nor for any specific categories of households under the heterogeneity analysis (see Table C.2). Once again, controlling for other factors reveals a significant (but small) negative impact on camel ownership. It is possible that these rather puzzling findings could be influenced by households' reluctance to accurately report livestock holdings (particularly given that camels are especially associated with wealth), as well as by the significant differences in the likelihood of owning any livestock (again driven by goats/sheep) observed between treatment and control households at baseline.

Analysis of households' use of the transfer (see Section 3.3) suggests that we should not necessarily be surprised that the programme may not have significantly increased accumulation of livestock assets. Those results showed that very few households (7%) used their most recent transfer to purchase livestock (see Table 7). Furthermore, although increased since follow-up 1, a relatively low proportion (17%) reported that they ever saved some of the HSNP cash for later use.

While the quantitative research finds no impact on average of the programme on livestock holdings, it is instructive to refer to the qualitative research in this regard, which once again shows some of the detail behind the aggregate impact and reveals a diversity of experiences. Like the quantitative survey, the qualitative research also produced consistent findings at both follow-up 1 and follow-up 2, but here there was much testimony that the programme is having a positive impact on livestock ownership amongst HSNP households by enabling them to avoid selling goats and sheep in the face of drought:

attributed to the household and considered as part of the household's total livestock holdings. In this evaluation the main provider of a household is defined as the person whose income provides the main source of support for the household. This person is not necessarily resident in the household (although most are), for example if they are the son of an elderly mother who lives alone or in polygamous households where the husband spends more time in the household of one wife than another.

"I had some goats and whenever I was faced by a problem that requires a financial solution, I had to sell a goat. However, I have not sold a single goat since this programme started" [Beneficiary, Wajir].

"We no longer sell our own livestock but rather embark on using this HSNP money to buy a goat or sheep to substitute for the selling of our livestock. When we need money we resell them to get a profit" [FGD with female beneficiaries, Marsabit].

For others, the HSNP cash has provided at least partial protection, allowing fewer animals to be sold:

"We have reduced the number of animals we sell" [Beneficiary, Marsabit].

Others who did have to sell animals to meet immediate needs – given that HSNP disbursements are made only every two months – claimed they were able to buy them back with subsequent HSNP transfers:

"When I have a problem I sell one of my goats and take care of that problem, and when I receive money next time I replace that goat that I sold and life goes on" [Beneficiary, Turkana].

Therefore, in terms of retention and accumulation of livestock assets, the overall results are encouraging but not fully conclusive. The quantitative data produce some slightly conflicting results, while the qualitative research does find some individual cases of positive impact.

4.4.2 Non-livestock productive assets

In terms of the retention and accumulation of non-livestock productive assets, the programme is having no significant impact on the proportion of households owning any of the items listed in Table 15 below. This result is consistent with the findings at follow-up 1.

However, the qualitative findings did reveal some beneficiaries who reported buying consumer goods ('non-productive assets'), such as housing materials, clothing, or basic household items:

"Each time I get the cash I buy building materials to build my house" [Beneficiary, Turkana].

"When I get the payment I buy myself clothes and food" [Beneficiary, Mandera].

"The only change that has happened over the past one year is that we were short of stuff but now we bought more stuff like utensils and sleeping materials like mattresses" [Beneficiary, Wajir].

The capacity to buy basic necessities also reduced the need for poor households to share or borrow these items from neighbours:

"Before we used to share clothes and borrow utensils from neighbours but since the HSNP payment began we can buy everything" [Beneficiary, Mandera].

Similarly, and unsurprisingly given that there was no impact on the ownership of key productive assets, we find no impact on the average value of the non-livestock productive assets owned by

HSNP households (see Table 16). Likewise, there has been no impact on the proportion of HSNP households that own agricultural land; this latter is not surprising either given the relative scarcity of agricultural land in evaluation areas – only a few sub-locations in Marsabit contain arable land.

Table 15 Proportion of households owning key productive assets (%)

Asset	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Animal cart	6	9	3.0*	6	11.3	5.3**	-2.3	2,435
Water drum	12.5	17.4	4.9	6.2	8.9	2.7	2.2	2,435
Plough	0.6	0.1	-0.5	0.2	0.2	-0.1	0.0	2,435
Wheelbarrow	6.0	12.9	7.0	4.7	5.1	0.4	6.6	2,435
Sickle	2.7	2.6	-0.1	1.6	1.8	0.2	-0.3	2,435
Pick axe	13.5	3.1	-10.4**	10.6	2.2	-8.5**	-1.9	2,435
Axe	51.3	50.9	-0.4	60.2	49.8	-10.4	10.0	2,435
Hoe	13.1	11.6	-1.6	10.2	11.1	0.9	-2.5	2,435
Spade	14.0	10.6	-3.5	11.5	13.5	2.0	-5.5	2,435
Machete	49.8	67.7	17.9*	48.7	65.0	16.3**	1.5	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table 16 Mean value of non-livestock productive assets owned and proportion of households owning agricultural land

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Mean value of non-livestock productive assets (KES)	1,007	1,855	849**	1,080	2,148	1,068**	-220	2,436
Households currently owning agricultural land (%)	9.5	10.7	1.2	7.1	10.3	3.2**	-2.0	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%; (2) Assets included in the index are: animal cart, water drum, plough, wheelbarrow, sickle, pick axe, axe, hoe, spade, and machete.

5 HSNP impact – Secondary impact areas

This chapter presents M&E evidence on secondary outcomes of the HSNP, such as uptake of health and education services, food prices and supplies, livelihood diversification, ability to save and access credit and loans, resilience against shocks, empowerment of women, and wellbeing of older people and children. It finds that:

- The programme is having a small impact on health expenditure, with HSNP households spending slightly more on health care. However, HSNP is not reducing incidence of illness or injury.
- The programme is not having any impact on education expenditure, nor is it increasing school enrolment for beneficiary children. However, it does appear to have a positive impact on children already in school, with children in HSNP households achieving higher grades on average and more likely to pass Standard IV. This result seems to be driven by improved psycho-social experience of school for beneficiary children.
- The HSNP is not contributing to food price inflation, nor is it stabilising food prices over time, implying that the scale of the HSNP is not sufficient to affect trading patterns, food prices or supplies in local markets.
- The HSNP does not appear to be creating dependency by negatively impacting labour supply. Moreover, it does appear to be having a positive impact on livelihoods for a small number of households.
- The programme is having a positive impact on households' ability to save and borrow cash, as well as access credit.
- There is mixed evidence that the HSNP is reducing households' need to adopt negative coping strategies in response to shocks such as drought and inflation.

5.1 Health

Evaluations of cash transfer programmes often find that some proportion of the benefit is allocated to accessing health care, both as a basic need and as an investment in the household's human capital. How much money is spent on health care depends not only on the health status of the beneficiary population but also on the supply, perceived quality and cost of health services in programme areas.

To assess whether beneficiaries are using the HSNP transfers to access health care, the dif-in-dif impact measures are estimated for the mean monthly health expenditure, adjusted to take into account varying household size. The potential impact on health status is assessed by considering the proportion of the population reported as suffering from any illness or injury in the three months prior to interview.

Table 17 below shows that the programme is having a small but significant impact on the average expenditure spent on health care per household member per month. This result is driven by increased spending on health by HSNP households rather than falling expenditure among controls.

This result persists once other factors are controlled for, and once variation in the effective *per capita* cumulative value of the transfers received is accounted for (see Table C.3). However, it should be noted that the magnitude of this impact on health expenditure in the latter case is very small: for every additional KES 2000 received per household member in programme transfers over the evaluation period, average spending on health expenditure is increased by just KES 5 per

household member per month. The heterogeneity analysis reveals this impact is being driven by poorer households.

In terms of health status, there appears to have been a considerable decline in illness/injury rates for both HSNP and control households (though only significant for the latter), but no significant differences between these two groups.

Overall, and although not fully conclusive, these results suggest the programme may be having a positive but relatively limited impact on the health status of HSNP beneficiaries. The quantitative findings should be interpreted in the light of the fact that cash is a fungible asset and that health spending confronts households as a necessity. When faced with a health shock households often have little choice but to meet the required expenditure to cope with that shock regardless of whether they can 'afford' it. This implies that, although both treatment and control households inevitably meet that expenditure, treatment households are able to do so without adopting more destructive coping strategies, such as reducing food consumption or drawing down on their assets (two areas where the HSNP does show a positive impact – see sections 4.2 and 4.4 above).

Respondents in the qualitative research pointed out that spending the transfer on health care often depended on whether disbursement coincided with a member of their household being sick, or whether a beneficiary suffered a chronic illness which required regular medication:

> *"When the cash transfer is delayed, family members of beneficiaries keep waiting for the transfer to take sick people to medical services" [FGD with female elders, Turkana].*

> *"I spend the whole of my HSNP money on medication since I am disabled. I also have a kidney condition, so I spend my transfer on kidney drugs that cost KES 1,350 each month" [QPS with male beneficiary, Wajir].*

Table 17 Health status and health-seeking behaviour

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Proportion of people ill/injured in the past three months (excluding chronic illness)	22.5	12.1	-10.4	23.1	11.7	-11.4**	1.0	14,342
Proportion of people ill/injured in past three months that did not consult formal health care provider	42.6	15.5	-27.0***	48.7	20.9	-27.8***	0.8	1,708
Mean monthly *per capita* health expenditure per household (KES)	23	39	16**	19	22	4	12*	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Qualitative research carried out at follow-up 1 also revealed how the cost of health care can be a deterrent to poor families, as can the cost of transport to access health care, producing testimonies demonstrating that the HSNP is helping to remove these barriers for some households:

"For me things have changed because I have money to pay for my transport and also to pay for my treatment" [Beneficiary, Mandera].

For others, the HSNP cash allowed households to preserve their assets rather than sell them, with asset depletion being a common response to health shocks by poor households:

"I spend KES 500 out of the HSNP money to pay for health care. Without the HSNP it would have been very hard to get medicine. I would have sold one goat to buy medicine" [Beneficiary, Mandera].

Qualitative fieldwork also revealed a possible link between the HSNP and the type of health care that beneficiaries choose, because cash transfers give people access to more expensive health care providers than were previously unaffordable:

"We used to slaughter a goat and treat the person using the intestines of the goat. … Sometimes we had to choose another treatment like going to the native doctor and using a herbal treatment. Now if you have the money you take your patient to the hospital to seek treatment from there" [Beneficiary, Turkana].

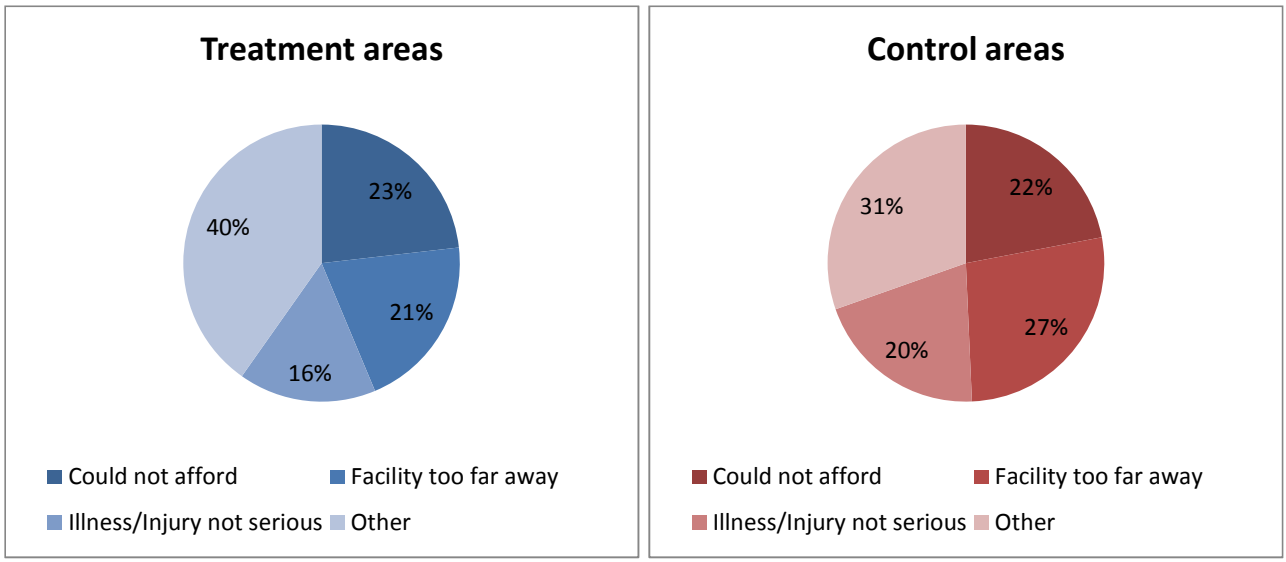
Some health workers also reported an increase in the number of people coming to health facilities soon after the day of HSNP payment. This highlights one of the key challenges, mentioned above, that households face: that HSNP payments are made once every two months, whereas illness is unpredictable. Despite this, sometimes households were able to alleviate this cash flow constraint by borrowing against the security of the HSNP transfer:

"When I have no money, I borrow to go to hospital and when I get the HSNP payment I pay back the debt" [Beneficiary, Mandera].

"When children become sick and you do not have money to pay the medical fees, you get credit from the pharmacy and pay later through HSNP money" [Beneficiary, Wajir].

Between baseline and follow-up there was a marked increase in those who suffered an illness or injury in the past three months seeking health care (see Table 17; as registered by the decline in those not seeking health care when ill or injured). This was the case in both treatment and control areas so is not attributable to HSNP. For those who did seek health care they did so overwhelmingly at government health facilities (see Table D.5). For those that did not seek health care the single most common reasons were not being able to afford the cost of health care, the health facility being too far away, and the illness or injury not being considered serious enough. Between treatment and control areas in this regard the biggest distinction was in the proportion of people not seeking health care because of the facility being too far away. This was greater in control areas, reflecting the lower supply of health services in those areas (see Table 3).

Figure 5 Reasons for not seeking health care for those ill or injured in last three months by treatment status at follow-up 2



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Other category includes perception of treatment quality, long waiting times, unfriendly staff, availability of medicine, too busy/no time, no-one to cover home duties, no transport, and cultural reasons.

5.2 Education

Often, some proportion of cash transfers are allocated to the costs associated with educating children, such as school fees or 'school operating costs', transport, boarding fees, uniforms, books and stationery, pens, and other school equipment like revision materials. One indicator of impact on education is thus increased spending on school-related costs. A second possible impact is on education uptake – increased enrolment or retention in school (lower absenteeism) – given that, in the absence of any transfers, households facing expenditure constraints may be forced to withdraw children from school (a common coping strategy). These impacts also depend on the availability and perceived quality of schools in the areas where the programme operates, as well as cultural attitudes towards education that may be much harder to transcend than simple financial barriers.

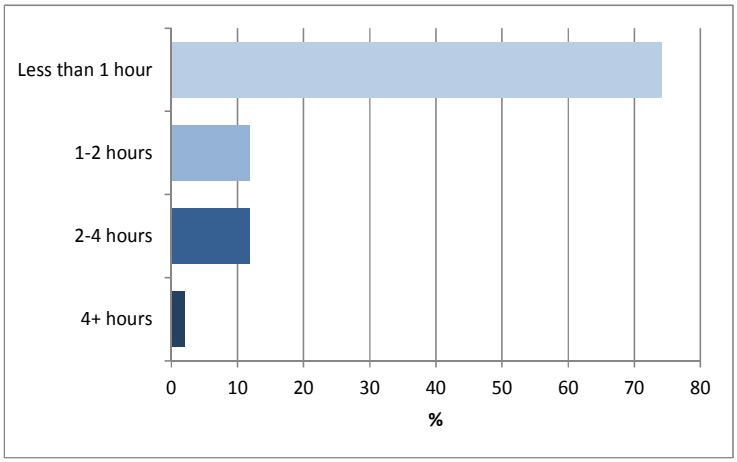
To contextualise the evaluation findings on the HSNP's impact on education it is important to note that the Baseline Report revealed that cost and access are not the key barriers to schooling in the HSNP districts. In fact, amongst children aged 6–17 who have never attended school, only 6% claimed not to have done so due to cost; 2% due to lack of school; and just 1% because the school was considered too far. The most common reasons given for having never attended school were domestic duties (49%), working for household's own production (13%), and parental attitudes (15%).[25] The qualitative research also revealed other barriers to education, beyond the ability of the programme to transcend, such as security and education supply-side constraints. The programme can therefore be expected to have an impact on educational outcomes only to the extent that it reduces the need for children to perform domestic duties and/or participate in home production. In fact, Section 5.8 below reveals that there is no statistically significant impact on the proportion of children whose main activity is paid or unpaid work (including unpaid domestic

[25] It should be noted that these findings represent respondents' own perceptions of the barriers to accessing education services, rather than reflecting an objective measure of access.

work).[26] In other words, overall children are no less likely to be engaged in domestic or productive work as a result of the programme, which obviously limits the extent to which the programme can be expected to have an impact on educational attendance.

If then, rather than cost, it is cultural attitudes and the imperative for children to help with domestic and productive work that form the biggest barriers to education it is consequently not surprising that we find the programme having no impact on education expenditure. This finding is consistent with results at follow-up 1.

Figure 6 Walking distance to nearest primary school as reported by households with children currently attending school at baseline



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Dec2010.

What is surprising, however, is the apparent significant *negative* impact on the proportion of children currently attending school; even more so when the availability of primary schools in evaluation areas appears to have dramatically increased (see Table 3). However, looking carefully, the results reveal that there have been significant increases in school attendance for both treatment and control households (see Table 18). Furthermore, the attendance rates were significantly lower among control households at baseline, so the apparent negative programme impact may simply reflect control households 'catching up' with HSNP households in terms of school attendance rates. This could occur, for example, if some of the control areas were particularly underserved by schools initially at baseline and, as a result, have subsequently been specifically targeted for investment in school facilities.[27] Indeed, once we control for community-level and other factors, we find that the negative impact disappears (see Table C.3).

While the finding of no significant impact on attendance rates may be disappointing (if not surprising, for the reasons outlined above), this should not detract from the positive story of rapidly rising attendance rates in the HSNP districts. In addition, once other factors are controlled for, the programme does seem to be having a small positive impact on the proportion of children whose main activity is education, so can be seen to be at least minimally assuaging the barriers to accessing education for some.

[26] Note that, once we control for other factors, we do find a significant impact on the proportion of children whose main activity is paid or unpaid work but excluding domestic work. In other words, children are less likely to be engaged in non-domestic productive work, but this appears to have been offset by an increase in domestic work.
[27] During fieldwork the field teams did indeed receive anecdotal evidence of a government drive to increase access to education.

Table 18 Education expenditure, school attendance and primary school completion rate

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Mean monthly household education expenditure per child (KES)	121	134	13	75	106	31	-18	2,058
Proportion of children currently attending school (%):								
All children aged 6–17	63.2**	70.3	7.1***	42.6	61.6	19.0***	-12.0**	5,563
Females aged 6–17	57.5**	66.6	9.1***	37.5	58.1	20.6***	-11.5*	2,589
Males aged 6–17	68.3**	73.7	5.3**	47.1	64.8	17.8***	-12.4*	2,974
All children aged 6–12	63.9**	71.6	7.7**	42.0	62.2	20.1***	-12.4*	3,386
All children aged 13–17	62.0**	68.1	6.1**	43.4	60.7	17.3***	-11.2*	2,177
Proportion of children aged 10–17 in school that have passed Std IV (%)	48.8	56.2	7.4**	50.4	53.4	3.0	4.3	2,289
Mean highest class achieved for children aged 6–17 currently in school	5.6	5.9	0.3**	5.8	5.7	0.0	0.4*	2,738
Proportion of children whose main activity is education (%)	69.1	70.0	0.9	58.3	62.5	4.1*	-3.3	5,674

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. (2) Mean monthly household education expenditure per child (KES) includes only those households with at least one child between 6 and 17 currently attending school.

5.2.1 Non-financial barriers to education

There are a series of barriers to education beyond financial barriers. These include livelihood practices, cultural beliefs and attitudes toward education, particularly girls' education, and supply-side constraints.

The dominant livelihood strategy of people living in the ASAL of northern Kenya is livestock rearing. This revolves around a nomadic/semi-nomadic life that entails travelling long distances in search of pastures for the animals. Children in many of these households are expected to participate in this livelihood and thus are unable to attend school:

> *"Our main livelihood activity is livestock keeping; therefore, some children drop out from school to go and look after the animals" [FGD with male beneficiaries, Marsabit].*

In addition to livestock herding, children, especially girls, are expected to support the household with domestic chores, and in some cases participate in casual work to supplement household income:

> *"Those families who are poor tell their daughters to go and work as house girls in order to get some money or do domestic work like washing clothes for people. Each and every house for the rich has a girl as a house help and you cannot get boys there" [KII with teacher, Wajir].*

As the quantitative results show, these economic imperatives are reinforced by the ambivalent attitudes of many households towards the value of education, with parents' lack of education affecting their perceptions in this regard:

> *"As a teacher I can also say ignorance [is a barrier to education] since most parents do not know the value of education, so they send their children to graze the livestock instead of going to school" [KII with teacher, Turkana].*

Such attitudes are gradually changing due to wider socio-economic changes. Primary education has been compulsory since 2004, and government actors and traditional authorities have been sensitising communities and enforcing the law since then. Community members are aware that it is illegal not to send their children to school and that if they do not they will be fined. This policy has been complemented with civil society engagement to encourage school attendance and education more generally, specifically for girls. These policies have resulted in more children enrolling in schools:

> *"There is a difference [in enrolment] because when you are not taking your child to school you will be arrested by the government, since primary level is free and it's the right of the child to be in school" [FGD with female beneficiaries, Marsabit].*

> *"Compared to the last five years enrolment has increased for both boys and girls. This has come following the government's policy that education should be free and compulsory to all Kenyan children" [FGD with male beneficiaries, Wajir].*

The severe recent drought and resultant loss of livestock has also led to households questioning the wisdom of relying on livestock as the sole means of current and future income. The need to diversify away from this livelihood strategy has thus put more emphasis on children's education as a pathway to more secure livelihoods. This has been further cemented for some by directly witnessing the benefits of education to fellow community members in the form of better jobs working for the government and NGOs:

> *"Parents are happy with us going to school because other households are leading a better life because their children went to school and are now working in NGOs and as civil servants" [FGD with children, Turkana].*

> *"A long time ago we would not take the children [to school]. Maybe they would look after the animals and farm. But now since there are no animals and farm because of prolonged drought there is no reason why we should not take them to school" [FGD with female beneficiaries, Marsabit].*

Beneath these attitudes towards education, formed on the basis of individuals' experiences or lack of education, are more entrenched cultural norms that constitute another barrier to education, especially for girls. These especially revolve around marriage, which can be viewed as an essentially economic transaction between the bride and groom's households. The transaction takes the form of a negotiated bridal price (dowry) given to the family of the daughter based on certain social, economic and cultural expectations, such as the family's standing in the community, household wealth, and the girl's chastity. Once the transaction has taken place the future benefits of the marriage accrue to the husband's household. In this context, girls' education is seen as a threat to the value of the bride due to the girl's exposure to other males and the consequent risk of dishonouring the family, for example through unwanted pregnancies. Although education potentially results in the possibility of improved future incomes, the fact that any benefits do not accrue to the bride's household means that the education of the girl is not seen as a positive investment, i.e. there are perceived to be low returns to girls' education, putting the emphasis on the education of boys instead. Exacerbating this cultural constellation is the perception that the future economic opportunities for women are also more limited, due to the entrenchment of stereotyped gender roles in these communities.

5.2.2 Financial barriers to education

Households face both direct and indirect costs in relation to education. Direct costs include school fees, examination fees, and expenditures on books, stationery and other school supplies and events. Indirect costs include the opportunity cost of attending school and forgoing contributions to domestic chores (fetching water, collecting firewood, etc.) or the household's livelihood, such as herding livestock, petty trading or other casual work that the children may engage in.

Both of these costs act as barriers to education in terms of enrolment, but also in terms of attendance. Primary education has been free since 2004, thus reducing some of the direct costs of education. However, there are additional costs of primary education that many households are unable to afford. These include the costs of uniforms, examination fees, contributions to teacher salaries, textbook fees, and other related costs such as mock exams, prize money, school events, building maintenance, etc. Those who cannot afford these expenses may not attend school as regularly as they otherwise might, and may even drop out of education all together.

Although the quantitative data did not produce definitive evidence of HSNP having a positive impact on school attendance or expenditure, the qualitative research at both follow-up 1 and follow-up 2 produced much individual testimony that the programme was aiding some households to meet the financial costs of accessing education:

> *"Can parents afford to take their children to school these days? Yes, because the government has made primary education free and they are getting HSNP cash as well so I think they can afford to pay school fees for their children" [FGD with male non-beneficiaries, Wajir].*

> *"Previously, they missed or dropped out of school because of the lack of uniforms, books, and pens. This has changed since the HSNP cash transfer" [FGD with male beneficiaries, Turkana].*

Although primary education at public schools is 'free', the costs of secondary education are significant. These costs are largely beyond the capacity of a transfer like HSNP to really make a

difference towards. However, some do claim that the transfers have helped to send their children to secondary school. Although the HSNP amount is not sufficient for the entire school fee, it can contribute to a down-payment towards the fees. It is also claimed that teachers are more likely to accept students from HSNP households because they are deemed to be more creditworthy:

> *"Fees, especially for secondary school children, were a big problem previously, increasing drop outs from school. But now, since HSNP beneficiaries are creditworthy, they can borrow some cash for this and pay in a number of instalments" [FGD with male beneficiaries, Turkana].*

> *"My children are in secondary school and each term I pay KES 7,000. When I get the HSNP payment I pay school fees for my children" [Beneficiary, Mandera].*

There are thus several kinds of education-related expenses that can be prohibitive for poor parents or carers of children which the HSNP is claimed to contribute towards. These include fees, transport to school, educational materials such as books and pens, and uniforms.

Again, as in relation to health expenditure, the qualitative research suggests that, for some households at least, the HSNP saves households from selling livestock in order to pay for these costs:

> *"If I did not have the payment then I would have been forced to sell my small stock to buy my children uniform, books and pens. But due to the programme I am able to send both my boys and girls to school" [Beneficiary, Marsabit].*

The fact of being registered for the HSNP also allows some parents to negotiate a deferred payment of education expenses, by persuading school authorities to allow their children to continue with classes until the next cash transfer arrives:

> *"Since HSNP started I can talk to the teacher and tell him that I'll pay the fees when I get paid so he doesn't send the children home" [Beneficiary, Wajir].*

Some respondents claimed that the HSNP even allowed them to access better quality education, or that they used the transfers to pay for tutors. If true, such claims could help explain the improved educational attainment recorded in the quantitative survey by children in HSNP households (see Section 5.2.3 below).

These points being made, we do find that in both treatment and control areas the proportion of children never having attended school due to reasons of cost has declined with statistical significance (see Table D.6). This is not due to the HSNP but may reflect the increased supply of education services, particularly primary schools, in evaluation areas between baseline and follow-up 2 (see Table 3).

5.2.3 Performance in school

Although not getting more children into school, there is some evidence to suggest that the HSNP is having a positive effect on those children already in school. We find a significant positive impact on the mean highest grade achieved for children aged 6–17 (see Table 18 above) and, after controlling for community, household and individual factors, we also find a significant positive

impact on the proportion of children aged 10–17 that have passed Standard IV (see Table C.3). These results are again driven by poorer households and households for whom the cumulative *per capita* value of the transfer is larger, and continue the trends observed at follow-up 1. This conclusion is supported when one analyses a panel of children aged 6–17 at baseline and who were then attending school. While the sample size shrinks for this panelled cohort so that we are unable to detect change with statistical significance, the trends are again in the right direction, with beneficiary children aged 6–17 at baseline some 3.5% more likely to have passed Standard IV at follow-up. In addition, amongst this panel cohort, children from poorer and smaller households also achieve a higher grade on average – a statistically significant result – and this result persists with a statistically significant positive result once we control for other factors.

While these impacts do not appear to be driven by increased educational expenditure or attendance, the qualitative research suggests that, by enabling children to eat better and improve their psycho-social experience of education (e.g. through coming to school with adequate uniform and school supplies), the HSNP is improving children's education performance.

Increased attendance and less disruption to schooling lessons would naturally be expected to result in better performance of children at schools. But children who pay their fees and come properly equipped to class may also elicit more favourable treatment by teachers, which could equally contribute to improved education outcomes. In addition, the psychological and social impacts of owning fit and proper education materials and being well-presented in school can also boost children's confidence, helping to explain their improved performance:

> *"These children who are coming from homes where they are getting this money, there is a difference. They look smart, they are smiling, because they can automatically tell the teacher that got the money and I have bought this and this. In fact, they enjoy it very much" [KII with teacher, Mandera].*

> *"They have improved in performance because they are fully equipped with learning materials and they are doing more assessment exams. They also feel confident because they have uniforms" [KII with teacher, Turkana].*

> *"Before children were chased from school when their shirts were dirty. Since the shirt is not dirty as there is soap for washing uniforms, children are taken to school" [FGD with children, Mandera].*

> *"Where parents are able to buy their children school materials, their performance increases. A child who has an essential textbook required by the school will improve his or her performance" [KII with teacher, Marsabit].*

National school feeding programmes, coupled with HSNP impact on increased food intake and dietary diversity, also help children to concentrate better in schools:

> *"When [a child] has those basic needs, and for example he has eaten lunch, he is not hungry and is then motivated to learn and therefore there is improvement in terms of mean scores in exams" [KII with teacher, Marsabit].*

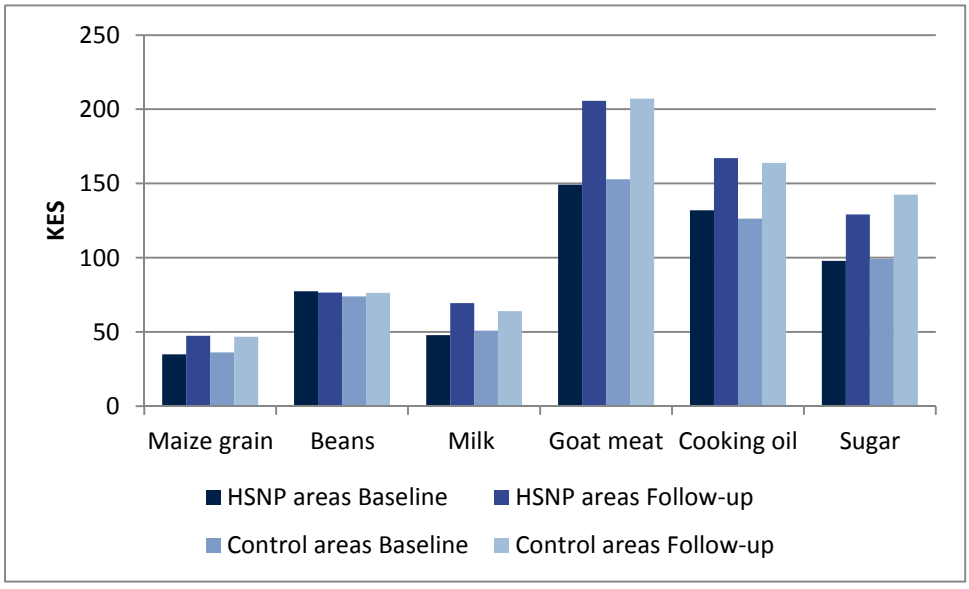
5.3 Local markets, food prices and supply of key commodities

Cash transfers may increase the demand for goods and services, which can provoke a response by traders and result in increased supplies to local markets, stabilising both supplies and prices over time. These effects will be moderated if cash transfers are small and have limited coverage, if markets are fragmented and transaction costs facing traders are high, and/or if traders do not have confidence that the injections of cash will continue over an extended period of time. There is also a risk that cash transfers will have an inflationary effect – driving up prices in the absence of a supply response – especially if markets are weak. For the HSNP, which aims to provide a safety net against hunger and food insecurity, monitoring these effects is especially important in relation to staple foods such as cereals.

5.3.1 Local prices

Between baseline and follow-up 1, the prices of key food commodities were monitored in order to assess whether the HSNP was having an inflationary impact. Figure 7 below reveals that there was indeed substantial food price inflation in the HSNP operational areas during this period, for five out of six key commodities monitored (all except beans), but that no statistically significant differences were observed in inflation rates between treatment and control areas. This shows that the HSNP did not appear to be contributing to food price inflation in evaluation areas.

Figure 7 Average prices of key food commodities (KES per kilogram or litre)



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2011.

Similarly, a comparison of monthly price changes revealed no evidence that HSNP cash transfers were contributing to food price stabilisation over time (e.g. between seasons), implying that the scale of the HSNP was not sufficient to substantially affect trading patterns, food prices or supplies in local markets. Instead, it was seen that price inflation was eroding the value of HSNP cash

transfers.[28] Subsequently, the HSNP has increased the value of the transfer on successive occasions (see footnote 1) but the impact of inflation on the purchasing power of the transfer remains an important area of consideration.

Findings from the follow-up 1 qualitative research agreed with the quantitative results. Respondents testified that food prices have risen dramatically in recent years, but that this trend started before HSNP and could not be blamed on the cash transfers. In addition, it was felt that the scale and coverage of the HSNP were too limited to affect local markets. Traders insisted that they had not raised their prices as an opportunistic response to the extra cash injected by HSNP, with local people corroborating this by pointing out that their poverty makes them price-sensitive: if prices rise, they shop around. This was further corroborated by price-monitoring data on food prices, which showed no difference in price variation over time between HSNP paypoint *dukas* and non-HSNP *dukas* for 10 different common consumption items.[29] Indeed, traders felt that they were secondary beneficiaries of the programme, owing to the increased cash being spent by HSNP beneficiaries;[30] from the quantitative data there is very little evidence of HSNP agents forcing beneficiaries to purchase something from their shop or charging extra for goods the sell (see Section 5.3.2 below).

5.3.2 Local markets

Respondents across all sub-locations mentioned an increase in business activity in recent years. This was evident from the increased number of shops and business start-ups and expansion of existing traders. The increased trading activity could also be seen in the increased volume and quantities of commodities being traded.

The most obvious feature of this increased market activity is the increased variety of products being traded and new services being sold:

> *"Now they sell a variety of goods. There are different types of soda that we didn't know before, like mango juice. Because people demand it, that's why they bring this variety of goods" [FGD with female beneficiaries, Marsabit].*

> *"These days we even have a matatu that operates between Lafaley and Wajir Township and is mostly used by business people who bring goods from Wajir" [FGD with female beneficiaries, Wajir].*

> *"We have noted new commodities like phones and phone banking services introduced in this area by people from other places" [FGD with male non-beneficiaries, Kalemongorok, Turkana].*

According to respondents, the increased market activity was mainly linked to an increasing process of sedentarisation, which was viewed as a response to multiple factors such as loss of livestock

[28] For more detailed analysis see Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Quantitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012.
[29] For more detailed analysis see Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Quantitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012.
[30] See Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2011 to 2012, March 2013; and Kenya Hunger Safety Net Programme Monitoring and Evaluation Component Qualitative Impact Evaluation Report: 2009/10 to 2010/11, March 2012.

(and therefore livelihood) due to drought, increased competition for land due to population increases, violence between ethnic groups (over grazing rights, etc.), and also the programmes and polices of government and development agencies that have encouraged sedentarisation as solutions to food insecurity and poor access to education and health services. Because households have settled mostly around market towns, this has stimulated market activity to meet the increased demand. Where previously needs were met by relying on livestock and farm produce, recent droughts, in which harvests were low and animals were lost, meant that these needs are now met through the market. In addition, as pastoral households settle they diversify into non-pastoral activities. In particular, women are perceived to diversify incomes by adopting new town-based activities such as petty trade:[31]

> *"We used to depend on our farm produce but now since there is no farm people start to buy things they need from the market" [FGD with male beneficiaries, Badasa, Marsabit].*

As households that were previously pastoralists settle in market towns so there is a parallel development in community infrastructure such as schools, health centres, fuel stations and the like. Especially important are the development of new roads, as these are perceived to facilitate market activities. In Badasa, for example, causal labourers working on a nearby dam increased demand for goods and services and shopkeepers responded accordingly by bringing additional stock and increasing the variety of products they sold.

In addition to these broader factors, which are no doubt largely responsible for the development and expansion of local markets, the HSNP was perceived to contribute to the increase in market activity. Local traders explained that beneficiaries' increased purchasing power resulted in increased demand to which they could respond with increased supply of a variety of goods and services. New traders had entered the market since the establishment of the programme, and existing traders, particularly HSNP paypoint agents, had increased stock levels and the variety of goods they sold. This was especially evident in the period immediately following the disbursement of cash:

> *"This money is also assisting the business men. Why? Beneficiaries buy foods, clothes, and, in this way, they boost the traders within the area. They can buy from the traders because they have the cash" [KII with trader, Marsabit].*

> *"Yes, markets have developed mostly because of the purchasing power of beneficiaries. Without them there could be no business and without HSNP there wouldn't be so much improvement in this shop" [KII with trader, Wajir].*

The reliability of the HSNP transfers has also increased traders' ability to sell produce on credit, by guaranteeing sales when payments arrived. Traders mentioned that increased sales and profits from HSNP beneficiaries in turn enabled them to better service their debts to wholesalers, buy in larger quantities for retail, thus benefiting from lower prices, and increase their creditworthiness with suppliers. In this way, HSNP can be perceived to be helping to reduce supply-side credit constraints for traders as well as demand-side credit constraints for consumers.

[31] These findings corroborate those of previous studies. See Nduma I, Krisjanson P, McPeack J., (2001), Diversity in income generating activities for sedentarized pastoral women in Northern Kenya, *Human Organization* Vol. 60, No. 4.

The HSNP was also cited as causing temporary markets to arise on payment days, with external traders coming in especially to sell at more competitive prices.

Notwithstanding the above, it is important to note that the evaluation does not produce a robust quantitative measure of HSNP impact on local markets, and even within the qualitative findings the extent of market development is not consistent across all sub-locations. The main barriers to market development that were cited were liquidity constraints and poor market integration, as well as generalised poverty which suppresses demand:

> *"Business here doesn't do well. Instead, people go and invest in other locations like Lodwar Town. This is because money circulation here is too low, and there are no jobs being created and no expansion of business. Businesses do not prosper because the area is poor… we rely on charcoal burning" [FGD with male beneficiaries, Turkana].*

These findings indicate that the potential for positive local economy impact of the HSNP cash transfer is dependent on the degree of development and integration of markets, which in turn allow supply to respond to increased demand.

In summary, the evidence points to much a more dynamic market situation in recent years, illustrated by the increase in the number of shops, variety of goods offered, increased sales and competition, and new trading and market structures. While it appears that HSNP may be contributing to this process, larger social and economic factors external to the programme are the primary determinants. Therefore, while there is some testimony from community members as to the HSNP's positive impact on local markets, it is not possible to definitively attribute this to the programme.

5.4 Livelihood activities

The main livelihood activity in the HSNP operational area is livestock rearing. However, droughts, as well as economic, social and political changes, have disrupted pastoralist livelihoods and led to increasing reliance on other sources of income, such as casual labour and collecting bush products for sale. Cash transfers are expected to give recipients the means to invest in their livelihood activities or to engage in new and more productive livelihood activities, not only because the extra cash provides working capital but because receiving regular cash transfers potentially gives recipients the confidence to take moderate risks.

According to the evaluation theory of change, the HSNP transfers are expected to enable people to engage in new and more productive livelihood activities. Regular cash incomes may allow beneficiaries to take greater risks or invest in new capital that allows them to expand and improve their portfolio of livelihoods. Conversely, there is concern that the HSNP could create 'dependency', referring to households developing patterns of behaviour that rely on a regular cash transfer and are not accumulative, and therefore are not sustainable without the transfer. For example, households might forsake productive opportunities because they know that they will receive a transfer or because collecting the transfer prevents them from engaging in other activities. If it occurred, dependency would have an impact on the potential for households to graduate from the programme.

At follow-up 1, HSNP and control group households were asked about changes to work patterns and business activities since the baseline survey. Table 19 shows that 13% of HSNP households

reported positive changes in their work patterns during this period, compared to just 2% of control households, a statistically significant difference:

> *"I used to fetch water for people with a donkey cart, but since the HSNP started I now own a butchery" [Beneficiary, Mandera].*

Also at follow-up 1, 5% of HSNP households reported being able to expand or improve their existing business in the last year, and almost all attributed these changes to HSNP.

At follow-up 2 we see a similar trend, with some two-thirds of households with businesses in treatment areas reporting that they had expanded or improved their business in the last 12 months. Again, the vast majority of these ascribe their ability to do this to HSNP; this is itself an improvement on the previous year, where less than one-third of those improving an extant business attributed doing so to HSNP. Overall, some 5% of households had either been able to start, expand or improve a business due to HSNP at both follow-up 1 and follow-up 2:

> *"Since the coming of the programme things have changed; beneficiaries are now getting into business because they are now settled around here… those who were herding and lost their livestock are now doing small business" [KII with trader, Wajir].*

These numbers reflect the small portion of the community that own their own businesses. Moreover, respondents interviewed during the qualitative fieldwork at both follow-up 1 and follow-up 2 felt that the HSNP cash transfers were too small even to meet household needs, let alone finance existing livelihoods or diversification into alternative activities:

> *"The money is not enough to start a business. They need to eat, take transport with this money and so on, so the money cannot go far. And it comes every two months and not every month. The people who start something are those who don't have children in schools" [KII with trader in Marsabit].*

> *"Since you last visited me, we still gather wild produce for food and we burn charcoal to get money to buy food, because HSNP cash can never sustain the household food supply for more than a week" [Beneficiary, Turkana].*

On the other hand, the qualitative research also produced testimony that the injection of HSNP cash generated demand not only for goods but also for services. As discussed above (see Section 5.3.2), traders take advantage of the increased circulation of money in the local economy through increased sales. But another spill-over effect comes from beneficiaries buying labour. Some non-beneficiaries report that HSNP money is used to purchase casual work, especially by the elderly or those households that the transfer has enabled to engage in more productive activities:

> *"When they get the money they call us and we build for them" [FGD with male non-beneficiaries, Mandera].*

> *"With the introduction of HSNP some casual work is available for the non-beneficiaries. Beneficiary households now give out money for people to work in their farms" [KII with chief, Turkana].*

There is thus some evidence that a form of labour exchange has emerged that benefits non-beneficiaries who earn income through causal labour paid for by HSNP transfers. Given the

undesirable nature of casual labour, it is possible that beneficiaries' social status could increase over time, as they become regarded as channels and sources of community livelihoods. At the same time, these changing social dynamics present a potential for new resentments and antagonism.

All this said, for the majority of beneficiaries the transfer was deemed inadequate to significantly affect local labour markets, constraining the ability of individuals to completely disengage from casual labour even if they wished to do so.

Table 19 Self-reported changes in household work patterns and business activities by treatment status

Outcome	Follow-up 1		Follow-up 2	
	HSNP households	Control households	HSNP households	Control households
Work patterns				
% of households reporting changes to work patterns since BL	21	14	-	-
% of households reporting positive changes to work patterns since BL	13***	2	-	-
% of HSNP households reporting positive changes to work patterns since BL as a direct result of the HSNP cash transfers	14	N/A	-	-
Business activities				
% of households that currently have a business	15	9	9	N/A
% of households able to expand or improve existing business in last 12 months	5*	2	6	3
% of HSNP households able to expand or improve an existing business as a direct result of receiving HSNP cash transfers	4	N/A	5	N/A
% of households started a new business activity since BL	3	1	0	0
% of HSNP households that started a new business activity as a direct result of receiving HSNP cash transfers	2	N/A	0	N/A
% of HSNP households that started, expanded or improved a business as a direct result of receiving HSNP cash transfers	5	N/A	5	N/A

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks in column 1 indicate the significance of the difference between the treatment and control group: *** p<0.01, ** p<0.05, * p<0.1. (2) BL = baseline survey.

5.4.1 Does HSNP cause dependency?

Among policy-makers there is a worry that unconditional cash transfers could cause 'dependency', meaning that people will change their behaviour in order to become or remain eligible for the programme, and thus that beneficiaries will not be incentivised to work. If the value of the transfer

is generous enough, for instance, beneficiaries might stop working, making them dependent on the programme for survival.

This potential impact of HSNP on labour supply is assessed by considering the proportion of adult household members that report their main or secondary current activity as 'productive work' (livestock herding; farming; collecting bush products for sale or consumption; self-employment; paid work including casual labour; helping in family business; and fishing). Unpaid domestic work is not considered as productive work.

Table 20 Proportion of adults (aged 18–54) engaged in productive work

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
% of adults (aged 18–54) whose main or secondary activity is productive work	58.5	64.4	5.9**	63.5	68.1	4.6*	1.3	4,761
% of adults (aged 18–54) whose main activity is productive work	53.8	58.9	5.0**	58.5	61.0	2.5	2.6	4,761

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table 20 reveals no significant impact on labour supply between baseline and follow-up, either in HSNP or control households, suggesting the programme is not creating dependency among beneficiaries. This finding persists after controlling for other factors (see Table C.3). Given the low value of the transfer, and the fact that there are no graduation criteria – i.e. households are not removed from the programme once they reach a certain level of income or assets – this result is not unexpected:

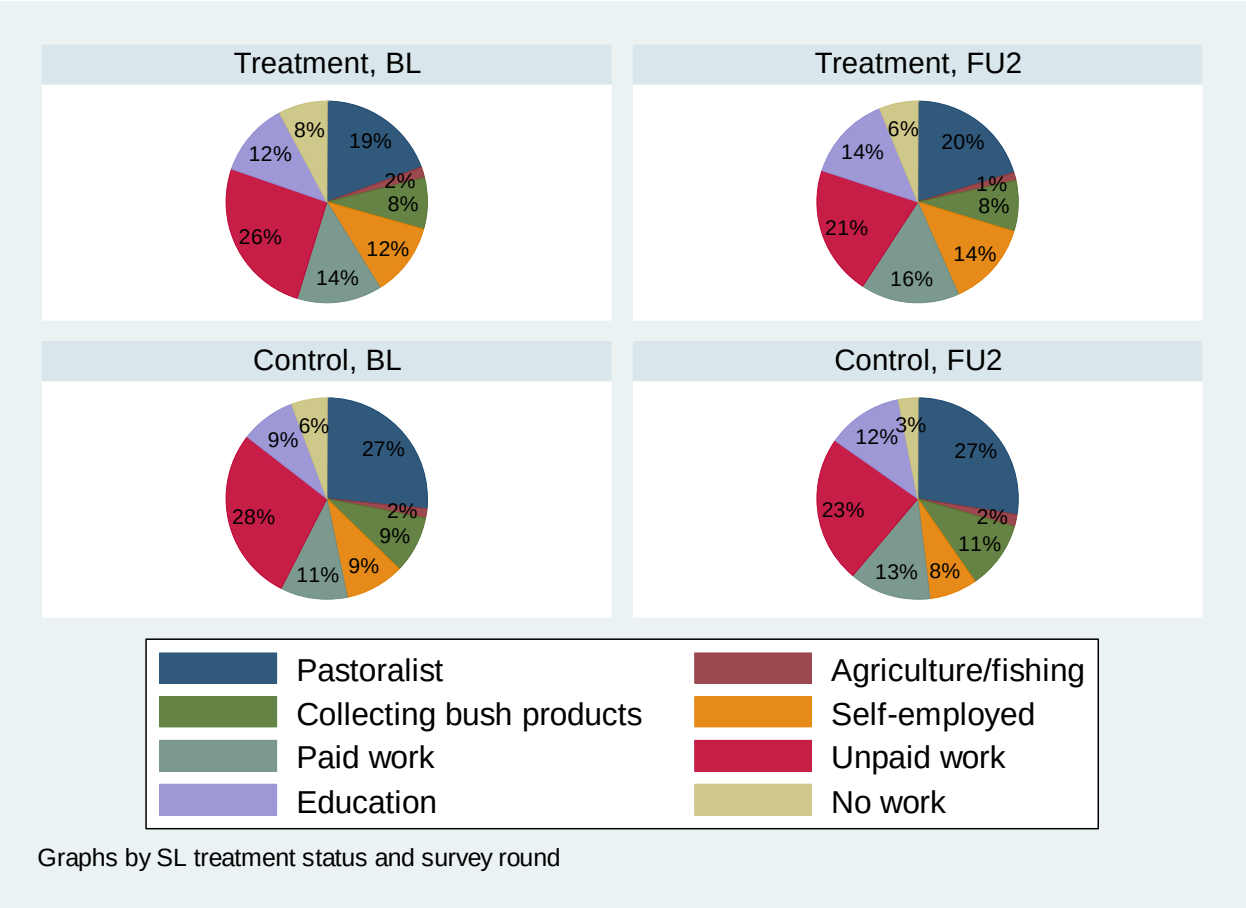
> *"We still perform the work activities. The money cannot satisfy all your needs, that is why we still perform such activities… it can only buy food stuff, you cannot even extend it to your other needs and that is why people still do casual labour" [FGD with female beneficiaries, Marsabit].*

As well as not creating dependency, the HSNP has not affected the sources of livelihood pursued by households. Figure 8 shows that the livelihood activities undertaken by households were broadly similar in treatment and control areas at baseline, and remain so after two years of programme operations (although there appears to be a higher portion of households engaged in pastoral livelihoods in control areas, this difference is not significant). The two main livelihood activities undertaken by households are pastoralism and unpaid work, which includes domestic duties.

This situation has not changed over time, but two interesting trends can be discerned in the two groups individually (treatment and control). One is that, in treatment areas, the proportion of household members aged 18–54 whose main activity is unpaid work has fallen with statistical significance, indicating that more household members of working age are being required to engage in income-producing activities. Similarly, in control areas, we see a significant increase of similar magnitude in the proportion of working-age adults engaging in paid work such as casual labour. While these trends do not result in statistically significant dif-in-dif measures (see Table D.8), they

do tend to corroborate the general picture of increased market activity and labour opportunity (see above and Section 5.3.2).

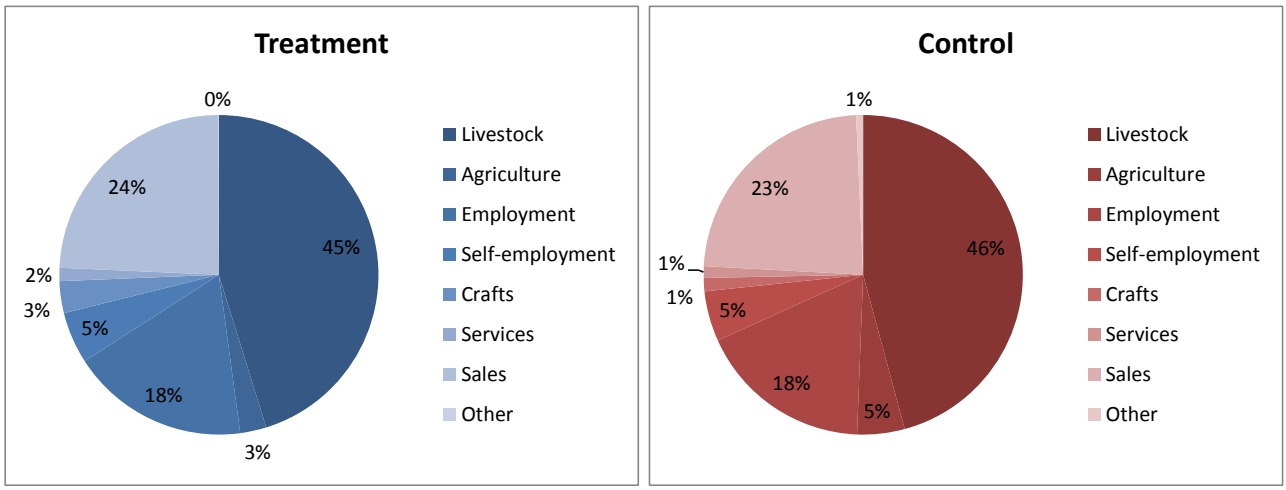
Figure 8 Household members aged 18–54 main livelihood activities by treatment status at baseline and follow-up



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: the data in these charts differ slightly from the data presented in Table D.8 because of the way the two sets of figures are calculated. The columns in Table D.8 do not total 100% because a tiny number of households with livelihood activities that are not included in the given categories are excluded. In this chart, the percentages are calculated based on the sum of all livelihoods that are included; hence they do total 100% (before rounding to one decimal place for presentation purposes).

Figure 8 above shows the mean share of total household income from each livelihood source. It testifies to the significance of pastoralism as a source of household income in these areas. Sales also forms a significant share of overall household income, including activities such as selling firewood, charcoal and other bush products, petty trading, local brewing, selling prepared food and drinks, wholesales, and selling food aid. Employment is the third most important slice of the income pie, and includes activities such as casual labour as well as employment in trades, domestic services (cleaner, maid, nanny, etc.), professions (teacher, health worker, etc.), and salaried and public-sector workers. Agriculture and self-employment make up only a small portion of overall income.

Figure 9 Mean share of total household income by livelihood, by treatment status



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Other includes begging and collecting bush products (such as fire, water, wild food, etc.) for domestic use.

5.5 Saving, lending, borrowing and credit

Cash transfers can have an ambivalent impact on borrowing behaviour. On the one hand, the extra cash may allow beneficiaries to avoid having to borrow and thus becoming dangerously indebted – it may even allow them to pay off old debts. On the other hand, knowledge that cash transfers will be coming regularly allows beneficiaries to borrow with confidence, and gives traders and moneylenders the confidence to lend to them. If the cash transfers are sufficient, some of this money can be saved or even lent to others.

Households in rural northern Kenya have little access to credit from formal institutions like banks, because their incomes are low and volatile and because they lack assets for collateral:

> *"In banks you have to pledge your assets and since we don't have assets to pledge, we cannot access credit there" [Beneficiary, Marsabit].*

Local people therefore tend to borrow from shops, relatives and neighbours. Informal lenders do not generally charge interest on loans, which are often made in-kind rather than in cash – e.g. buying food or fuel on credit rather than borrowing money:

> *"For credit, people may give you food but not money" [Beneficiary, Mandera].*

HSNP transfers are expected to allow households to improve their management of cash flows by providing a predictable and regular income. This could allow households to take loans (either directly, using the HSNP transfer as collateral, or indirectly, with the increased financial security encouraging loan-taking). The transfer may also reduce households' need to borrow at adverse interest rates because they have HSNP cash available. HSNP transfers could also increase household savings and thus enable households to loan out money to friends or family in need. Non-beneficiary households may also thus have access to transfers through borrowing from beneficiaries. Households receiving the HSNP transfer may also be seen as more creditworthy by shopkeepers (in particular HSNP paypoint agents) because the cash transfer provides a regular income, increasing their ability to purchase on credit and thus helping to smooth consumption.

As discussed above, there is much qualitative evidence that the HSNP has improved the creditworthiness of beneficiary households in relation to food, education and livelihood expenditures (see sections 4.2, 5.2, 5.3 and 5.4). But what is the evidence from the quantitative survey?

Table 21 presents the dif-in-dif impact measures for the proportion of households currently saving, that have borrowed cash in the past 12 months, and that have bought something on credit in the last three months. As was found at follow-up 1, the programme is having a statistically significant impact on increasing households' uptake of credit, although at follow-up 2 this result is only apparent once we control for other factors and adjust for variation in the cumulative *per capita* value of transfers (see Table C.3). This result is being driven by poorer HSNP households.

There are also significant positive impacts on the proportion of HSNP households that have cash savings and the proportion that have borrowed cash in the last month. This result persists once we control for other factors and variation in cumulative value of transfers, although the magnitude of the impact becomes much smaller. The heterogeneity analysis reveals that the savings impact appears to be driven by larger households, which is surprising since impact in most other areas tends to be driven by smaller households for whom the effective value of the transfer is higher. However, the impact on borrowing is stronger for smaller households, which may reflect their generally poorer status. Another surprising result is that both impacts are stronger for better-off households, although this might reflect the fact that, all things being equal, these households, being on average wealthier, are better able to both save and borrow.

Table 21 Saving, borrowing and credit

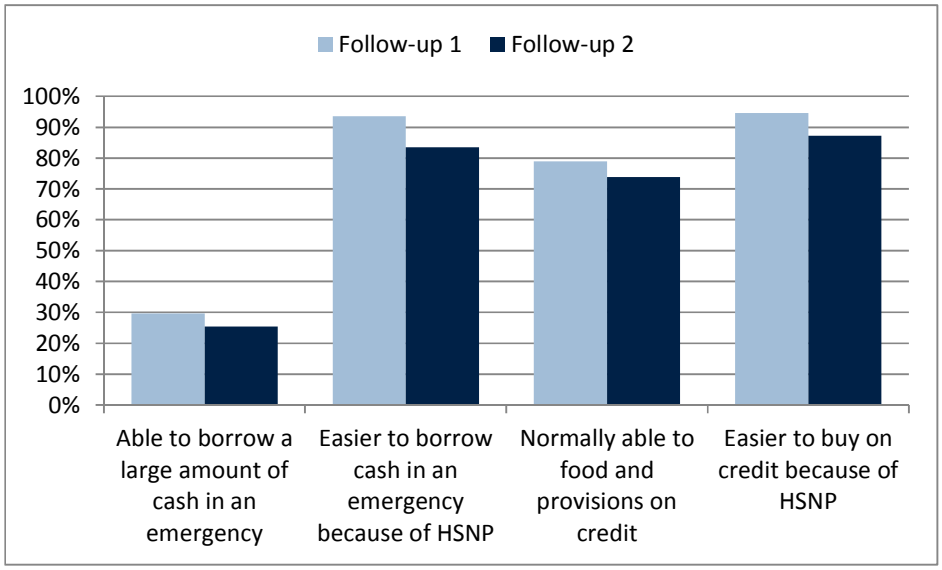
Proportion of households (%) that…	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
currently have cash savings	4.8	14.5	9.7***	5.3	7.7	2.4	7.3*	2,436
have borrowed money in the last 12 months	12.9	22.2	9.2*	10.2	9.7	-0.5	9.7*	2,436
bought something on credit in last three months	63.4	72.3	9.0	60.6	63.5	2.9	6.1	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

The increased ability to access credit or loans, either with shopkeepers or family and friends, will not necessarily mean that households will take up this opportunity, since it is normally not sensible to get into debt unless there is a specific need. Thus at follow-up 1, in addition to questions about actual borrowing behaviour, HSNP households were also asked about changes in their potential access to credit. Figure 10 shows that almost one-third of HSNP households report that they would be able to borrow a substantial amount of cash in an emergency (considerably higher than the 22% who actually did borrow cash in the last 12 months). Almost all of these households report that it is now easier to borrow cash specifically because they are receiving HSNP cash transfers. Similarly, nearly 80% of HSNP households reported being able to purchase food and other provisions on credit (again higher than the 72% that actually did buy on credit in past three

months), and almost all of these households attributed this easier access to credit purchases to the HSNP.

Figure 10 HSNP impact on emergency borrowing and credit after one and two years



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

However, some caution that beneficiaries are apt to be overly optimistic about the extent to which HSNP cash could finance their borrowing and thus put themselves at risk of getting into debt:

> *"The beneficiaries' borrowing mostly exceeds their expectations and there are always recurring balances being taken forward" [Paypoint agent, Wajir].*

> *"I take credit from shops and when the HSNP money comes I have already used a lot of credit. Sometimes the credit I use is more than the HSNP cash" [Beneficiary, Mandera].*

5.6 Vulnerability to shocks

Cash transfers potentially give vulnerable households the means to 'cope' with the consequences of adverse shocks, for example to buy food if their harvest fails or their livestock die because of drought. Using cash is preferable to adopting damaging coping strategies such as distress sales of productive assets like livestock, which would leave the household even more vulnerable to future shocks. Cash transfers could also allow investment in risk-management behaviour, such as immunising livestock against disease. These are basic 'safety net' functions that the HSNP is intended to provide.

Two severe covariate shocks, i.e. shocks that affect many households in a community, affected communities in northern Kenya during the period covered by this evaluation: drought and inflation. The long rains in March to May 2011 were poor in Mandera, Marsabit and Wajir, causing many livestock deaths and compromising the livelihoods and nutrition of the local people. Price inflation between the baseline and follow-up surveys was 34% for a basket of 29 essential items (mainly foodstuffs and kerosene). This combination of drought plus inflation magnified the impact of each

shock, because prices of goods that people have to buy were rising while prices of assets they have to sell were falling:

> *"Yes, there has been a change in the price of goods and services in our local shop and in the market. Prices have shot up and living conditions have become very hard. Costs of transport have doubled, making it impossible for the household to move and access goods and services at cheaper prices. Households that lead nomadic lives are affected because the livestock market still fetches low prices. Livestock health has affected the price in a negative way" [Beneficiary, Turkana].*

At follow-up 1, the programme was found to have no significant impact on the proportion of households reporting a decline in their wellbeing compared to one year ago (at the time of interview). Although there was a high proportion of households reporting a severe decline in their welfare (clearly due to the drought which occurred in this period), this affected both HSNP and control households. Similarly, while there was a significant decline in five of the coping strategies reported by HSNP households, a similar set of findings was recorded for control group households, indicating that the positive trend in terms of coping strategy adoption among beneficiary households could not be attributed to the HSNP. These declines were surprising given the stresses that households were facing over the period covered, but may be explained in part by the inherent difficulties in capturing these types of data using quantitative means.

Table 22 shows that at follow-up 2 the programme continued to have a limited impact on reducing the need for negative coping strategies. Reflecting the fact that the programme has increased HSNP households' access to credit (see Section 5.5), there has been a significant impact on the proportion of HSNP households that had to buy food on credit in the 30 days prior to interview. However, this result is not robust, with the impact becoming significantly negative (but small in magnitude) once we control for other factors (see Table C.3). This could indicate that, although HSNP households now have better access to credit, the programme has made them less vulnerable and therefore they do not actually need to take up this credit as a necessity in the face of shocks. The heterogeneity results suggest this impact is being driven by poorer and smaller HSNP households, which are less likely to purchase items on credit as a result of the transfer.

The only other significant coping strategy result is a positive impact on the proportion of HSNP households that had to sell non-livestock assets in the 30 days prior to interview. However, this impact again becomes significantly negative once we control for other factors. The heterogeneity analysis suggests that this impact on reducing the need to sell assets is driven by smaller and relatively better-off HSNP households. These findings are corroborated by the qualitative research results analysed in Section 4.4 above).

Table 22 Coping strategies

Proportion of households (%) that in the last 30 days have had to…	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Borrow food or rely on help from family or relatives	57.9	43.9	-14.0	65.7	37.5	-28.2***	14.2	2,435
Sell any animals to buy food	28.4	43.1	14.8*	42.6	52.1	9.4	5.3	2,435
Sell other assets (not animals)	2.1	3.4	1.3	3.0	1.2	-1.8*	3.1*	2,435
Buy food on credit from a shop	61.9	80.0	18.1***	61.0	66.8	5.8	12.3**	2,435
Collect and eat wild foods and/or animals	11.4	4.3	-7.1**	18.5	6.9	-11.6**	4.5	2,435
Reduced number of meals	77.5	66.1	-11.4	89.0	62.3	-26.7***	15.3	2,435
Eaten smaller meals	74.5	56.3	-18.2	87.8	55.2	-32.6***	14.5	2,435
Skipped entire days without eating	57.7*	44.9	-12.7	72.7	41.6	-31.1***	18.4	2,435

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

It is worth noting that, due to the sub-locations that were dropped at follow-up 2, the balance of the sample at baseline has been affected in relation to the proportion of households who skipped entire days without eating. However, the dif-in-dif estimate or programme impact remains insignificant.

Qualitative fieldwork suggests that even if drought-affected households could not avoid adopting damaging coping strategies, they were partly protected by HSNP cash, which enabled them to sell fewer livestock, better maintain food consumption, and borrow less than they would otherwise have been forced to do:

> *"The food we eat from home is sometimes not enough. We are content with what we eat now although it is not enough. I can say (though) that it is better than before the HSNP started. This is because now our parents can buy for us using the HSNP money when the relief food is finished" [FGD with children, Wajir].*

5.7 Empowerment of women

Cash transfer programmes can be economically and socially empowering for women. This can happen, for instance, if women are designated as recipients of the cash, or if transfer income is intended to be spent on acquiring food, where women are primarily responsible for providing food within their households. Targeting cash transfers at women is assumed to increase their control of household resources, leading to improvements in various indicators of wellbeing for women, children and households. Conversely, there may be a risk that insensitively designed programmes will disempower women, for instance if targeting women as cash recipients generates intra-household tensions over how the money should be shared and spent, possibly provoking gender-based violence against women.

In fact, HSNP transfers did tend to be targeted towards female household members, even though this was not a specific programme policy. This is reflected in the fact that 75% of named

beneficiaries are women (rising to 82% for CBT beneficiaries), with the person that normally decides how the HSNP transfers are spent being female for 59% of HSNP households (a decline from 69% at follow-up 1; see Section 3.2 above). Furthermore, anecdotal evidence shows that HSNP has been labelled as 'women's money' in some places:

> *"They say this is the money for women. We were advised by the programme staff to consider women as primary beneficiaries because they know the problems of the household" [FGD with young women, Marsabit].*

To the extent that this represents a change in women's relative control over household resources, it is therefore possible that the programme could influence broader gender relationships within the household. The evaluation investigated whether the fact that HSNP income is controlled by more women than men is influencing women's wider decision-making power over household resources in general.

Table 23 Proportion of main budget decision makers that are female, by sex of household head

% of main budget decision makers that are female, for…	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
All households	46.2	52.5	6.2	44.1	52.0	7.9	-1.7	2,436
Female-headed households	86.0	98.0	12.0***	81.8	92.4	10.6***	1.4	738
Male-headed households	25.7	29.4	3.6	26.6	33.9	7.3	-3.7	1,698

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

In the evaluation survey each household was asked to identify the household member that was the main person who decides how the overall household budget (not just the HSNP transfers) is used. This person was defined as the *main budget decision maker*. Table 23 above shows the proportion of the main budget decision makers that are female for different kinds of households: for all households, female-headed households and male-headed households.

At follow-up 1, we found the programme was having a significant but limited impact on women's control over the household budget in both male- and female-headed households (although this impact was only apparent once we controlled for other factors). At follow-up 2 we got similar results for female-headed households, but this time found no impact on male-headed households. As was the case at follow-up 1, while we find a statistically significant increase in the proportion of decision makers that are female for female-headed households, this trend is observed for both treatment and control households and the basic dif-in-dif impact estimate is not statistically significant. However, once we control for other factors we do find that the programme is having a small but statistically significant impact on the proportion of main budget decision makers that are female, with this impact being driven by smaller and poorer households (see Table C.3).

Therefore, in terms of women's control over their household budgets, for female-headed households HSNP does appear to be having a limited positive impact on female economic empowerment.

Furthermore, as we have already noted in regard to the programme's impact on livelihood activities and local economies, more evidence of women's economic empowerment comes from the fact that petty trade activities and retail businesses are more likely to be undertaken by women than men (who are more likely to be involved in livestock trading). At follow-up 1 it was noted that:

> *"Most of the businesses are run by women. If there are 30 shops in town at least 20 would be run by women" [Trader, Marsabit].*

Moreover, it was also noted that some HSNP cash was being used as working capital for women's trading enterprises:

> *"There are so many people, mostly women, who have set up tables where they sell vegetables and other smaller stuff and they have started these tables after this programme. In fact, most of them are people who are beneficiaries of the HSNP. There are also others, mostly younger women, who started running small restaurants after the HSNP started" [Trader, Wajir].*

At follow-up 2 this trend was still observed, and even broadened in scope perhaps, with testimony as to women's business groups being set up between beneficiaries and non-beneficiaries:

> *"Some have created groups with non-beneficiaries, like women's groups, working together in different businesses. They have employed several people" [FGD with male non-beneficiaries, Wajir].*

While the programme does appear to be having some positive impact on women's economic and social empowerment by enabling some women to take more control of the household budget and to increase their potential for undertaking income-generating activities, it is also possible that delivering cash transfers to women in male-headed households might generate tensions between men and women, especially between husbands and wives. Conflict could also develop over how cash transfers are spent, even if the cash is collected by men on behalf of the household. This was reportedly an issue among polygamous households, if male recipients failed to distribute the cash equally among all wives.

In fact, the qualitative findings suggest that the programme may indeed have had just such unintended consequences in exacerbating tensions within households. At follow-up 1 some respondents, mainly men and mainly in Mandera, claimed that the HSNP was increasing levels of conflict and tension between men and women, as men felt that their role and status as household heads were being undermined:

> *"The programme has made many people fight and disagree, mostly between the husbands and wives. I am saying this because most of the beneficiaries are women so they have become very rude and are not listening to their husbands" [Male elder, Mandera].*

> *"Before, the women were taking orders from their husbands, who used to pay the bills and be in charge of the household. However, since the HSNP started women are more powerful*

than men because they are the primary beneficiaries. They tell you that you have to beg since it's their money, and the men are complaining about their wives because they are not taking orders from them" [Male non-beneficiary, Mandera].

One interpretation of these statements is that the HSNP is empowering women to claim more equality with their husbands. However, it is also clear that men do not all share this interpretation. Their tone is derogatory and they complain about women becoming more assertive and challenging their dominance in the home. In extreme cases, according to some respondents, the end result was divorce:

"There are some cases where the husbands and wives disagree and divorce each other. The wife is the primary recipient while the husband is the secondary recipient. The husband usually wants the money to be divided into two. But then the wife thinks the money comes in her name and so it belongs to her. But then the husband insists that the money must be shared" [Male non-beneficiary, Mandera].

"Previously the man used to pay for everything. But now when the woman gets the money and she is being told to pay for some things, and when she refuses and they start arguing. These arguments can lead to break up in families. The number of divorces has reached 20 cases" [Male elder, Mandera].

Indeed, there is some evidence for this from the quantitative survey (see Section 6.3 below).

Overall, there is some evidence that the programme is having an impact on women's economic and social empowerment by enabling some women (specifically those in female-headed households) to take more control of the household budget and to increase their potential for undertaking income-generating activities. However, there is also some testimony from the qualitative research that in some cases this is having the unintended consequence of creating tensions within households, especially between female HSNP recipients and their husbands.

5.8 Wellbeing of older people and children

Cash transfer programmes can be beneficial for the wellbeing of vulnerable groups such as older persons and children. Older persons can benefit directly (e.g. from the HSNP SP) or indirectly (by being a member of a beneficiary household). Expected benefits for children include improved food consumption and nutrition, enhanced access to education, and reduced child labour. Two indicators of wellbeing are assessed for both groups: a health indicator (the proportion of the population suffering an illness or injury in the three months prior to interview) and a labour indicator (the proportion of people whose main activity is paid or unpaid work). The analysis of the impact on children's education is presented separately in Section 5.2 above.

5.8.1 Older people

To assess the potential impact on health status, one of the health indicators presented in Section 5.1 above (i.e. proportion of the population reported as suffering from any illness or injury in the three months prior to interview) is used, but this time restricted to those aged 55 years and above.

To assess the impact on labour requirement, the dif-in-dif impact measure is estimated for the proportion whose main activity is paid or unpaid work, both including and excluding unpaid domestic work. Paid or unpaid work is defined as covering the following activities: herding/livestock production; farming/agricultural production; collecting bush products (for sale or consumption); self-employed; paid work including casual labour; help in family business; fishing; unpaid domestic work; unpaid other work.

Table 24 Health status and labour supply for people aged 55 and over

Proportion of people aged 55+…	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Ill or injured in past three months (%)	36.6	25.7	-10.8	36.6	22.5	-14.1**	3.3	2,017
Whose main activity is paid or unpaid work (%):								
Including unpaid domestic work	77.2	79.3	2.1	76.9	80.9	4.0	-1.9	2,017
Excluding unpaid domestic work	62.8	70.8	8.0**	60.2	71.7	11.5**	-3.6	2,017

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table 24 shows that the HSNP is not having a statistically significant impact on the health status of people aged over 55 years in HSNP beneficiary households, a result which persists after we control for other factors (see Table C.3). This finding is consistent with results at follow-up1, and is not entirely surprising; the path from cash transfers to improved health is complex and indirect (unlike, say, spending on health care). The reporting of illness can also be subject to a variety of factors, which might explain the declines reported in both HSNP and control households.

In terms of labour supply, at follow-up 1 the programme was found to have a statistically significant impact on reducing the need for older persons to engage in non-domestic work, although this impact was only apparent once other factors were controlled for. Although the majority of older people (around 80%) reported their main activity as work (paid or unpaid), for those in HSNP households there was a shift to doing more unpaid domestic work, and away from other types of work (e.g. casual labour for subsistence). This impact was driven by older people in poorer households and in smaller households (where the effective value of the transfer is higher).

However, at follow-up 2 this impact on shifting older people away from non-domestic work was no longer apparent, even once we control for other factors (see Table C.3). Interestingly, the proportion of older people engaged in non-domestic work (paid or non-paid) increased significantly for both treatment and control households, and now stands at just over 70% for both groups. This increase could reflect a response to the generally adverse economic and climatic conditions in the HSNP areas, which have increased the need for older people to find paid employment.

At follow-up 1, the qualitative fieldwork found no impact of HSNP on inter-generational relations. The dominant response was that older persons are treated with respect and the HSNP had made little or no difference to this. One positive effect mentioned was that community elders are appreciated for their leadership role in HSNP rights committees. Only one complaint was recorded about tensions created by the SP, which targets people over 55, where younger relatives are often

nominated as secondary recipients in case the primary beneficiary is too old or sick to collect the payment themselves:

> *"This programme brought problems between the elders and the young men. The elders have made the young men secondary recipients and the young men assume that whenever they collect the money, they are entitled to 500 shillings at least. But the elders are not willing to give out money so there is always a problem between the old men and their secondary recipients" [Male elder, Marsabit].*

However, this statement should be set in the context of very small portions of beneficiaries complaining that they had any problems with alternative recipients collecting the cash transfer on their behalf.[32]

Overall, therefore, it seems the programme does not seem to be having a significant impact on two specific aspects of the wellbeing of older people: health status and labour supply. However, neither has it appeared to increase tensions between older and younger people, a possible unintended consequence that was feared, especially in SP areas.

5.8.2 Children

The same indicators were used to assess the impact of HSNP on the health status and labour supply of children. As we found at follow-up 1, Table 25 reveals no statistically significant impact on child health status, a finding that persists once we control for other factors (see Table C.3).

Table 25 Health status of children and child work

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Proportion of children (0–17) ill or injured in past three months (%)	20.0	11.0	-9.0	20.1	10.2	-9.8**	0.8	7,572
Proportion of children (5–17) whose main activity is paid or unpaid work (%):								
Including unpaid domestic work	22.4	19.7	-2.7	29.2	25.7	-3.5	0.8	6,030
Excluding unpaid domestic work	15.1	14.7	-0.4	19.5	18.6	-0.9	0.4	6,030

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

In terms of child work, at follow-up 1 we did find that the programme was having a significant negative impact on labour supply, both including and excluding unpaid domestic work, although this result was only apparent once we controlled for other factors. One year on and we no longer find any impact on the proportion of children engaged in paid or unpaid work *including* unpaid domestic work, but the significant negative impact on non-domestic work (paid or non-paid)

[32] Kenya Hunger Safety Net Programme Consolidated Operational Monitoring Report for Follow-Up 2 (Feb–Nov 2012), March 2013.

persists. As at follow-up 1, this impact is only apparent once we control for other factors (see Table C.3). This impact is being driven by poorer and larger households.

In summary, as well as the positive impacts on education set out in Section 5.2 above, the programme does seem to be having additional positive impacts on children's wellbeing. While the programme does not appear to be improving the health status of children, it is having a significant, albeit small, impact on the proportion of children engaged in non-domestic work (paid or unpaid).

6 HSNP impact – Unintended impacts

This chapter reports on possible unintended impacts of the HSNP, including on informal transfer networks, household composition, household mobility and social tensions between households and communities. It finds that:

- One-quarter of HSNP beneficiaries report regularly sharing some of their transfers.
- The programme seems to be promoting the sharing of in-kind resources for certain types of household, but it is not causing beneficiary households to be frozen out of informal transfer networks.
- It is not possible to clearly disaggregate the impact of the HSNP on household composition given the recent population dynamics in HSNP areas and the complexity of factors influencing those.
- The HSNP has not been a source of tension within HSNP communities or between HSNP operational areas and other sub-locations.
- The HSNP is not affecting household mobility patterns, which are determined by much broader climatic, economic and social forces.

6.1 Informal transfers and sharing

The impact of cash transfers on informal transfers could be either positive or negative. Beneficiary households may reduce their dependence on informal transfers, which also alleviates the pressure on family and friends who were providing support (and are often almost as poor and vulnerable). Alternatively, formal transfers such as the HSNP could crowd out informal transfers and undermine reciprocity systems, which could be dangerous in the long term, especially if cash transfer programmes ultimately prove financially or politically unsustainable and are eventually phased out.

'Informal safety nets' refers to support received from other households or individuals, based on norms of reciprocity and solidarity. In northern Kenya, these norms of sharing and mutual support are strong and grounded in cultural practices and religious obligations. When asked whether they regularly share any of their HSNP cash transfers with anyone outside the household (including sharing out of obligation, and sharing with wives or co-wives who live in other households, but not lending), one in four HSNP beneficiaries reported that they do share in this way. The self-reported mean amount shared with others from the most recent transfer received was about KES 500, representing a considerable proportion of the HSNP transfer (see Table 26 below).

Table 26 Sharing of the HSNP transfer (at follow-up 1)

Outcome	HSNP households (As)
Proportion of households regularly sharing/giving some of the HSNP cash transfers with anyone outside of the household (not as a loan) (%)	25
Mean amount out of last transfer shared with others outside of household (KES)	501

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

To further understand the impact of HSNP on informal transfers and sharing, households were asked about the extent to which they had given and/or received informal cash and in-kind support. Table 27 below shows the proportion of households giving and receiving cash and in-kind support

in the three months prior to interview, and among those giving/receiving the mean value given/received.

At follow-up 1, we found that HSNP households had become less likely to be receiving informal in-kind support and more likely to be giving it, with this impact being driven by relatively better-off HSNP households. On the one hand, this could be interpreted as a positive result, to the extent that some HSNP households were no longer in need of support and therefore less of a burden on other households in the community. On the other hand, this could be interpreted as the programme having a disruptive impact on informal local support mechanisms, which could have potentially negative consequences in the longer term.

Results at follow-up 2 indicate that the only significant impact is a negative one on the value of in-kind support received. However, this result becomes insignificant once we control for other factors. Conversely, once other factors are controlled for the only significant impact is on the value of in-kind transfers given (see Table C.4). This result is driven by smaller households, and most pronounced for relatively better-off households. This makes intuitive sense because wealthier households are more likely to be in a position to provide assistance to other households and for smaller households the *per capita* value of the transfer is also greater. Furthermore, once the effective *per capita* cumulative value of the transfers received is accounted for, there is also a significant positive impact on the proportion of households giving informal transfers, driven this time by poorer and larger households. It also appears that there may be some substitution effects, with relatively better-off HSNP households experiencing a small negative impact on the proportion receiving informal cash support.

So, the relatively high prevalence of self-reported sharing of HSNP transfers indicated by Table 26 above is only weakly reflected in the limited impact on the proportion of HSNP households that have given informal cash support to other households in the three months prior to interview. This suggests that some of the HSNP transfer sharing might simply reflect sharing that would have occurred in any case. On the other hand, the programme does appear to be having a much stronger (positive) impact on the value of in-kind sharing. In other words, it is in-kind rather than cash sharing that the programme is promoting. This is broadly consistent with the findings of the qualitative research, which produces testimony that HSNP beneficiaries are apparently providing more support to others than before:

> *"Non-beneficiaries' livelihoods have changed in that whenever it is pay day we normally go to our brothers and sisters who are beneficiaries and they give us something small. We then use the amount given to settle our debts… When there are fundraising events for wedding ceremonies, beneficiaries help raise that money. So, I can say we are benefiting in one way" [FGD with male non-beneficiaries, Wajir].*

This ability of beneficiaries to support others, and even purchase their labour (see Section 5.4 above) is possibly seen to increase their social status:

> *"Generosity is exercised by the beneficiaries when they share cash transfer money with members of households, neighbours and friends. The poor and needy people in our community are now commanding respect since the HSNP started" [Male elder, Turkana].*

At follow-up 1, the study also found limited evidence of a substitution effect, with only a small negative impact on the proportion receiving informal cash support observed for relatively better-off HSNP households, but no apparent impact on the prevalence and level of in-kind support received:

> *"The HSNP has not affected the way we help one another because we understand that the cash transfer is just help for a short time. And we will be left behind with our friends, so we should not stop supporting one another at all" [Beneficiary, Marsabit].*

Only a few cases were mentioned where beneficiaries felt that their participation in the HSNP had 'crowded out' the support they previously received from others or from other programmes.

Table 27 Proportion of households giving and receiving informal cash or in-kind transfers in past three months and mean value given/received

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Receiving cash support								
Proportion receiving informal cash transfers (%)	45.6	39.1	-6.5	39.1	34.8	-4.3	-2.1	2,436
Mean amount received for those receiving (KES)	3,633	3,567	-66	2,417	3,043	626	-692	984
Receiving in-kind support								
Proportion receiving informal in-kind transfers (%)	41.3	23.7	-17.7***	42.4	25.8	-16.6***	-1.1	2,436
Mean value received for those receiving (KES)	616**	626	10	363	645	283***	-273***	634
Giving cash support								
Proportion giving informal cash transfers (%)	21.1	21.0	-0.1	19.7	13.8	-5.9	5.8	2,436
Mean amount given for those giving (KES)	2,363	824	-1,539	2,482	584	-1,898	359	446
Giving in-kind support								
Proportion giving informal in-kind transfers (%)	25.0	13.6	-11.4	25.0	12.0	-13.0**	1.6	2,436
Mean value given for those giving (KES)	270	262	-9	281	189	-92**	83	317

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

In summary, while a quarter of the beneficiaries reported regularly sharing some of their HSNP transfers, much of this may reflect sharing that would have occurred in any case. Informal transfer

systems are inherently complex, as is their relation to public social interventions. This said, the evidence suggests that the programme does appear to be having a positive impact on the value of in-kind sharing. Furthermore, the programme does not appear to be having significant substitution effects, with only a small negative impact on the proportion receiving informal cash support observed for relatively better-off HSNP households, and no apparent impact on the prevalence and level of in-kind support received. However, to fully understand the evolving relationship between these types of social network would demand further in-depth research.

6.2 Household composition

The fact that cash transfer programmes target some individuals and households but not others could have indirect effects on household composition. For instance, relatives might move in with someone receiving a cash transfer in order to share the benefits (for instance, a child may move to her grandmother when she registers for a SP), or families might reconfigure their living arrangements if eligibility criteria are related to household composition (e.g. the HSNP targets households with a high DR) – though this strategic behaviour becomes more likely with multiple rounds of targeting and re-targeting.

Before attempting to assess the impact of HSNP on household composition it is important to both consider recent population dynamics in HSNP areas and to recognise the broad array of factors beyond HSNP that determine those dynamics. The 2009 Kenya national census found that the population in all four HSNP counties had greatly increased since the last census, and even since the 2006 KHIBS. Wajir, Mandera and Turkana in particular all experienced population growth that was higher than population dynamics (birth and death rates) would support, and demonstrated age and sex profiles that deviated from the norm. In addition, these counties saw significant growth in average household size as populations increased without an accompanying growth in the number of households. These findings could be indicative of immigration, given the insecurity in these areas and the propensity of pastoralists to move around over large distances and across both national and international borders.

Table 28 below shows there are some counter-intuitive results in terms of the HSNP's impact on household composition, such as reduced household size, falling DR and falling numbers of children per household amongst beneficiaries. However, these results disappear when you control for other factors. The complexity of factors determining household composition in these areas, especially considering the mobile nature of the predominant livelihood activity, mean that further research is required to fully comprehend these findings. It is worth noting that the positive trends observed for both HSNP and control households in the proportions of households containing elderly members, orphans and an elderly household head are as expected for a panel cohort of households in which household members are ageing or can become orphaned.

Table D.2 shows how these impacts on household composition are reflected in changes in the characteristics of the study population. Interestingly, the programme appears to be having a positive impact on the proportion of adult males (aged 18 and over) that are married or in a consensual union. The increase in marriage rates could be a result of households consolidating in response to the transfer or, more likely, they could be part of broader trends that just happen to have affected evaluation areas in non-random ways. In fact, it is the case that the observed impact is driven by falling proportions of ever-married males in control areas, rather than increases in treatment areas, which suggests that other unobserved factors are likely to be involved.

Finally, the programme has had no impact in the proportion of adults aged 18 and over with no national ID card, although there has been a significant (but small) decrease in treatment areas. Having a national ID card was a condition for being a programme recipient (i.e. the named card holder able to collect the HSNP cash), but this increased incentive to register for a national ID appears not to have been fully matched by efforts to increase civil registration.

In summary, there are some puzzling findings in terms of programme impact on household composition that are difficult to explain. There is a significant negative impact on household size, DR and mean number of children per household, although these disappear once other factors are controlled for. The programme appears to have a significant positive impact on the proportion of adult males that are married or in consensual union, and there is no impact on civil registration. However, all of these findings require more research to unpick due to the number and complexity of external factors influencing demographic dynamics.

Table 28 Household composition

Outcome	HSNP households			Control households			Dif-in-Dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Mean household size	6.0	6.1	0.1	5.5	5.9	0.3***	-0.261**	2,436
Mean DR	0.7	0.7	-0.0***	0.7	0.7	0.0	-0.0148*	2,436
Mean number of children (<6) per household	1.0	0.8	-0.2***	1.0	0.9	0	-0.121**	2,436
Mean number of children (<18) per household	3.4	3.3	-0.1	3.0	3.2	0.1**	-0.216**	2,436
Mean number of elderly (aged 55+) per household	0.6	0.7	0.1***	0.7	0.8	0.1***	0.00347	2,436
Proportion of households containing at least one (%):								
Child (<18)	91.9	92.3	0.4	90.2	91.5	1.3	-0.9	2,436
Elderly (aged 55+)	53.2	55.3	2.2**	60.7	62.8	2.1*	0.1	2,436
Orphan (single or double)	21.6*	26.7	5.1***	16.1	22.7	6.7***	-1.5	2,436
Chronically ill member	11.7	12.3	0.6	14.5	15.4	1.0	-0.3	2,436
Disabled member	8.4	9.3	0.8	7.9	9.0	1.2	-0.3	2,436
Proportion of households (%):								
Containing only one member (i.e. single person household)	1.3	0.7	-0.6	1.3	0.6	-0.7*	0.1	2,436
Are 'skip generation' household (no-one aged 18–54)	7.1	5.9	-1.2	7.4	6.1	-1.2*	0.0266	2,436
Proportion of households (%):								
with female household head	34.0	33.7	-0.4	31.7	30.9	-0.8	0.4	2,436
with child household head	0.3	0.1	-0.2	0.2	0.1	-0.1	-0.1	2,436
with elderly household head	43.1	46.0	2.9**	50.5	53.6	3.1***	-0.2	2,436
with main provider that is not a household member	9.8	7.4	-2.4	12.6	9.0	-3.6*	0.6	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

6.3 Social tensions

Targeted cash transfer programmes could generate tensions or conflict either within or between communities. Tensions could arise between beneficiaries and non-beneficiaries within communities and/or between communities that are part of the programme and those that are not. Even within households tensions could arise between household members, over issues such as control of the transfer. Risk of conflict within and between communities is further exacerbated where tensions already exist along clan lines. Moreover, beneficiary households and communities could potentially suffer greater insecurity if it is perceived that beneficiary communities have increased cash holdings and are thereby worthy of plunder. Banditry and raids on community resources such as livestock are common across many HSNP areas. Such tension may also manifest itself against programme staff if the programme is perceived to be unfair or provoking unrest.

These negative social outcomes are easier to capture in qualitative rather than quantitative fieldwork. The year 1 follow-up household survey asked only one question about this issue (which was not repeated at follow-up 2) and found that only very small numbers of households reported that the HSNP was causing tensions between beneficiary and non-beneficiary households. Not surprisingly, non-beneficiaries were more likely to report this, but again the numbers were so small that it cannot be concluded that HSNP has been a source of tension, either within HSNP communities or between HSNP operational areas and other sub-locations.

As discussed in Section 5.7 above, the qualitative findings suggested that in some cases the programme had caused tensions within households, which were sometimes resulting in divorce. However, the evidence from the quantitative data does not strongly support these respondents' assertions.

At follow-up 1, the quantitative data were not fully conclusive but did hint at such an impact on intra-household relations between spouses, with the heterogeneity analysis finding a significant impact on the proportion of individuals that are divorced amongst individuals living in larger households, and a significant impact on the proportion of females that are divorced amongst those living in poorer households. At follow-up 2, this trend is observed directly in the dif-in-dif estimate for males, which shows men in HSNP households are more likely to be divorced than those in control households (see Table 29). However, when we look closer at a panel cohort of individuals who were married or in a consensual union at baseline, we see that, although the divorce/separation rate is higher for treatment households, the rates for both treatment and control are very low and the difference between them is not statistically significant. Here, the cohort of individuals that are divorced or separated is too small to conduct a heterogeneity analysis. Despite these faint hints of possible programme impact on marriage relationships, one should not draw emphatic conclusions from these data, especially given the number of determining factors contributing to the break-down of a relationship between two people.

In summary, we can say that the programme does not appear to have had the negative impact on social tensions within or between communities that might have been feared. Furthermore, while there has been a small but significant increase in the proportion of males that are divorced, this result is in no way conclusive. The qualitative research also suggests that, if anything, this may reflect increased economic and social empowerment of women as a result of the programme, and therefore should not necessarily be interpreted as a negative finding.

Table 29 Proportion of individuals that are divorced

Proportion of individuals that are divorced or separated (%):	Treatment areas			Control areas			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Overall	4.0	3.6	-0.4	2.9	2.4	-0.5	0.1	9,829
Females	6.8	5.6	-1.1	5.0	4.1	-0.9	-0.2	4,698
Males	1.2	1.6	0.4**	0.9	0.8	-0.1	0.5*	5,136
Married or in consensual union at baseline	0.0	2.1	2.1***	0	1.3	1.3***	0.8	3,427

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

6.4 Household mobility

Because the HSNP requires households to be present in their home sub-locations for targeting and registration, and potentially to collect their cash transfers from fixed paypoints, pastoralist households may be forced to change their mobility patterns, which could disrupt their livelihoods. On the other hand, the HSNP was designed with the intention of allowing mobile pastoralists to remain mobile – this is one reason why transfers are made in cash rather than food and why beneficiaries can collect their cash transfers at any time, from a number of payment points. This flexibility in the design was overtly appreciated by some beneficiaries:

> *"You can get this money any time so you will only come for the payment when you have finished your business. Besides, the secondary beneficiary can collect the money if the primary beneficiary is away. This programme does not interfere with our other activities" [Beneficiary, Wajir].*

An important question for this evaluation, therefore, is whether and how the HSNP has affected household mobility and patterns of sedentarisation. To assess this possible impact, the evaluation survey recorded household mobility status. Households were asked to classify their mobility status as either fully mobile (the whole household moves with livestock), partially mobile (some members move with livestock while others stay in one place), or fully settled (no household members move with livestock).

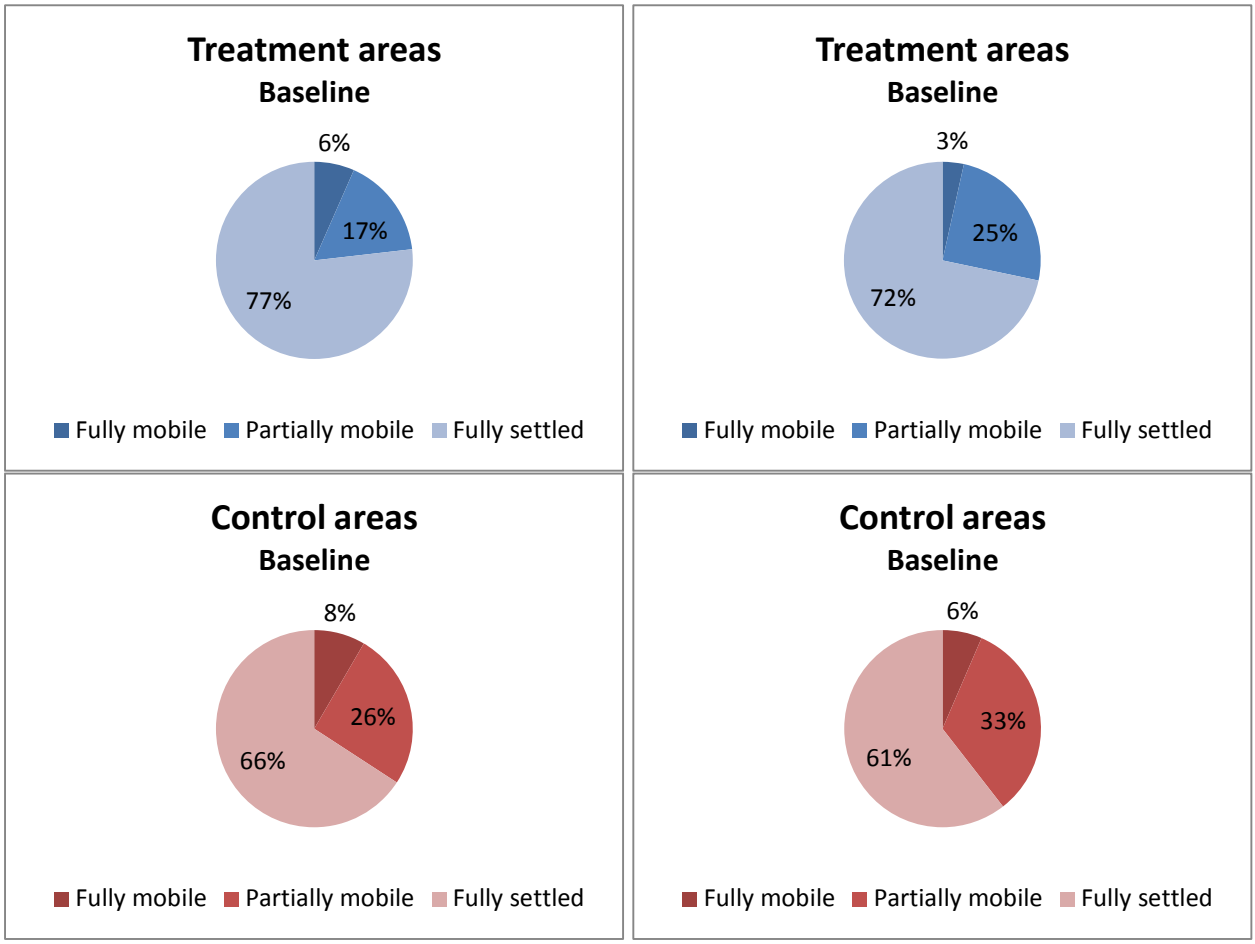
The results show that there have been considerable, and statistically significant, changes in the mobility status for both HSNP households and control households over the evaluation period. Specifically, the proportion of households that are fully settled has reduced, as has the proportion fully mobile, while the proportion partially settled has increased. In other words, there has been a significant shift towards partial mobility, with fewer households fully settled or fully mobile (see Figure 11 below). The fall in fully mobile households is perhaps at least partially due to a general trend towards sedentarisation among these households.

At follow-up 1, the research suggested that, once other factors and variations in the cumulative *per capita* value of transfers received were controlled for, the programme was having a significant negative impact on the proportion of households that are partially mobile, and a positive impact on the proportion of households that are fully settled. In other words, the programme seemed to be encouraging partially settled households to become fully settled. These changes were related to the drought, which through the destruction of livestock drove households to settle:

"We always lived in the bush. But now due to the droughts, most of our animals have died and the land could not sustain us there anymore. So we came here to settle in the town so that we can at least benefit from the relief programmes that are conducted in the town" [Non-beneficiary, Wajir].

At follow-up 2, on the other hand, we see a move away from fully settled and fully mobile households to more partially mobile households. This is the case for both HSNP and control households, so it could be the generalised result of improved conditions for livestock after the severe drought of 2011, so that once again some household members are required to move about tending to herds. Indeed, at follow-up 2, the dif-in-dif impact estimates are insignificant, suggesting that the programme is not having an impact on household mobility. This result is upheld when one controls for other factors and also by the heterogeneity analysis, which does not find any significant differences across diverse groups.

Figure 11 Proportion of households by mobility status at baseline and follow-up



Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Fully mobile = (whole household moves with livestock); Partially mobile = (some members move with livestock); Fully settled = (no household members move with livestock).

In fact, for partially mobile households, where women are nominated cash transfer recipients and men are moving with animals, the HSNP seems to fit well with existing mobility behaviour.

In summary, it seems reasonable to conclude that the programme is not having an impact on household mobility. Household mobility dynamics appear to be driven by broader forces such as drought and the trend towards sedentarisation which appears to be occurring in the HSNP districts.

7 Conclusions and policy implications

The HSNP pilot phase has undergone a rigorous scientific evaluation drawing on quantitative and qualitative data gathered across multiple rounds over two years of programme operations. It finds:

Clear evidence that the HSNP is having a positive impact on:

- Poverty and consumption: Beneficiary households less likely to be extremely poor as result of the HSNP
- Food expenditure: HSNP households spend more on food
- Health expenditure: HSNP households spend more on health care
- Saving and borrowing: HSNP households are more likely to save money and access loans

Clear evidence that the HSNP is not having an impact on:

- Child nutrition: child nutrition is determined by factors beyond the HSNP
- Food aid: HSNP is not a substitute for food aid at current value and coverage rates
- Assets: HSNP does not aid households to retain or accumulate non-livestock assets
- Health status: HSNP households do not report reduced levels of illness or injury
- Education: HSNP is not improving school enrolment, attendance, or expenditure on education
- Livelihoods: HSNP is not creating dependency or disrupting pastoralist livelihoods
- Older people: there is no evidence to suggest the HSNP is especially benefiting older people beyond its positive impacts on the general beneficiary population
- Social tension: HSNP is not causing tension within or between communities

Areas where evidence of impact is mixed or ambiguous:

- Dietary diversity: HSNP is helping poorer and smaller households to improve dietary diversity
- Livestock: strong but not fully conclusive evidence that HSNP enables households to retain livestock
- Education performance: some evidence that HSNP children show improved performance in school
- Credit: evidence to show that HSNP is improving access to credit for some households
- Vulnerability to shocks: some evidence to show HSNP is enabling some households to avoid certain types of negative coping strategies
- Women's empowerment: mixed evidence to show HSNP is empowering women by improving their control of household budgets and ability to undertake income-generating activities
- Children: some evidence to show that the HSNP is reducing non-domestic work for children
- Informal transfers: HSNP interacts with informal social networks in complex ways
- Household composition: the evaluation is unable to make clear inferences on the impact of the HSNP on household composition
- Local economy: suggestive evidence that the HSNP is having a positive impact on the local economy, but this evaluation does not provide a robust measure of impact

Implications for HSNP and social protection policy in Kenya:

- Different households respond in different ways to the transfer, which may be diminishing the overall impact of the HSNP
- Targeting the poorest households and appropriately calibrating the value of the HSNP transfer will help maximise impact
- Expectation of what can be achieved by an unconditional cash transfer in this context needs to be realistic. There are a number of aspects of people's welfare that do not seem to respond to transfers of this level. Improving them may require other complementary interventions
- Consideration could be given to applying conditions to the HSNP, depending on programme policy objectives and relevant sector supply-side constraints
- Assessing the cost of impact would allow comparisons to other poverty-reduction interventions
- Future impact evaluation could usefully focus on local economy impacts

A rigorous scientific evaluation of the HSNP pilot phase has now been completed. Quantitative and qualitative data have been collected and analysed over a period of 24 months of programme support to households in order to provide a comprehensive and robust assessment of the impact of the programme. Impact was measured across a multitude of domains and we are now in a position to make some conclusions as to where there is definite strong evidence of impact, where there is strong evidence of no impact, and where evidence of impact is inconclusive or ambiguous. Following from these conclusions are some implications for policy.

7.1 Strong evidence of programme impact

7.1.1 The HSNP has a positive impact on consumption and poverty

The HSNP pilot hoped to achieve impact across a number of key impact areas. Chief amongst these was consumption expenditure and poverty. It seems reasonable to assume that if poor households receive money their consumption expenditure and poverty status will improve. However, this is not a forgone conclusion because households may share the transfer, use it to pay down debt or make bad or slow-return investments, and/or the value of the transfer may simply be too little to make a measurable difference.

The evaluation does find definitive evidence of positive impact on household consumption and poverty status. HSNP households are 10 percentage points less likely to fall into the bottom national consumption decile than their control counterparts after two years of programme operations. In addition, both the poverty gap (how far on average a household is below a given poverty line – in this case the bottom national decile) and the severity of poverty (a similar measure giving more weight to poorer households) also improves in comparison to control households, to the tune of seven percentage points each.

In addition, while on average HSNP household consumption remained stable, against a backdrop of severe drought and inflation and falling consumption for control households, the programme also enabled the poorest beneficiary households to positively improve their consumption. It is this combination of falling consumption for control households and stabilised or improving consumption for HSNP households, particularly amongst the poorest, that drive this impact.

7.1.2 HSNP enables households to spend more on food

Many respondents referred to reduced hunger as the most fundamental impact the HSNP has had on their wellbeing, with 87% of HSNP households reporting that since receiving the cash transfers they have been able to have more and/or larger meals. This is reflected in a statistically significant positive increase in food consumption expenditure. HSNP households are able to spend approximately KES 213 more on food per month per adult equivalent than control households. Once again, this impact is driven by poorer households, smaller households, and those households receiving a higher cumulative *per capita* value of transfer over the last year.

7.1.3 HSNP increases households' expenditure on health

We find clear evidence that the HSNP is enabling households to spend more on health care *per capita*, without negative impacts on food consumption or asset retention. The increased

expenditure on health is small, but this finding should be interpreted in the light of the fact that cash is a fungible asset and health spending can confront households as a necessity. When faced with a health shock households often have little choice but to meet the required expenditure regardless of whether they can 'afford' it. This implies that, although both treatment and control households may frequently make that expenditure, treatment households are able to do so without adopting more destructive coping strategies, such as reducing food consumption or drawing down on their assets; two areas where we do see a clear positive impact.

7.1.4 HSNP improves households' ability to save and borrow

Households in rural northern Kenya have little access to formal financial institutions like banks, because their incomes are low and volatile and because they lack assets for collateral when trying to seek loans. Saving money is therefore challenging, and local people tend to borrow from shops, relatives and neighbours or other informal lenders. Despite this, the evaluation finds that the programme is having a significant positive impact on the ability of households to save and borrow. HSNP households are seven percentage points more likely than control households to have cash savings, and 10 percentage points more likely to access loans.

Both impacts are stronger for better-off households which likely reflects the fact that wealthier households are better equipped to both save and borrow.

7.2 Clear evidence of where the HSNP is not having an impact

There are some areas where there is clear evidence that the programme is not having any impact. This implies that cash transfers, at least in this context, are not necessarily the magic bullet or panacea for all ills that might be assumed. Many aspects of people's welfare are determined by factors that a cash transfer of this value and on its own is unable to counteract. For some of these areas, complementary initiatives, or perhaps conditions, may assist a cash transfer to have an impact. Others may require different sorts of interventions altogether.

7.2.1 Child nutrition is determined by factors beyond HSNP

The HSNP impact evaluation assessed the programme's effect on child nutrition by gathering anthropometric data for all children under five years of age to measure stunting (height-for-age), wasting (weight-for-height) and underweight (weight-for-age). It found no evidence that the programme was having an impact on child nutrition rates.

Child nutrition is an area heavily influenced by a number of exogenous factors, beyond simple access to food. These include hygiene and feeding practices, cultural beliefs, and knowledge about what constitutes an appropriate diet, which a cash transfer by itself is unlikely to influence. Malnutrition is highly seasonal in nature, and severe cases of malnutrition are generally treated under programmes run by the government and NGOs. Supplementary feeding in health centres and schools, as well as medical treatment of children with acute malnutrition, were recorded in all research areas. Programmes on nutrition behaviour change and WASH were also being run in several locations.

These findings indicate that in these areas cash transfers on their own are unlikely to positively impact child malnutrition rates, for which complementary interventions are required.

7.2.2 HSNP is not a substitute for food aid at current levels of coverage and value

The HSNP pilot intended to test whether cash could be an effective substitute for food aid. In addition, it is possible that HSNP beneficiaries might receive less food aid (including school feeding and supplementary feeding) over time, either because they genuinely need less assistance or because they are perceived as needing less assistance due to receipt of the HSNP transfers. However, the evaluation finds that HSNP households have not been deprioritised for food aid and other support such as school and supplementary feeding programmes.

The implications of this result are ambiguous. On one hand, it indicates a positive result in so far as households in desperate need of food support are not being deprioritised as a result of receiving the HSNP. On the other hand, unless the value and coverage of the transfer is greatly increased, it is unlikely that HSNP cash support on its own will be enough to effectively alleviate food insecurity in these highly food-insecure areas and thus lift the need for food aid.

We find no evidence that HSNP causes inflation in local markets (see below), at least at its current value and coverage. However, if resources currently allocated to food aid were transferred to HSNP in order to increase the value and coverage of the transfer then it is potentially possible that inflation could become an issue, particularly where markets are remote or disconnected and supply struggles to respond to demand. In these cases, replacing food with cash could result in households being unable to meet their basic food requirements.

7.2.3 There is no evidence that HSNP aids households to retain or accumulate non-livestock productive assets

The evaluation finds that the HSNP cash transfers are not enabling households to retain or accumulate additional non-livestock productive assets. The level of the transfer is perceived to be too low, and households overwhelmingly report spending it largely on food and basic needs. However, the qualitative findings did reveal some beneficiaries reported buying consumer goods (‘non-productive assets’), such as housing materials, clothing, or basic household items.

7.2.4 Beneficiaries do not report less illness or injury

We have seen that the HSNP is helping households spend more (albeit only small amounts more) on health care. However, this increased health expenditure is not translating into improved health status. HSNP beneficiaries are no less likely to have suffered an illness or injury in the last three months than households that do not receive the transfer.

While the qualitative research revealed a possible link between receipt of the HSNP and the type of health care that beneficiaries choose, because the cash transfers give people access to more expensive health care providers than were previously affordable, any difference in services received does not seem to translate into actual reduced incidence of illness or injury.

These findings are indicative of the fact that health status is the combined effect of a number of economic, environmental, individual and social circumstances, as well as heavily influenced by supply-side factors. In this context then, while cash transfers potentially remove some of the financial barriers to health care, they may not significantly impact the incidence of illness or injury.

7.2.5 HSNP is not improving school enrolment, attendance, or expenditure on education

The evaluation finds no evidence that the HSNP is improving enrolment or attendance rates for children. Nor is it increasing expenditure on education by beneficiary households.

It is important to situate this finding in the context of evaluation areas. The HSNP could be expected to improve access to and expenditure on education only where access and cost are the principal barriers to education. However, findings at baseline showed that this was not the case here. The most common reasons given for having never attended school were domestic duties, working for the household's own production, and parental attitudes. The programme can therefore be expected to have an impact on educational outcomes only to the extent that it reduces the need for children to perform domestic duties and/or participate in home production. In fact, children are no less likely to be engaged in domestic or productive work (although they are less likely to be engaged in just productive work) as a result of the HSNP, which helps explain the lack of impact on these indicators.

One way to possibly increase the impact of cash transfers on education outcomes such as enrolment and attendance is through the use of conditions. Internationally the evidence is mixed as to how effective such conditionalities can be, with much depending on local context and supply-side conditions. Moreover, the choice of applying conditions to a cash transfer should be determined by the primary goal of the transfer. If the transfer's main aim is to get more children into school, in the hope of improving human development outcomes, then conditions may help to achieve that. However, if the aim is to act as a safety net and smooth consumption for the poorest households, then conditions are much less appropriate. Another area for consideration is whether applying conditions to the transfer would have a negative disruptive effect on pastoralism.

7.2.6 HSNP is not creating dependency or disrupting pastoralist livelihoods

The main livelihood activity in the HSNP operational area is livestock rearing. However, droughts, as well as economic, social and political changes, have disrupted pastoralist livelihoods and led to increasing reliance on other sources of income, such as casual labour and selling bush products. It is these broader forces, rather than the HSNP, which have affected people's livelihoods. The evaluation finds that the livelihood activities undertaken by households were similar in treatment and control areas at baseline, and remain so after two years of programme operations. The two main activities undertaken by households are pastoralism and unpaid work (including domestic duties).

Nor is the programme causing dependency. Among some policy-makers there is a worry that unconditional cash transfers could cause 'dependency', meaning that people will not be incentivised to work. However, the evaluation reveals no significant impact on labour supply (measured by the proportion of adults engaged in productive work), either in HSNP or control households, indicating that the programme is not creating dependency among beneficiaries.

7.2.7 Older people do not benefit from the HSNP differently to other groups

As we have seen above, the programme is not having a significant impact either on health indicators or labour supply, nor is it affecting people's livelihood activities. These measures, when

considered in relation to older people in particular (aged over 55 years), provide an indication of whether the programme is benefiting this specific population group to any particular degree. The evaluation thus finds no special benefit to older people according to these measures.

7.2.8 HSNP is not causing tension within or between communities

Could it be that a tension or resentment emerges between communities that are part of the programme and those that are not? During the first follow-up survey the evaluation asked both beneficiary and non-beneficiary households in both treatment and control areas whether the HSNP was causing tensions between households. We found no evidence that the HSNP has been a significant source of tension, either within HSNP communities or between HSNP operational areas and other sub-locations.

7.3 Areas where the evidence of impact is inconclusive

Some areas of impact that were assessed produced inconclusive, ambiguous, or even contradictory evidence as to whether the HSNP was having a positive influence or not.

7.3.1 Does HSNP improve food security?

When assessing food security it is useful to consider not just the quantity of food consumed but the quality. One measure of this is provided by dietary diversity. The evaluation found that HSNP households do spend more on food than control households, but are they consuming more diverse foods? In this regard the evidence is less conclusive. In the first follow-up survey we did see HSNP households consuming a more varied array of foodstuffs than control households. However, at the second round of asking this impact disappears. This could be explained either by control households reinvigorating their diets after a particularly harsh year in 2011, and/or by increased availability of diverse food stuffs in local markets (which the evaluation produces some testimony for; see below). Effectively, control households could be consuming a smaller volume of food but having equally diverse diets as HSNP households. Analysis after one year revealed that the impact on dietary diversity was most marked for poorer or smaller households, and here we find a positive impact on dietary diversity for relatively poorer households at follow-up 2.

Similarly, the evaluation asked whether any member of the household went entire days without eating solid foods during the worst recent period of food shortage, but found no significant difference between HSNP households and the control group, even in the heterogeneity analysis. However, for both treatment and control groups there was a marked improvement in the proportion of households rated as food insecure by this measure, with control households improving more than treatment households but starting from a much worse position. As with dietary diversity this might be interpreted as control households somehow catching up with HSNP households after a particularly bad 2011 and/or benefiting from improved provision in local markets.

In any case, the evidence of HSNP impact on food security as given by a composite assessment of three different measures – expenditure on food, dietary diversity, and going entire days without eating – is inconclusive. The programme does have a clear positive impact on food expenditure, and at least for a period and for poorer households it has had a positive impact on dietary diversity, but it does not appear to be a factor affecting the severe measure of whether any members of households go entire days without eating. This implies that, in these areas where food insecurity is

so deep and pervasive, and markets are sometimes highly disconnected and therefore struggle to respond to increased demand, a cash transfer alone is not enough to fully assuage the problem of food insecurity.

7.3.2 Does HSNP enable households to hold onto their livestock?

Pastoralism is the predominant livelihood activity in HSNP areas and livestock an essential store of wealth for households. Households' ability to retain and accumulate livestock, especially in the face of shocks, is therefore a key impact area for the HSNP. The impact evaluation does indeed find evidence of positive impact on retention of livestock, with HSNP households six percentage points more likely to own any livestock after two years of programme operations than control households; this result was even more pronounced for goats/sheep, at seven percentage points. However, this result is not robust when you control for community- and household-level factors, nor for any specific categories of households under the heterogeneity analysis. While there is much qualitative testimony to the positive impact of the programme enabling households to retain livestock, the evidence is thus not fully conclusive.

The value of the HSNP transfer is relatively small. Consequently, households have a propensity to spend the transfer primarily on food and basic needs. Expecting the HSNP to have a significant impact in this area is thus ambitious. This said, the evidence in support of the HSNP having a positive impact on livestock retention should not be discounted. The results indicate that the potential for the HSNP to increase or maximise its impact in this area may reside in complementary interventions. Improvements in livestock markets and livestock support services (such as insurance and veterinary services) may produce the type of conditions in which small improvements to household budgets of the magnitude provided by the HSNP make bigger differences to households' ability to destock and restock their animals more productively.

7.3.3 Beneficiary children look like they are improving their performance in school

There is some evidence to suggest that children from HSNP households are improving their performance in school. These children are seven percentage points more likely to have passed Standard Grade IV as a result of the transfer. HSNP children also reach a higher grade on average than control children. These results are again driven by smaller and poorer households, and households for whom the cumulative *per capita* value of the transfer is greater.

As noted above, these results are not due to increased enrolment or attendance, nor by increased expenditure on education. Rather, they appear to be caused by the improved psycho-social experience of school for beneficiary children. Arriving at school better fed, presentable, and adequately equipped with uniform and school supplies is reported to be improving children's confidence and capacity to concentrate, which in turn seems to be positively impacting their school performance.

7.3.4 HSNP may be making households more creditworthy

The evaluation finds that HSNP households are more likely to save and borrow cash. It also finds that the programme is having an impact on increasing households' uptake of credit, but that this result is only apparent once we control for other factors and adjust for variation in the cumulative

per capita value of transfers received. As with many other impacts, this result is being driven by poorer HSNP households.

High numbers of HSNP households are purchasing goods on credit (around 72%), but an even higher proportion (80%) say that the HSNP has increased their ability to do so. This evidence is made more compelling when viewed in light of the kinds of strategies HSNP households claim to use when coping with shocks, with access to goods and services on credit one of the main strategies employed.

These results do not definitively confirm that the HSNP is improving access to credit, but they do provide strong evidence towards that conclusion, especially when coupled with copious testimony from the qualitative research and triangulated against other relevant results, such as the coping strategies discussed below.

7.3.5 HSNP helps households avoid some, but not all, negative coping strategies

The areas where the HSNP operates are blighted by pervasive shocks such as severe drought and inflation. In the light of these types of shock, has the HSNP rendered households less likely to resort to negative coping strategies such as distress sales of productive assets?

The evaluation does not find conclusive evidence to suggest that the HSNP is affecting households' ability to avoid negative coping strategies. However, the heterogeneity analysis and controlling for community- and household-level factors showed that the programme was having a small but positive impact by reducing the need to sell assets. These results are driven by smaller and relatively better-off HSNP households and corroborated by the qualitative research. There was also evidence that the HSNP was increasing households' propensity to access credit as a coping strategy, though this result became significantly negative when we controlled for other factors.

These findings are therefore not conclusive, but point to a situation in which households resort to a variety of negative coping strategies, and where for some types of household the need to pursue certain strategies is reduced by the HSNP.

7.3.6 Does HSNP empower women?

Answering the question of whether women in particular are being empowered by the HSNP is a complicated matter. Much clearly depends on the understanding and measurement of what is considered to be empowerment. In the case of the HSNP, the majority of nominated programme beneficiaries are women and the programme does seem to be benefiting women's economic and social empowerment by enabling some women (specifically those in female-headed households) to take more control of the household budget and to increase their potential for undertaking income-generating activities. Once again, these findings are driven by smaller and poorer households.

However, there is also some evidence, particularly from the qualitative research, that in some individual cases this is having the unintended consequence of creating tensions within households, especially between female HSNP recipients and their husbands.

These findings could be interpreted as indicative of women being empowered to claim more equality with their husbands, but such an interpretation is far from clear cut. Complicating the matter further is the evidence that women, while remaining largely the nominal beneficiaries of the

HSNP, seem, at least to a degree, to be losing control over how the transfer is spent to older male household heads.

The dynamics governing gender relations in any society and community are obviously complex. Cultural, economic, and political dimensions are all involved in their determination. However, internationally there is evidence that providing cash transfers to women in particular can increase their empowerment. The HSNP also exhibits evidence of this nature, though the evaluation data is not definitive.

7.3.7 HSNP may be helping to reduce non-domestic child labour

As we asked in relation to older people above, another useful question is how far the HSNP benefits children especially. Beyond measures of impact associated with education or child nutrition outcomes, to assess HSNP impact on children particularly we look at whether children suffer less illness or injury as a result of the transfer, or whether they are less likely to be engaged in paid or unpaid work. With regard to health outcomes, we do not find any impact on children especially. However, after controlling for other factors, we do find a positive impact on the reduced propensity of children to be engaged in non-domestic work as their main activity. Again, as we have seen with many of the results considered, these impacts are being driven by poorer and smaller households.

These findings imply that, should impacts on children be a special policy objective for HSNP, they could potentially be better achieved through the use of conditions.[33] The evaluation found that the primary barrier to enrolment and attendance at school is the need for children to engage in paid and unpaid work. One way to transcend such a barrier is thus to compel households to enrol their children in school and secure their attendance by making the transfer conditional on such an outcome. This corroborates international evidence which indicates that the impact of cash transfers on child labour is linked to the increase in schooling enrolment/attendance. By decreasing the opportunity cost of attending school, cash transfers reduce the need of households to rely on a child's labour. Increased schooling will therefore usually result in a reduction in child labour. Equally, or alternatively, incorporating conditions on regular child health checks, especially in tandem with complementary health sector supply-side initiatives, or child nutrition incentives, again in tandem with appropriate nutrition interventions, could help increase the HSNP impacts in these areas.[34]

Of course, the efficacy of any conditions, as well as such a dual approach, would depend not only on the transfer and the quality and coverage of the complementary interventions and the supply-side constraints they set out to address, but also the implementing capacity of the programme to monitor compliance with the conditions.

[33] There is evidence internationally that conditional cash transfers are more effective than unconditional cash transfers at decreasing child labour, and only mixed evidence that unconditional cash transfers have any effect.
[34] Again, there is evidence internationally indicating that the type of conditionality applied influences the degree to which conditions are effective in improving child health outcomes, with requirements for health-check-ups shown to produce positive results.

7.3.8 The HSNP interacts with informal social networks in complex ways

Some 25% of beneficiary households reported sharing at least some of their transfers with other households. In northern Kenya, these norms of sharing and mutual support are strongly grounded in cultural practices and religious obligations. The evaluation gathered data on whether households give and receive informal transfers to and from other households, either in cash or in-kind. It found some evidence to suggest that the programme is promoting sharing of in-kind resources for certain types of household, but does not seem to be causing beneficiary households to be frozen out of extant informal transfer networks.

Such social networks are complex and difficult to fully capture using quantitative measures. These results should therefore not be interpreted as categorical. The HSNP is likely to be interacting with informal transfer systems and social networks in various ways, many of which may be unanticipated and/or unobserved. Moreover, the way in which it does so is likely to evolve over time, especially if the HSNP becomes cemented as a sustainable element of people's income. Investigating this issue going forward would be an interesting and useful area of enquiry for future impact evaluations because informal transfer networks are a key mechanism by which the impacts of the transfer are passed on from beneficiaries to other members of the community.

7.3.9 We cannot say whether the HSNP is affecting household composition

The evaluation found some puzzling results in relation to the impact of the HSNP on household composition. However, it is not appropriate to make clear inferences on the impact of the HSNP on household composition based on these data because of the complexity of factors influencing these and the recent population dynamics in HSNP areas.

7.3.10 The HSNP may be benefiting the local economy

The evaluation produces lots of qualitative testimony as to the positive impact of the HSNP on the local economy: traders claim the influx of cash increases demand to which they respond; beneficiaries claim to have started or improved their businesses where they have them; and non-beneficiaries claim to benefit from the provision of goods and services to beneficiaries. However, this evaluation does not provide a definitive robust quantitative measure of programme impact on the local economy. This would be a very useful area for a future impact evaluation to focus on.

7.4 Implications for social protection policy

7.4.1 Implications for HSNP design and other potential interventions

The evaluation deployed a mixed method approach, combining both quantitative and qualitative data to assess impact. The quantitative analysis provides a robust estimate of aggregate programme impact. The qualitative data demonstrate a diversity of individual experience behind that aggregate impact, indicating that different types of household respond in different ways to the transfer. This reality of the way different households respond differently to the transfer could be dampening the overall average impact of the programme on any given indicator.

The analysis broadly shows that the impact of the programme was more pronounced on smaller and poorer households and households that received a greater cumulative *per capita* value of

transfer. These findings indicate that targeting the transfer at the poorest households, and ensuring the payments system functions effectively so that all households receive their full entitlement, are the best ways to maximise programme impact and thereby value for money. In addition, they raise questions about the effective minimum value of the transfer. Would indexing the value of the transfer to household size provide an efficient mechanism to further increase or maximise programme impact? Further analysis of the evaluation and other data (such as the HSNP Phase 2 registration data and future KIHBS) can shed useful light on these issues.

The above findings also show that, in the context of northern Kenya at least, an unconditional cash transfer such as the HSNP cannot be expected to improve so many aspects of welfare. When the programme began, there was some uncertainty over what its main areas of impact were expected to be and the hope that it might bring about improvements across a wide range of outcomes. The evaluation has shown that there is a need to be realistic about in which areas, and how, such an intervention can make a real difference.

For some important aspects of household welfare, complementary interventions may be required in order to enable the cash transfer to make a tangible impact. An example of this might be in child nutrition. In others, conditions may be appropriate in order to help achieve a given policy objective. An example from above might be in education. In yet other areas, different interventions altogether may be required that focus much more on the supply side. An example here might be in health.

The question as to whether to apply conditions to a cash transfer is not easy to answer. Internationally, not only is the evidence mixed, but there are some inherent challenges with making comparisons between different programmes in different contexts. Directly comparing the effectiveness of conditional cash transfers and unconditional cash transfers is made difficult first by the relatively small number of cash transfer programmes and second by the fact that these programmes vary significantly across multiple dimensions, including context, coverage, value, targeting mechanism, type of condition, and payment modality. As such, there have been very few rigorous evaluations of the effectiveness of conditional cash transfers versus unconditional cash transfers. In addition, a large majority of studies on conditional cash transfers (and to a lesser extent unconditional cash transfers) have examined programmes in Latin America. This may limit the extent to which one can generalise findings to new contexts. This is particularly important to bear in mind in the case of conditional cash transfers because monitoring compliance requires significant bureaucratic capacity. The marginal costs of monitoring may therefore be higher in states that have weaker administrative capacity. Low administrative capacity may result in uneven implementation of monitoring mechanisms and therefore weakened impact on desired outcomes. Even further, while conditions may help achieved desired *outputs*, such as increased attendance at school or access to health care, it is not evident that they will necessarily improve associated *outcomes* (e.g. learning or health outcomes), which are heavily influenced by supply-side constraints. In Kenya, evidence from the evaluation of the CT-OVC programme suggests that conditions may not be the most appropriate method of achieving these aims.[35] However, if a primary policy objective of the HSNP was to increase children's enrolment in education, or improve children's health status, then the viability of utilising conditions should be investigated further.

[35] Cash Transfer Programme for Orphans and Vulnerable Children (CT-OVC), Kenya Operational and Impact Evaluation, 2007–2009 Final Report.

7.4.2 Implications for social protection policy

Cash transfers in Kenya are being consolidated into the single NSNP. This incorporates the HSNP, the CT-OVC, the OPCT, the PwSD-CT and the UFS-CT. The NSNP provides a common framework for these transfers that may include greater integration of targeting, payment, change management, complaints, M&E and shock responsiveness functions, as well as greater resourcing and organisational capacity. Lessons from this evaluation will be useful for the NSNP as whole, and not just the HSNP.

In particular, this evaluation provides further evidence that cash transfers have positive impacts without creating dependency, even in difficult conditions such as northern Kenya. Second, the evaluation demonstrates clearly that impact is stronger for smaller and poorer households across a variety of domains. This may imply that the NSNP as a whole considers an option for *per capita* rather than per household transfers. Third, the HSNP seems to have stronger impact on food security and other domains during shock periods. This underlines the usefulness of cash transfers as a shock response system and provides justification for introducing a shock responsiveness function across the NSNP. Fourth, it appears that a useful next step for the NSNP would be to explore complementarities with other programmes, and in particular supply-side activities. It remains to be seen whether all four cash transfers – HSNP, Ct-OVC, OPCT and PwSD-CT – will operate at scale in the current HSNP areas, but the present evaluation does not produce evidence to undermine such a policy. However, to maximise education, health and market impacts, complementary supply-side interventions would be required.

Following the 2013 general election, the HSNP is moving fully under the control of the NDMA under the Ministry of Devolution and Planning.[36] The greater control and ownership of the HSNP by the Government of Kenya is a vital next step in the evolution of the programme. This will require careful management as the current operational arrangements are complex and the impacts are sensitive to programme implementation, as is demonstrated by the fact that greater impact is observed for households that have received a greater cumulative *per capita* value of the transfer.

7.4.3 Areas for future research

7.4.3.1 Assessing the cost of impact

An important question that arises is what the cost of achieving the desired impacts is. A cost–benefit analysis could show the cost of achieving a percentage point reduction in, say, poverty (or any other chosen indicator, depending on the policy objective), against which it would be possible to assess alternative types of intervention that might be more efficient.

In this regard, it is important to consider the aim of the social protection policy. Nominally, at least, this is primarily to reduce poverty and vulnerability for the poorest Kenyan households. The headline impact of the NSNP is ‘reduced poverty and vulnerability in Kenya’, measured by the hardcore poverty headcount, and NSNP outcomes are improved beneficiary wellbeing and

[36] Government of Kenya Executive Order No. 2/2013, May 2013.

improved beneficiary resilience.[37] The aim of the HSNP is to reduce poverty, hunger, and vulnerability for the poorest in Kenya's arid lands, measured by the poverty gap index.[38]

A cost-effectiveness assessment should estimate the cost to achieve these reductions, broken down into different types of costs as specified by the M&E framework. This assessment would help the Government of Kenya and development partners to identify areas in which efficiency savings could be made and assess their effectiveness compared with other programmes.

7.4.3.2 What impacts of the programme do we still need to learn about?

The HSNP Phase 2 is producing a comprehensive registration dataset which theoretically includes information on every household in the HSNP target counties. This dataset will provide a useful resource for the conducting of future evaluations, both in and of itself and as a sampling frame for smaller sample surveys to look at particular impacts or issues. This will help minimise the need for and/or cost of any major independent impact evaluations in the future. However, further evaluation, including impact evaluation, looking at new or ongoing issues and impacts across a variety of domains, is advisable in order to monitor programme performance and achievements. Any such future evaluation work should be consistent with the NSNP M&E framework.

The current evaluation produces much qualitative testimony and some quantitative evidence indicating that the HSNP may well be having positive impacts on the local economy. However, it does not provide a robust quantitative measure of this. Providing such an estimate would be a useful and potentially very powerful thing for any future evaluation of the HSNP to do.

One way to assess the impact of the HSNP on the local economy would be to estimate the multiplier effect, i.e. to show how much income is generated for the local economy for each dollar transferred to the community by the programme. The latest generation of Local Economy Wide Effects models are able to construct this estimate, as well as showing who, both inside and outside of the community, benefits from the programme resources and the multipliers they generate. Such evidence could be very persuasive to national governments in the debate about the cost, benefits, and sustainability of cash transfer social protection initiatives.

In addition, there are some areas of particular complexity that further qualitative research would be well suited to help illuminate. These include the impact of the HSNP on gender relations and its interactions with informal transfer networks. Understanding these interactions would be useful for comprehending how the HSNP does or does not achieve particular impacts, how it transmits those impacts to other members of the population beyond the direct beneficiaries, and for fine tuning the design of the programme. It would also be useful for devising alternative or complementary interventions.

[37] M&E framework for the NSNP version 19/05/2013.
[38] M&E framework for the HSNP2 version 17/06/2013.

Annex A Evaluation design and sampling strategy

A.1 Evaluation design

A.1.1 Random selection of sub-locations to be covered by the evaluation

The evaluation covers the four former districts of Mandera, Marsabit, Turkana and Wajir, in 12 randomly selected sub-locations in each district. The sub-locations that are covered by the evaluation are referred to as the *evaluation sub-locations*.

The HSNP applied a staggered roll-out, with sub-locations being brought into the Programme on a month-by-month basis. The evaluation was also staggered, with the baseline survey taking place just after targeting in each sub-location every month, e.g. sub-location 1 (District 1) was surveyed in month 1, sub-location 2 (in District 1) in month 2, etc.[39] The sequence in which the sampled evaluation sub-locations are targeted and surveyed was determined randomly. As a result of this staggered roll-out approach, the baseline survey was designed to take place over the course of 12 months.[40] This design allows seasonal variations to be both analysed and, for the targeting and impact analysis, averaged out across the sample of households covered by the quantitative survey. The sequence in which the sampled evaluation sub-locations are targeted and surveyed was determined randomly (see below for more details). The quantitative survey was carried out simultaneously in all four districts, in order to allow targeting and impact to be reliably compared across districts.

The evaluation sub-locations were selected from a sample frame of all secure sub-locations in each district. The original intention was to make the sample representative of all secure sub-locations across the HSNP districts.[41] Sub-locations were implicitly stratified by population density (households per square km), to ensure the sample was spread across both populous and sparsely populated sub-locations, and explicitly stratified by 'old' (greater) district. In this manner, in each district 12 sub-locations were selected with PPS (Probability Proportional to Size) with implicit stratification by population density such that there is an even number of selected sub-locations per new district.

A.1.2 Random allocation of treatment by sub-location

The evaluation sub-locations were sorted within new districts by population density and paired up, with one of the pair being control and one being treatment. The reason sub-locations were sorted (within each new district) by population density before pairing them up was to ensure that similar sub-locations were matched together. This measure is designed to reduce as far as possible significant variations between the characteristics of the control and treatment groups. The sub-

[39] During the course of the study design the official designation of the administrative area known as 'district' in Kenya changed. For the purposes of simplicity, we use 'district' to refer to the 'old' designation, and 'new district' to refer to the new designation.
[40] Due to various contingencies, baseline fieldwork actually took place over 14 months.
[41] During analysis it was discovered that sub-location weights were arbitrarily confounding study results due to differing population sizes and poverty levels between districts. For this reason it was decided to exclude sub-location selection probabilities from the construction of the household weights. This means that the sample is representative of all evaluation sub-locations only, and not of all secure sub-locations across the four districts. The rationale for this decision is elaborated in detail in the HSNP M&E Baseline Report.

location pairs were then sorted randomly and assigned a two-month slot. For each pair the order within the two-month slot was also sorted randomly.

In all the evaluation sub-locations, the HSNP Admin component implemented the targeting process. In half the sub-locations the selected recipients started receiving the transfer as soon as they were enrolled on the programme – these are referred to as the *treatment sub-locations*. In the other half of the evaluation sub-locations, the selected recipients were not to receive the transfer for the first two years after enrolment – these are referred to as the *control sub-locations*.

The allocation of treatment or control status to sub-locations was done randomly within each pair. This was done following completion of targeting in that pair of sub-locations. The selection was done at an official event (*bahati na sibu*) facilitated by the HSNP Secretariat and attended by officials from the district and the two sub-locations in question. At each event specially designed scratch cards were given to the chief of each sub-location, which would either reveal the word 'NOW' or 'LATER'. The sub-location whose chief held the 'NOW' card began receiving HSNP transfers immediately. For the other sub-location, the HSNP transfers would commence in two years, i.e. following completion of the M&E impact evaluation survey.

A.1.3 Random assignment of targeting mechanisms

The sampling strategy for the quantitative survey was designed in order to enable a comparison of the relative targeting performance of three different targeting mechanisms. These are:

- CBT
- SP; and
- DR

For both the treatment and control sub-locations there are an equal number of CBT, SP and DR sub-locations. Assignment of targeting mechanisms to sub-locations was done randomly across the same pairs that were defined to assign treatment and control status.

In non-evaluation areas the targeting mechanism was chosen non-randomly by the Administration Component (Oxfam).

A.1.4 Definition of the population groups to sample

The households in the treatment sub-locations that are selected for the programme are referred to as the treatment group. These households are beneficiaries of the programme. In control sub-locations the households that are selected for the programme are referred to as the control group. These households are also beneficiaries of the programme but only begin to receive payments two years after registration. Note that the targeting process was identical in the treatment and control sub-locations.

The following population groups can thus be identified and sampled:

- ***Group A:*** Households in the treatment sub-locations selected for inclusion in the programme;
- ***Group B:*** Households in control sub-locations selected for inclusion in the programme but with delayed payments;

- ***Group C:*** Households in treatment sub-locations that were not selected for inclusion in the programme; and
- ***Group D:*** Households in control sub-locations that were not selected for inclusion in the programme.

The comparison of trends in groups A and B over time provides the basis for the analysis of programme impact.

The sample included units from groups C and D, primarily to provide information on the population as a whole and in order to assess the extent to which the programme's targeting process had selected the poorest households. However, the comparison of trends in groups C and D over time can also provide the basis for an analysis of spill-over effects (not covered in this report).

A.1.5 Selection of HSNP and control households

Because targeting was conducted in both treatment and control areas, households were sampled in the same way across treatment and control areas. Selected households (groups A and B) were sampled from HSNP administrative records. Sixty-six beneficiary households were sampled using simple random sampling (SRS) in each sub-location.[42] In cases of household non-response replacements were randomly drawn from the remaining list of non-sampled households. This process was strictly controlled by the District Team Leaders.

Up to 16 households were also randomly sampled for qualitative household interviews from the programme beneficiary lists. In cases of scarcity of beneficiary households, the quantitative sample was prioritised over the qualitative sample.

A.1.6 Selection of non-selected households

Non-selected households (groups C and D) were sampled from household listings undertaken in a sample of three settlements within each sub-location. These settlements were randomly sampled. The settlement sample was stratified by settlement type, with one settlement of each type being sampled. Settlements were stratified into three different types:

1. Main settlement (the main settlement was defined as the main permanent settlement in the sub-location, often known as the sub-location centre and usually where the sub-location chief was based. As there was always one main settlement by definition, the main settlement was thereby always selected with certainty).
2. Permanent settlements (permanent settlement is defined as a collection of dwellings where at least some households are always resident, and/or there is at least one permanent structure).
3. Non-permanent settlements.

If there was no non-permanent settlement a second permanent settlement was sampled. If there was no other permanent settlement (apart from main settlement) then a second non-permanent settlement was sampled. If there were neither enough permanent nor non-permanent settlements then all remaining households were listed from the main settlement. Note that, by definition, the main settlement can never be missing and there can only be one main settlement per sub-location.

[42] In two of sub-locations this was not possible due to insufficient numbers of beneficiaries in the programme records.

Large settlements (over approximately 300 households) were broken into segments of approximately 100–150 households, and segments were then sampled using SRS. Within settlements or segments, all households were listed.

During the listing, beneficiary households were identified and then dropped from the sample frame. Non-beneficiary households were then identified as being either residents of the sub-location or non-residents. The non-beneficiary sample was then stratified as follows:

Table A.1 Stratification of non-beneficiary sample per sub-location

Settlement type	Residency status		Total
	Resident	Non-resident	
Main settlement	18	2	20
Permanent	13	1	14
Non-permanent	5	5	10
TOTAL	**36**	**8**	**44**

Note: An additional three non-beneficiary households were randomly selected per sub-location for the qualitative study. In cases of scarcity of non-beneficiary households, the quantitative sample was prioritised over the qualitative sample.

If there was an insufficient sample frame for any of the above strata the following rules were observed:

Table A.2 Rules for substituting non-beneficiary sample strata

If there is no:	Replace with:	Split sample between two new settlements:	Number of non-residents (out of total) in each new settlement
Non-permanent settlement	Permanent settlement	12 in each permanent settlement	Two out of 12 in each permanent settlement
Permanent settlement	Non-permanent settlement	12 in each non-permanent settlement	Six out of 12 in each non-permanent settlement
Non-permanent settlement and there is no other permanent settlement to replace it with (only two settlements in sub-location)	Share sample between main settlement and permanent settlement	26 households in main settlement and 18 households in permanent settlement	Three out of main settlement and two out of permanent settlement
Permanent settlement and there is no other non-permanent settlement to replace it with (only two settlements in sub-location)	Share sample between main settlement and non-permanent settlement	26 households in main settlement and 18 households in non-permanent settlement	Three out of main settlement and six out of non-permanent settlement
Other permanent or non-permanent (both missing)	Main settlement	Only one settlement: total 44 households	Four non-residents total

In total, 44 non-beneficiaries should have been sampled in each sub-location; however, in a couple of sub-locations this was not possible due to insufficient numbers of non-beneficiaries being present in the sub-location.

The remaining households for each group were placed on a replacement list and used in cases of household non-response. For non-beneficiary households, the replacement list was stratified by settlement and residency and replacement households were drawn from the same 'category' as the households that were being replaced. Where this was not possible (due to insufficient households per category) the alternative replacement options were prioritised as follows:

1. Same residency status, same settlement
2. Same settlement, different residency status
3. Same residency status, different settlement
4. Different settlement, different residency status

A.1.7 Specification of survey weights

A.1.7.1 Households weights

The sampling weights produce estimates for all households living in sub-locations covered by the evaluation (i.e. the study population). They do not provide estimates for any larger population.

The decision not to make study results representative of the entire population of secure sub-locations within each district was taken once it was established at the analysis stage that differences in population sizes and poverty rates between districts were complicating the interpretation of the study results. In particular, weighting up sub-locations to represent entire districts (with quite different total populations) was making it difficult to interpret differences across targeting mechanisms, as it was impossible to separate the element of the difference that was caused by district-level factors and that which was caused by factors actually pertaining to the targeting mechanism. Because a key element of the study was to report on the effectiveness of the three different targeting mechanisms, it was decided to exclude sub-location selection probabilities from the construction of the weights, and thereby prevent district-level factors from impinging on results. The result of this is to make the sample representative of the evaluation sub-locations, i.e. the study population, rather than trying to use it to provide estimates for whole districts.

This decision was further augmented by the consideration that the HSNP has been operating in a different way outside of the evaluation areas. Due to this, results in any case would not have shown how the programme was performing across all secure sub-locations across all four districts, but only how the programme would have performed had it been operating in all programme sub-locations as it was in evaluation sub-locations.

Weights are given by the inverse probability of being selected by strata. For selected households (groups A and B), the weights are given by:

$$w_i = N_i / n_i$$

where n_i is the number of beneficiary households interviewed in the i^{th} sub-location and N_i is the number of beneficiaries listed in the HSNP administrative data for that sub-location.

For non-selected households (groups C and D), the weights are given by:

$$wijk = 1 / [\ (aijk/A_{ijk})\ *(1/b_{ij})*(1/c_{ij})\ ]$$

where:

- A_{ijk} is the total number of non-beneficiary households of residency status k in the selected segment of the selected type j settlement in sub-location i
- a_{ijk} is the number of households of residency status k in the selected segment of the selected type j settlement in sub-location i that were interviewed
- b_{ij} is the total number of segments in the selected type j settlement in sub-location i (often b_{ij}=1)
- c_{ij} is the total number of settlements of type j in sub-location i

The weights were adjusted at follow-up 2 to account for attrition as it was seen that attrition was slightly skewed in favour of households from Wajir and fully mobile households. A regression estimated the probability of retention and the weights were adjusted by the inverse of the retention probability.

A.1.7.2 Community weights

The communities interviewed in the sample were a function of the settlements to which households declared they were closest to at time of interview, and the extent to which they were geographically clustered. As such, defining weights for community-level data is difficult. In practice, community information has often been read down to household level and analysed with household weights. Where community-level indicators have been estimated directly community weights were applied, equal to the sum of the household weights across the households linked to that community.

A.2 Sample size

The intended evaluation survey sample sizes are presented in Table A.3 below (with the letters in the cells matching groups A–D as listed above), broken down by targeting mechanism, treatment and control areas, and district. They were based on the expected sampling error for point estimates, differences and the dif-in-dif estimates for key indicators. Note that due to the risk of sample attrition a 10% buffer was factored in, i.e. an additional 480 households were sampled to give a total intended sample of 5,280 in total, spread evenly across sub-locations.

Table A.3 Intended sample size by population group (excluding attrition buffer)

	Targeting mechanism	Treatment sub-location	Control sub-location	Total	(by district)
Selected households	CBT	480	480	960	(4×240)
	SP	480	480	960	(4×240)
	DR	480	480	960	(4×240)
	Total	**1,440 [Group A]**	**1,440 [Group B]**	**2,880**	**(4×720)**
Not selected households	CBT	320	320	640	(4×160)
	SP	320	320	640	(4×160)
	DR	320	320	640	(4×160)
	Total	**960 [Group C]**	**960 [Group D]**	**1,920**	**(4×480)**
Total		**2,400**	**2,400**	**4,800**	**(4×1,200)**

Notes: Due to the risk of sample attrition a 10% buffer was factored in, i.e. an additional 480 households were sampled (5,280 in total), spread evenly across sub-locations.

Inevitably, not all sampled households could be identified and/or interviewed. Some households could not be found, while others refused to be interviewed. Many of these households were replaced from a randomly selected replacement list in each sub-location. A breakdown of the actual number of households interviewed is presented in Section A.2.2 below.

A.2.2 Final sample size and attrition

Table A.4 Panel sample size by treatment status and survey round

Baseline	Treatment areas	Control areas	Overall
Selected for HSNP	1,571 **[Group A]** ***HSNP households***	1,536 **[Group B]** ***Control households***	3,107
Not selected	968 **[Group C]**	1,033 **[Group D]**	2,001
Overall	2,539	2,569	5,108
Follow-up 1	**Treatment areas**	**Control areas**	**Overall**
Selected for HSNP	1,434 **[Group A]** ***HSNP households***	1,433 **[Group B]** ***Control households***	2,867
Not selected	881 **[Group C]**	889 **[Group D]**	1,770
Overall	2,315	2,322	4,637
Follow-up 2	**Treatment areas**	**Control areas**	**Overall**
Selected for HSNP	1,224 **[Group A]** ***HSNP households***	1,212 **[Group B]** ***Control households***	2,436
Overall	1,224	1,212	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table A.4 shows the panel sample size achieved for all survey rounds. It should be noted that at follow-up 2 the large decrease in sample size is accounted for by the dropping of C and D type households from the sample and, in the case of A and B type households, the dropping of eight sub-locations. The reduction in the number of sub-locations to survey at follow-up 2 was the result of decisions made by the programme and its stakeholders rather than a technical decision by the evaluation team.

Table A.5 below shows the final sample size achieved at follow-up 2, broken down by targeting mechanism, treatment status, district and HSNP selection status. The final size of the panel sample (i.e. those households for which there are observations at both baseline and follow-up 2) is 2,436. This represents a sample attrition rate of 6% from follow-up 1 (accounting for the dropped sub-locations). Table A.6 shows how the sample attrition rate varies by treatment status, district and targeting mechanism areas.

Table A.7 shows the breakdown of the reasons for non-interview at follow-up, while Table A.8 presents the results of a probit model which identifies the baseline factors associated with non-response at follow-up 2. It shows that non-response at follow-up is associated with the following baseline characteristics: being fully mobile; being from Mandera; and being from Wajir (constant).

Attrition also occurs at the household member level, with some members who were present at baseline no longer in the household at follow-up. Table A.9 shows that 4.4% of household members in the baseline sample were no longer in the household at follow-up 1, and that 9.5% of the sample at follow-up 1 were no longer in the sample at follow-up 2. It also provides the distribution of the reasons for baseline members to no longer be present follow-up. Conversely, some household members present at follow-up have joined the household since the baseline. Table A.10 shows that 9.8% of household members in the follow-up 1 sample were not in the baseline sample and 3.9% of members at follow-up 2 were not present at follow-up 1. It also provides the distribution of reasons for joining.

A certain proportion of the cases of members apparently leaving or joining the household between rounds were actually the result of inaccuracies in the baseline or follow-up 1 data collection rounds: some household members were only recorded at follow-up but were reported to have in fact been present at baseline. Similarly, some household members were recorded only in baseline but were in fact never present in the household. Some of these errors must have been due to interviewer error, but many will be due to inaccurate reporting by respondents resulting from confusion over the definition of a household and who constitutes a household member. While these errors are unfortunate they represent a very small proportion of the overall sample of beneficiaries at baseline. Moreover, adjusting the household composition impact indicators (e.g. mean household size, number of children, etc.) for the errors by back-correcting the baseline data reveals that these errors do not affect the impact estimates for these estimates (with the exception of the apparent significant negative impact on household size, which becomes insignificant once the baseline data is adjusted for roster errors).

Table A.5 Actual sample size achieved at follow-up by district, treatment status and targeting method

Survey wave	Beneficiary status	Targeting method	Mandera			Marsabit			Turkana			Wajir			Overall		
			Treatment	Control	Total	Treatment	Control	Total	Treatment	Control	Total	Treatment	Control	Total	Treatment	Control	Total
Baseline	Selected	CBT	133	131	264	133	131	264	136	131	267	198	67	265	600	460	1,060
		DR	117	97	214	132	132	264	131	131	262	132	132	264	512	492	1,004
		SP	132	121	253	128	133	261	133	132	265	66	198	264	459	584	1,043
		Total	382	349	731	393	396	789	400	394	794	396	397	793	1,571	1,536	3,107
	Not selected	CBT	88	87	175	86	79	165	84	89	173	53	44	97	311	299	610
		DR	88	83	171	87	85	172	88	85	173	88	88	176	351	341	692
		SP	87	88	175	88	86	174	87	87	174	44	132	176	306	393	699
		Total	263	258	521	261	250	511	259	261	520	185	264	449	968	1,033	2,001
	Total		645	607	1,252	654	646	1,300	659	655	1,314	581	661	1,242	2,539	2,569	5,108
Follow-up 1	Selected	CBT	126	126	252	130	130	260	135	129	264	106	113	219	497	498	995
		DR	115	89	204	120	122	242	124	127	251	116	118	234	475	456	931
		SP	111	107	218	124	128	252	130	131	261	97	113	210	462	479	941
		Total	352	322	674	374	380	754	389	387	776	319	344	663	1,434	1,433	2,867
	Not selected	CBT	73	74	147	76	76	152	73	87	160	47	42	89	269	279	548
		DR	84	64	148	82	76	158	75	80	155	75	72	147	316	292	608
		SP	79	81	160	78	78	156	78	84	162	61	75	136	296	318	614
		Total	236	219	455	236	230	466	226	251	477	183	189	372	881	889	1770
	Total		588	541	1129	610	610	1,220	615	638	1253	502	533	1,035	2,315	2,322	4,637
Follow-up 2	Selected	CBT	64	65	129	61	65	126	130	127	257	109	122	231	364	379	743
		DR	115	95	210	121	124	245	63	65	128	122	114	236	421	398	819
		SP	128	117	245	121	130	251	130	127	257	60	61	121	439	435	874
	Total		307	277	584	303	319	622	323	319	642	291	297	588	1224	1212	2436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table A.6 Sample attrition – proportion of households interviewed at baseline but not at follow-up1 and follow-up 2

	FU1			FU2
	Selected households	Non-selected households	Overall	Selected households
By sub-location treatment status:				
Treatment areas	10%	15%	12%	6%
Control areas	7%	10%	8%	5%
By district:				
Marsabit	4%	9%	6%	2%
Mandera	8%	13%	10%	6%
Turkana	4%	9%	6%	3%
Wajir	2%	8%	5%	11%
By targeting mechanism:				
CBT	6%	10%	8%	7%
DR	7%	12%	9%	6%
SP	10%	12%	11%	4%
Overall	8%	12%	9%	6%

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) FU2 column reports the percentage of selected household interviewed at baseline and not and follow-up 2, excluding households that belong to sub-locations 1010, 1011, 2023, 2022, 3035, 3034, 4046, 4047 because they were dropped from the sample at follow-up 2.

Table A.7 Reason for non-interview

	FU1	FU2
HH known but beyond tracking limits	6.15	4.3%
HH within agreed tracking limits but not found	0.92	0.4%
HH not known	0.43	0.3%
HH already interviewed (FU roster the same as another FU roster)	0.37	0.2%
HH found but no competent member available	0.33	0.2%
HH refused interview	0.33	
All BL HH members passed on	0.12	0.04%
Household was interviewed twice in the BL	0.10	
Total	**8.77**	**5.4%**

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) FU1 column reports reasons of attrition as a percentage of the overall sample at baseline. (2) FU2 column reports reasons of attrition as a percentage of the relevant sample at baseline, which excludes non-selected households and households that belong to sub-locations 1010, 1011, 2023, 2022, 3035, 3034, 4046, 4047 because they were dropped from the sample at follow-up 2.

Table A.8 Non-response factors

Explanatory variables	FU1	FU2
HSNP Beneficiary	-0.288	
	(0.284)	
FullyMobile	1.072***	1.276***
	(0.267)	(0.253)
PartialSettled	0.102	0.170
	(0.170)	(0.279)
HHSize	-0.343*	-0.364*
	(0.179)	(0.191)
HHHeadAge	-0.00961*	5.82e-05
	(0.00530)	(0.00741)
FemaleHeadedHH	0.189	-0.183
	(0.165)	(0.200)
HHHeadEducation	0.0409***	0.00278
	(0.0127)	(0.0139)
HHGenderRatio	-0.0471	-0.0353
	(0.0586)	(0.118)
LabourCapacityIndex	0.252	0.153
	(0.161)	(0.170)
HasUnder15	-0.251	0.111
	(0.225)	(0.295)
NumUnder18	0.231*	0.211
	(0.138)	(0.193)
HasOver54	0.471**	0.179
	(0.221)	(0.284)
Mandera	-0.367	-1.419***
	(0.265)	(0.215)
Marsabit	-1.042**	0.453
	(0.413)	(0.826)
Turkana	-1.881***	-0.0811
	(0.501)	(0.850)
Somali	-0.429	1.022
	(0.329)	(0.843)
Constant	-0.523	-2.573***
	(0.460)	(0.906)
Observations	4,881	2,530

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%; (2) The table reports the result of a logistic regression investigating non-response factors (the regression is weighted and clustered by cluster). (3) For the FU1 column, the dependent variable is a dummy variable equal to one if the household has not been interviewed at follow-up 1 and to zero if the household is present at both baseline and follow-up 1. (4) For FU2 column, the dependent variable is a dummy variable equal to one if the household has not been interviewed at follow-up 2 and to zero if the household is present at both baseline and follow-up 2. The dependent variable is missing for non-beneficiary households and for households that belong to sub-locations 1010, 1011, 2023, 2022, 3035, 3034, 4046, 4047 because they were dropped from the sample at follow-up 2.

Table A.9 Proportion of household members interviewed at baseline that had left household by follow-up 1 and by follow-up 2 and reason for leaving (%)

	FU1	FU2
Proportion of household members at baseline not present at follow-up	4.4	9.49
Reason for leaving household (proportion of those that left):		
• Error in baseline survey (individual should not have been recorded as a member at baseline)	26.9	21.0
• Marriage	25.5	33.6
• Died	11.2	10.1
• Moved in with parents	7.1	7.1
• Moved to set up new HH	4.7	11.0
• Never moved: beneficiary moved to new HH	4.4	3.1
• Moved to get support (food, shelter, care)	4.2	4.6
• Moved to work elsewhere	3.6	2.9
• Moved for schooling (not boarding school)	2.5	1.4
• Divorce/separation	2.5	2.0
• Moved to follow the animals (herding)	2.4	0.7
• Moved to assist with domestic duties	1.6	0.4
• Moved to live with other wife	0.8	0.6
• To take care of relative	0.6	0.7
• Conflict	0.5	0.2
• Moved back to parents' HH	0.3	
• Death of parent(s)	0.2	
• Illness/mental disability	0.2	
• Left without informing the HH	0.1	
• No longer the main provider	0.1	
• Other		0.4

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) The first row of the FU1 column reports the percentage of household members at baseline that left at FU1. (2) The first row of the FU2 column reports the percentage of household members at baseline belonging to selected household and not belonging to sub -locations 1010, 1011, 2023, 2022, 3035, 3034, 4046 and 4047 that left at FU2.

Table A.10 Proportion of household members interviewed at follow-up 1 that had joined household since baseline and proportion of household members interviewed at follow-up 2 that had joined household since follow-up 1

	FU1 (% of FU1 sample)	FU2 (% of FU2 sample)
Proportion of household members at follow-up not present at baseline	9.8	3.92
Reason for joining household:		
• Missed in baseline survey	45.80	25.4
• Newly born	31.28	40.8
• Moved to get support (food,shelter,care)	8.15	13.5
• Always been here (beneficiary moved into this HH)	4.20	7.6
• Marriage	3.37	5.2
• Moved for schooling	1.70	1.9
• New main provider (not in baseline roster)	1.70	2.6
• To take care of household member	1.05	1.5
• To work for the household	0.72	0.3
• Death/Illness of parents	0.69	0.5
• Conflict	0.51	0.2
• Divorce/separation	0.43	
• Break-up of former HH	0.29	0.3
• To work in sub-location	0.07	0.2
• Death of husband/wife	0.04	

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

A.3 Quantitative fieldwork schedule for baseline and follow-up rounds

Turkana

Month #	BL (actual)	FU1 (actual)	FU2 (actual)	Sub-location	SL code	Targeting mechanism	Treatment /Control
1	Aug-Sep-09	Dec-10-Jan-11	Dropped	Kalem	1011	DR	T
2	Oct-Nov-09	Nov-Dec-10	Dropped	Kaitede	1010	DR	C
3	Nov-09	Jan-11	Feb-12	Lowerengak	1012	SP	C
4	Dec-09-Jan-10	Feb-Mar-11	Mar-12	Kokiselei	1013	SP	T
5	Feb-10	Mar-Apr-11	Apr-12	Napetet	1014	CBT	T
6	Mar-10	Apr-May-11	May-12	Kapus	1015	CBT	C
7	Apr-May-10	May-Jun-11	Jun-12	Lopii	1016	DR	C
8	May-Jun-10	Jun-Jul-11	Jul-12	Kalemungorok	1017	DR	T
9	Jun-Jul-10	Jul-Aug-11	Aug-12	Lorengelup	1018	SP	T
10	Aug-10	Sep-11	Sep-12	Eliye	1019	SP	C
11	Sep-10	Oct-11	Oct-12	Lokore	1020	CBT	C
12	Oct-Nov-10	Nov-11	Nov-12	Kangapur	1021	CBT	T

Marsabit

Month	BL (actual)	FU1 (actual)	FU2 (actual)	Sub-location	SL code	Targeting mechanism	Treatment /Control
1	Aug-Sep-09	Nov-Dec-10	Dropped	Badasa	2022	CBT	T
2	Oct-09	Dec-10-Jan-11	Dropped	Mata Arba	2023	CBT	C
3	Nov-09	Jan-Feb-11	Mar-12	North Horr	2024	DR	T
4	Dec-09-Jan-10	Feb-Mar-11	Feb-12	Maikona	2025	DR	C
5	Feb-10	Mar-11	Apr-12	Laisamis	2026	SP	C
6	Mar-10	Apr-May-11	May-12	Kamboye	2027	SP	T
7	Apr-10	May-11	Jun-12	Hulahula	2028	CBT	C
8	May-Jun-10	Jun-Jul-11	Jul-12	Majengo	2029	CBT	T
9	Jun-Jul-10	Jul-Aug-11	Aug-12	Lonyoripichau	2030	DR	T
10	Aug-10	Sep-11	Sep-12	Korr	2031	DR	C
11	Sep-10	Oct-11	Oct-12	Marsabit Township	2032	SP	T
12	Oct-Nov-10	Oct-Nov-11	Nov-12	Wabera	2033	SP	C

Mandera

Month #	BL (actual)	FU1 (actual)	FU2 (actual)	Sub-location	SL code	Targeting mechanism	Treatment /Control
1	Aug-Sep-09	Nov-Dec-10	Dropped	Kamor	3034	CBT	T
2	Oct-09	Dec-10-Jan-11	Dropped	Bulla Power	3035	CBT	C
3	Nov-09	Jan-11	Feb-12	Mado	3036	DR	T
4	Dec-09-Jan-10	Feb-Mar-11	Mar-12	Quramadow	3037	DR	C
5	Feb-10	Mar-Apr-11	Apr-12	Chir Chir	3038	SP	T
6	Mar-10	Apr-May-11	May-12	Dabacity	3039	SP	C
7	Apr-May-10	May-Jun-11	Jun-12	Wangai Dahan	3042	CBT	C
8	May-Jun-10	Jun-Jul-11	Jul-12	Eldanaba	3043	CBT	T
9	Jul-10	Jul-Aug-11	Aug-12	Eymole	3044	DR	T
10	Aug-10	Sep-11	Sep-12	Lulis	3045	DR	C
11	Sep-10	Sep-Oct-11	Oct-12	Central Mandera	3040	SP	T
12	Oct-Nov-10	Oct-Nov-11	Nov-12	Libehia	3041	SP	C

Wajir

Month	BL (actual)	FU1 (actual)	FU2 (actual)	Sub-location	SL code	Targeting mechanism	Treatment /Control
1	Oct-Nov-09	Dec-10-Jan-11	Dropped	Sala	4046	SP	C
2	Aug-Sep-09	Nov-Dec-10	Dropped	Dagahaley	4047	SP	T
3	Nov-09	Jan-Feb-11	Feb-12	Lafaley	4048	CBT	T
4	Dec-09-Jan-10	Feb-Mar-11	Mar-12	Tarbaj	4049	CBT	C
5	Feb-10	Feb-Mar-11	Apr-12	Lag Bogol North	4050	DR	T
6	Mar-10	Mar-Apr-11	May-12	Garse Koftu	4051	DR	C
7	Apr-May-10	Apr-May-11	Jun-12	Griftu	4052	SP	T
8	May-Jun-10	Jun-Jul-11	Jul-12	Wagalla	4053	SP	C
9	Jul-10	Jul-11	Aug-12	Ingirir	4054	CBT	C
10	Aug-10	Sep-11	Sep-12	Godoma	4055	CBT	T
11	Sep-Oct-10	Oct-11	Oct-12	Wajir Township	4056	DR	T
12	Oct-Nov-10	Oct-Nov-11	Nov-12	Mokoror	4057	DR	C

Annex B Econometric methods

The quantitative analysis of the Programme's impact is based on the comparison of a range of indicators between households in treatment sub-locations and in control sub-locations. The key impact measure is the Average Treatment Effect on the Treated (ATT), which is estimated using a dif-in-dif approach. The ATT estimator for the direct effects of a social cash transfer on selected households is defined as:

$$ATT = E[Yi \mid Ti=1, Si=1] - E[Yi \mid Ti=0, Si=1] \qquad (1)$$

where Y is the outcome variable and 'i' indexes households. T is the treatment indicator, with a value of 1 if it a household is treated and 0 if in a control household. S indicates whether a household has been selected for programme inclusion, with a value of 1 if a household is selected and 0 if not selected. The ATT compares the outcome variable for selected households in treatment areas and control areas. Equation (1) shows the expected outcome for selected households in locations where the HSNP has been implemented minus the expected outcome among selected households in communities where the HSNP has not been implemented. The estimates exploit the comparability between households in treatment and control communities that is achieved by design through a combination of random allocation of communities to treatment or control and perfect mimicking of the targeting methods in control areas. This combination of approaches provides a credible counterfactual consisting of selected households in control communities ('would-be' beneficiaries), that are fully comparable by design to selected households in treatment communities (beneficiaries).

The experimental community-randomised design of the evaluation enables a very robust impact evaluation design. Randomisation of treatment over a sufficient number of geographical units (24 treatment and 24 control) ensures a high degree of comparability between actual treated households (A) and controls (B). An important feature of the evaluation approach, and one which is uncommon to most studies of this kind, is that the household selection process used in treatment areas was replicated exactly in the same way in control areas (perfect mimicking), including the prioritisation amongst eligible households to obtain the final list of ('would-be') beneficiaries. Moreover, programme take-up amongst the selected beneficiaries is very high in treatment areas, ruling out concerns of non-completion with the randomisation. This is in contrast to most other similar studies available in the literature, which generally compare eligible households in treatment and control areas rather than actual beneficiaries with would-be beneficiaries, and thus rely on Intention to Treat estimators and on an instrumental variable approach to produce meaningful estimates of impact (ATT). To the best knowledge of the authors, this is the first completed study in the region that provides a fully robust measure of the ATT that directly originates from the randomisation process.

The panel structure of the data is exploited to condition out time-invariant unobservable differences which could have affected outcome variables after the introduction of the programme. The 'before and after' nature of dif-in-dif estimates implies that any non-varying household-specific characteristics (averaged at the group level) which might, in addition to the cash transfer, have a potential influence on the impact indicators being measured are controlled for (in expectation) in the dif-in-dif estimates of impact. In an attempt to avoid any attrition bias, all models have been estimated on the restricted sample containing only households that were surveyed both at baseline and at follow-up.

The dif-in-dif model is estimated by OLS in the following functional form:

$$Yit = a + b1Ti + b2t + b3Ti *t + ct (Xit) + eit \quad (2)$$

where the indicator for treatment or control for household i (Ti) is interacted with a dummy indicating the follow-up round (period 1). The equation incorporates a population time trend (captured by parameter b2) and a group fixed effect indicated by the parameter b1. The dif-in-dif estimator is provided by parameter b3. The outcome Y can be either an individual- or a household-level variable. In the case of binary outcomes, model specification (2) is estimated using a probit model, although the coefficients on the treatment and interacted dummy respectively cannot be directly interpreted as the marginal treatment effect on probability without the necessary transformation of the probability function (as has been done for the impact analysis presented in this report).

A number of robustness checks are performed on this basic model: (1) including dummies for each pair of sub-locations over which the treatment randomisation was made; (2) including household-level covariates (and individual-level covariates in the case of household member-level indicators); (3) including household- and community-level covariates; and (4) controlling for changes in time-variant household characteristics which are included only as baseline levels in the other specifications. In addition to the basic specification (i.e. dif-in-dif with group fixed effects), as a further robustness check the measures are also estimated controlling for fixed effects at the household level (i.e. estimating the model in first differences), which fully exploits the panelled nature of the sample. The results of these checks reveal that the findings are generally robust across different specifications, the only exception being the fixed effects models which for some indicators give results in the opposite direction, although almost always insignificant. Only the results of models controlling for household- and community-level covariates are presented in this report, alongside the impact heterogeneity results in Annex D.

In order to assess impact heterogeneity across different types of households the following model specification is used:

$$Yit = a + b1t*P1i + b2Ti*P1i + b3Ti*t*P1i + b4t*P0i + b5Ti*P0i + b6Ti*t*P0i + c(Xit) + eit \quad (3)$$

where b3 and b6 give the average treatment effect for the two different groups of households. The model is run to explore two dimensions of heterogeneity, by poverty status and household size. Households are assigned to one or the other group depending on whether: (a) they fell below the poverty line at baseline; or (b) they had higher than median household size at baseline.

The same model is adapted to analyse heterogeneity by: (c) targeting method (CBT, DR and SP); and (d) household mobility status (settled, partially mobile, fully mobile). The only difference here is that there is a separate set of simple and interacted dummies for each of the three groups.

Treatment effects can also be mediated by a number of factors that relate to programme implementation. In particular, the variation in impact according to the total *per capita* cumulative value of all HSNP transfers received to date is assessed. In this case, the model specification is as follows:

$$Yit = a + b1t + b2Ti + b3Ti*CMi + b4t* Ti*CMi\ i + c(Xit) + eit \quad (4)$$

where b4 gives the marginal effect of an additional unit of currency received over the life of the project. In fact, for the analysis presented in this report t has been rescaled so that b4 gives the marginal effect of an additional KES 1000 received over the life of the project, calculated at the point in the distribution corresponding to households that have received a cumulative total of KES 2000 *per capita* – these households in turn correspond to the median HSNP household.

Annex C Impact heterogeneity analysis results

The impact heterogeneity analysis assessed the variation in programme impact across a number of dimensions:

1. By consumption expenditure – *is programme impact stronger for poorer households?*
2. By household mobility status – *does the programme have a differential impact on fully mobile households as compared to partially mobile or fully settled HSNP households?*
3. By household size – *since the transfer value is not indexed to household size, the effective per capita value of the transfer is larger for smaller households, therefore is the programme impact stronger for smaller HSNP households?*
4. By total cumulative value of transfers received (*per capita*) – *due to delays some HSNP households have received fewer transfers than others, so is programme impact lower for households that have received fewer transfers (adjusting for household size)?*
5. By targeting mechanism – *three alternative targeting mechanisms were randomly allocated across the evaluation areas, so does the programme impact vary by targeting mechanism?*

In relation to the latter, variations in impact between targeting mechanism were analysed at follow-up 1 but did not reveal any systematic differences across the targeting mechanisms and so are not presented in this report. This finding was not surprising since the targeting report shows a large degree of overlap in terms of the characteristics of SP, DR and CBT beneficiaries, so there is no hypothesis as to why HSNP impact should vary by mechanism. At follow-up 2 the dropping of eight sub-locations meant that the sample is no longer able to give robust results by targeting mechanism.

In the main body of this report we also do not present the analysis of heterogeneity of programme impact across household types by mobility status, although it is given in Table C.2, Table C.3 and Table C.4 below. This is primarily due to sample attrition, which particularly affected mobile households, and the reduction in overall sample size due to the dropping of the eight sub-locations. The trend observed at follow-up 1 was that mobile households tended to show increased impact, as was the case for poorer and smaller households. At follow-up 2, the tendency for poorer and smaller households to show increased impact remains, whereas the pattern for households by mobility status is not clear due to the attrition of mobile households and reduction of sample size, which affects the efficacy of the models for this disaggregation.

The econometric estimation methods are described in Annex B above. Included in the regression specifications are a range of control variables which are listed and described in the following table:

Table C.1 Description of control variables included in the impact heterogeneity analysis regression models

Variable	Description	HSNP households			Control households				Number of obs
COMMUNITY LEVEL		BL	FU	Dif	BL	FU	Dif	Dif-in-dif	(at FU)
Short rains very bad	Dummy variable equal to one if household located in a community for which the short rains were reported to be very bad	8.5	16.1	7.6	1.7	5.5	3.8	3.791	2436
Long rains very bad	Dummy variable equal to one if household located in a community for which the long rains were reported to be very bad	22.5	5.4	-17.1*	22.3	2.4	-20.0**	2.995	2436
No Road	Dummy variable equal to one if household located in a community for which the main road is either a livestock track or there is no road	4.9	0	-4.9	15.4	4.1	-11.3*	6.406	2436
q410acce_BL	Dummy variable equal to one if household located in a community with access to formal institution to save money (at baseline)	11.6	-	-	1.1	-	-	-	2436
SL_totfoodaidvalue	Total value of food aid received in the sub-location where the household is located	734155	736112.4	1957.5	874356.5	742820.4	-131536	139,188	2436
SL_totschfeedvalue	Total value of school feeding received in the sub-location where the household is located	914195.5	573643.3	-340552	352872.2	376750.1	23877.9	-530,874	2436

Variable	Description	HSNP households			Control households				Number of obs
SL_totsuppfeedingvalue	Total value of supplementary feeding received in the sub-location where the household is located	67312.5	15705.5	-51607.0*	32439.3	29128.8	-3310.6	-36,952	2436
HOUSEHOLD LEVEL									
HHSize_BL	Household size at baseline	6	-	-	5.5	-	-	-	2436
HHHeadAge	Age of the household head	50.6	52.4	1.9***	52.6	54.6	2.0***	-0.187	2436
HasOrphan	Dummy variable equal to one if there are one or more orphans in the household	21.6*	26.7	5.1***	16.1	22.7	6.7***	-1.543	2436
NumOrphans	Number of orphans in the household	0.5**	0.7	0.1**	0.4	0.5	0.1***	-0.0381	2436
FemaleHeadedHH_BL	Dummy variable equal to one if the household head is female at baseline	34	-	-	31.7	-	-	-	2436
LabourCapacityIndex_BL	Mean labour capacity index at baseline. This index assigns a value 0–1 to the labour contribution of each household member, and sums these to obtain an index value per household: child<6=0, working child (6–14)=0.3, adult assistant (15–17)=0.6, adult (18–54) able to work=1, elderly (>54) able to work=0.5, ill/disabled unable to work=0	3	-	-	2.8	-	-	-	2436

Variable	Description	HSNP households			Control households				Number of obs
HHDependencyRatio_BL	DR at baseline. This is the ratio of the number of dependents (children<18, people aged over 54, chronically ill or disabled people (18–54)) per HH over household size	0.7	-	-	0.7	-	-	-	2436
NoNationalID_BL	Dummy variable equal to one if no-one in the household has a National ID Card at baseline	0.3	-	-	0.9	-	-	-	2436
NoRepresention_BL	Dummy variable equal to one if the household does not have any representation in this sub-location	5.9	-	-	7.8	-	-	-	2436
HasSavings_BL	Amount of savings at baseline	4.8	-	-	5.3	-	-	-	2436
Fully Mobile_BL	Dummy variable equal to one if household reports being fully mobile at baseline	6.6	-	-	8.4	-	-	-	2436
Partially Settled_BL	Dummy variable equal to one if household reports being partially settled at baseline	16.6	-	-	25.8	-	-	-	2436
Fully Settled_BL	Dummy variable equal to one if household reports being fully settled at baseline	76.8		-	65.8	-	-	-	2436
pov1	Dummy variable equal to one if household belongs to the bottom 54% of consumption expenditure distribution at baseline	54.4	47.6	-6.8*	61.3	64.8	3.4	-10.25**	2435

Variable	Description	HSNP households			Control households				Number of obs
T7JQ04_BL	Dummy variable equal to one if anyone in the household participates in employment programmes giving food or cash for work	9.3	-	-	5.8	-	-	-	2436
Mandera	Dummy variable equal to one if household located in the district of Mandera	0.8	0.7	-0.1**	0.7	0.6	-0.1*	0.00195	2436
Marsabit	Dummy variable equal to one if household located in the district of Marsabit	0.2	0.2	-0.0*	0.1	0.1	-0.0*	-0.00358	2436
Turkana	Dummy variable equal to one if household located in the district of Turkana	0.2	0.2	0	0.3	0.3	0	0.00568	2436
INDIVIDUAL LEVEL									
age	Age of the individual	22.2	23.3	1.0***	23.7	24.1	0.5**	0.574**	14349
marital_status_BL	Dummy variable equal to one if the individual is married at baseline	23.9***	-	-	27.8	-	-	-	14088
gender	Dummy variable equal to one if the individual is male	50.2	50.7	0.5*	51.2	51.9	0.7**	-0.161	14349
Disability	Dummy variable equal to one if the individual has any disability	2.2	2.2	0.1	2.8	2.8	0	0.0379	14349
chronic_illness	Dummy variable equal to one if the individual has any chronic illness	1.6	1.7	0.1	1.6	1.6	-0.1	0.141	14349

Table C.2 Impact heterogeneity analysis results – key impact areas

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity							
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Consumption expenditure and poverty rates									
Mean consumption expenditure (KES)	224.8**	0.0412*	361.1***	102.9	245.5	372.3***	248.5**	291.5**	-131.8
Proportion of households in the bottom national decile (%)	-9.73*	-5.16***	-15.8**	-5			-11.4*	-13.5	11.1
Proportion of households in below absolute poverty line (%)	-4.8**	-3.35***	-11.9***	0.903			-4.02*	-4.8	-2.65
Poverty gap	-6.806**	-2.964***	-10.80***	-3.413	-6.746	-11.52***	-7.789**	-8.000**	4.694*
Squared poverty gap	-6.521**	-2.510***	-8.940***	-4.602	-5.596*	-10.82***	-7.430**	-7.668**	4.271*
Food security and reliance on food aid									
Mean food consumption expenditure (KES)	158.5**	57.18*	241.4**	85.60	185.9	260.0***	172.2**	229.2*	-116.6
Mean food share of consumption expenditure (%)	-2.140		-3.858**	-0.615					
Mean dietary diversity score	0.412				0.219	0.707*			
Proportion of households food insecure in worst recent food shortage period (%)	12								
Proportion of households receiving food aid (%)	-1.59								
Mean number of months food aid being received	0.591								
Mean monthly value of food aid (as reported by respondents) (KES)	-32.37								
Proportion of households receiving school feeding (%)	-2.29								
Mean number of months of receiving school feeding	1.032**	0.381**	1.327**	0.829**	1.512***	0.670	1.142**	0.873**	0.832
Mean monthly value of school feeding programme (as reported by respondents) (KES)	520.6						666.7	-138.6	1,473*
Proportion of households receiving supplementary feeding (%)	-1.63								
Mean number of months of receiving supplementary feeding	0.399								

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity						
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Mean monthly value of supplementary feeding programme (as reported by respondents) (KES)	156.7		-26.52	366.4**					
Asset retention and accumulation									
Proportion of households owning any livestock (%)	-0.364								
Proportion of households owning goats/sheep (%)	-0.626								
Proportion of households owning camels (%)	-11.7**	-4.55**	-16***	-8.05*	-13.7***	-11.3*	-13.8***	-6.38	-12.7**
Proportion of households owning cattle (%)	-0.877								
Proportion of household owning key productive assets (%)									
% of HH owning any productive assets	5.75		1.32	9.98**	7.27**	4.49	4.62	8.8**	-3.69
Animal cart	-2.38		-5.58***	0.929					
Water drum	1.4								
Plough	N/A								
Wheelbarrow	5.23								
Sickle	-0.425								
Pick axe	-0.611								
Axe	9.43				17.1*	1.21	13.2*	-0.959	-13.7
Hoe	2.47						3.07	-2.47	9.94*
Spade	N/A								
Machete	N/A								

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) for impact heterogeneity results only significant coefficients are shown; (2) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. (3) n/a signifies too few observations.

Table C.3 Impact heterogeneity analysis results – secondary impact areas

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity							
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Health									
Mean monthly *per capita* health expenditure per household (KES)	11.66*	4.956*			9.439	16.10**	13.00	12.41**	-11.00
Proportion of population ill or injured in the past three months (%)	5.8				6.36*	3.76	4.9	8.11	7.06*
Education									
Mean monthly household education expenditure per child (KES)	20.81						25.56	21.14	-49.30**
Mean monthly education expenditure per child (KES) only for HH with attending child	20.88						26.44	11.58	-66.06*
Proportion of children currently attending school (%): All children, aged 6–17	-5.98								
Proportion of children currently attending school (%): Females, aged 6–17	-6.61								
Proportion of children currently attending school (%): Males, aged 6–17	-5.9								
Proportion of children currently attending school (%): All children, aged 6–12	-5.86								
Proportion of children currently attending school (%): All children, aged 13–17	-6.58						-3.82	-11.3**	-22.8*
Proportion of children aged 10–17 currently in school that have passed Std IV (%)	7.4**	1.89**	7.68	7.33**	6.26	9.27*	8.69***	1.56	23.9**
Mean highest class achieved for children aged 6–17 currently in school	0.342**	0.160**	0.381**	0.335**	0.217	0.489***	0.306**	0.419	0.813
Was child enrolled in an education facility this academic year? (%)	0.414								
Average number of days absent from school in the last 12 months	-1.047								
Child currently attending school and receiving school feeding (%)	4.12				9.72*	-1.63	6.37*	-8.32	0.797
Child has never attended school due to belief that education is not important (%)	-0.136								
Child has never attended school due to cost (%)	0.868								
Child has never attended school due to household labour requirement (%)	-2.79								

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity							
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Livelihood activities									
Proportion of adults (aged 18–54) whose main activity is productive work (%)	1.95		4.25*	0.816					
Proportion of adults (aged 18–54) whose main activity or secondary activity is productive work (%)	0.665						2.33	-4.97	12.2*
Proportion of adults (aged 18–54) whose main activity or secondary activity is paid work	1.8				-1.83	4.19*			
Proportion of adults (aged 18–54) whose main activity or secondary activity is productive work	0.798								
Proportion of adults (aged 18–54) whose main activity is productive work	2.37		4.54*	1.94					
Saving, borrowing and credit									
Proportion of households that currently have cash savings (%)	6.61**	1.07**	7.08	6.25**	8**	6.09*	9.98**	-3.03	3.47***
Proportion of households that have borrowed money in the last 12 months (%)	12.4***	-1.27***	14.5***	10.4*	16.7***	8.77**	13.9***	5.22	10.4
Proportion of households that have bought something on credit in last three months (%)	3.9	2.46***			-7.65	13.5**			
Empowerment of women									
Proportion of main budget decision makers that are female – all households (%)	2.73								
Proportion of main budget decision makers that are female – female-headed households (%)	3.8**	1.22**	3.74***	2.97	-0.491	7.51**			
Proportion of main budget decision makers that are female – male-headed households (%)	1.58								
Labour supply for people aged 55 and over									
Individuals 55+ doing paid or unpaid work (incl. unpaid domestic work) (%)	1.87								
Individuals 55+ doing paid or unpaid work (excl. domestic work) (%)	0.385								
Children 5–17 whose main activity is paid or unpaid work (incl. unpaid domestic work) (%)	-6.62		-7.27	-6.43*					

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity							
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Children 5–17 whose main activity is paid or unpaid work (excl. unpaid domestic work) (%)	-4.2*	-0.598*	-4.5	-3.97**	-2.17	-5.6*			
Main activity children 5–17 (%)									
Herding/Livestock production	-4.5**	-1.24*	-6.06*	-3.87**	-2.4	-6.1**	-3.39	-4.79	-11.9*
Farming/Agricultural production	0.245								
Collecting bush products: for sale	0.159				0.525**	0.0415			
Self-employed	-0.0558								
Paid work including casual labour	0.63**								
Unpaid domestic and other work	-2.03								
Education	8.11*		9.2	7.88*	6.46*	9.49	8.34*	5.5	6.1
Not working (no specific duty, too old, too young, unable, no opportunity)	-0.591				-2.4	-6.1			
Main activity adults 18–54 (%)									
Herding/Livestock production	-2.02		-6.39*	-0.345					
Farming/Agricultural production	0.8								
Collecting bush products: for sale	-1.13				4*	-4.07			
Self-employed	1.68	1.72***			-1.53	5.26**			
Paid work including casual labour	2.11								
Unpaid domestic and other work	-3.12								
Education	-1.29				1.96	-3.05*	-0.33	-1.85*	-2.35
Not working (no specific duty, too old, too young, unable, no opportunity)	3.42**		0.639	3.4*	0.855	3.64*			
Coping strategies									
Proportion of HHs borrowing food or relying on help from family (%)	-8.86								
Proportion of HHs selling animals to buy food (%)	3.42						1.32	4.62	32.7*
Proportion of HHs selling any other assets (%)	-2.03*	0.788**	-4.41***	-0.418	-3.09**	-0.82			
Proportion of HHs buying food on credit (%)	-10.8***	-0.742***	-14.5**	-8.31*	-5.94	-14.8***	-9.93**	-10.3	-10.1
Proportion of HHs collecting/eating wild food/animals (%)	1.31		4.85*	1.63			6	-2.79	-3.57***
Proportion of HHs having reduced number of meals (%)	-14								
Proportion of HHs eating smaller meals (%)	-13.3								
Proportion of HHs going entire days without eating solids (%)	-10.4						-9.68	-5.4	27.9*

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity							
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Wellbeing of older people and children									
Proportion of people aged 55+ ill or injured in past three months (%)	7.32								
Proportion of people aged 55+ whose main activity is paid or unpaid work – Including unpaid domestic work (%)	1.87								
Proportion of people aged 55+ whose main activity is paid or unpaid work – Excluding unpaid domestic work (%)	0.385								
Proportion of children (0–17) ill or injured in past three months (%)	5.18				5.98*	2.39	4.57	6.59	6.64**
Proportion of children (5–17) whose main activity is paid or unpaid work – Including unpaid domestic work (%):-6.93*	-6.62								
Proportion of children (5–17) whose main activity is paid or unpaid work – Excluding unpaid domestic work (%):	-4.2*	-0.598*	-4.5	-3.97**	-2.17	-5.6*			

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: for impact heterogeneity results only significant coefficients are shown. Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table C.4 Impact heterogeneity analysis results – unintended impact areas

Outcome	Dif-in-dif with household- and community-level control variables	Impact heterogeneity						
		By cumulative total *per capita* value of all HSNP transfers received	By household size		By poverty status		By household's mobility status		
			Small	Large	Non-poor	Poor	Settled	Partially settled	Fully mobile
Informal transfers and sharing									
Proportion of HHs receiving informal cash transfers (%)	1.9				-9.09**	2.4		-8.55	-27**
Mean amount received for those receiving informal cash support (KES)	-630.0						0.0230		
Proportion of HHs receiving informal in-kind transfers (%)	-1.73								
Mean value received for those receiving informal in-kind support (KES)	-55.32								
Proportion of HHs giving informal cash transfers (%)	7.41	0.733*	2.12	12.3*	0.106	13.9***			
Mean value given for those giving informal cash support (KES)	656.2								
Proportion of HHs giving informal in-kind transfers (%)	0.952						2.63	2.65	-15.5**
Mean value given for those giving informal in-kind support (KES)	189.7*		234.6**	127.6	385.5*	111.9*	221.8*	72.70	289.6
Social tensions									
Proportion of individuals that are divorced – Overall (%)	N/A								
Proportion of individuals that are divorced – Females (%)	N/A								
Proportion of individuals that are divorced – Males (%)	N/A								
Household's mobility									
Proportion of households that are fully mobile (%)	-1.44								
Proportion of households that are partially mobile (%)	0.717								
Proportion of households that are fully settled (%)	1.68								

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: for impact heterogeneity results only significant coefficients are shown. Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Annex D Additional tables

Table D.1 Food aid, school feeding and supplementary feeding – mean number of months received and monthly value

Outcome	Treatment areas			Control areas			Dif-in-dif	Number of observations (FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Food aid								
Mean number of months food aid being received	6.8	5.7	-1.1*	7	5.3	-1.7***	0.6	1,900
Mean monthly value of food aid (as reported by respondents)	1,106.3	1,886.7	780.4***	1,222.6	1,958.4	735.9***	44.5	1,900
School feeding								
Mean number of months of receiving school feeding	7.6	7.9	0.3	8.3	7.3	-1.1***	1.4*	1,342
Mean monthly value of school feeding programme (as reported by respondents)	1,159.9	1,640.8	480.9	850.9	1,584.5	733.6*	-252.7	1,342
Supplementary feeding								
Mean number of months of receiving supplementary feeding	4.1	4.7	0.5	4.2	4.9	0.8	-0.2	121
Mean monthly value of supplementary feeding (as reported by respondents)	434.1	588.1	154	322.4	866.6	544.2**	-390.2	121

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.2 Demographic characteristics of study population

Outcome	HSNP households			Control households			Dif-in-Dif	N (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Mean age	22.2	23.3	1.0***	23.7	24.1	0.5**	0.6**	14,340
Proportion of population (%):								
Male	50.2	50.7	0.5*	51.2	51.9	0.7**	-0.2	14,340
Disabled	5.3	.	.	7.7	.	.		14,340
Chronically ill	2.2	2.2	0.1	2.8	2.8	0	0.0379	14,339
Proportion of children (aged 18+) (%):								
Orphaned (single or double)	15.8	19.8	4.0***	12.3	16.4	4.2***	-0.2	7,567
Orphaned (double)	1.5	3.2	1.7**	0.9	1.6	0.7**	1.0	7,942
Disabled	0.7	0.8	0.1	0.9	1	0.2	-0.1	7,941
Chronically ill	0.3	0.4	0.1	0.6	0.3	-0.3	0.4	7,941
Proportion of adult males (aged 18+) currently married or in consensual union (%)	56.2	55.1	-1.1	61.6	57.8	-3.8***	2.7*	3,458
Proportion of adult males (aged 18+) currently married or in consensual union and with more than one wife	17.1	18.7	1.6	17.5	22.3	4.8	-3.2	1,934
Mean number of wives for married adult males (aged 18+) with more than one wife	2.2	2.2	0	2.3	2.2	-0.1**	0.1	407
Proportion of children aged 11–18 that have ever been married or in a consensual union (%)	0.6	0.6	0	0.5	0.7	0.2	-0.2	3,054
Proportion of adults (aged 18+) with no National ID Card	19.3	17	-2.3**	19.3	16.4	-2.9	0.5	6,772
Proportion children<6 with no birth certificate	94.2	92.9	-1.3	97.9	96.3	-1.7	0.3	2,004

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.3 Proportion of households owning livestock, by livestock type (%)

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
% of HHs owning/rearing livestock								
% HHs owning livestock	61.5**	63.8	2.4	85.1	81.4	-3.8	6.1*	2,436
Tropical livestock unit (TLU) for livestock owned by HH and main provider								
Mean TLU *per capita* for livestock owned currently by HH and main provider	16.5	12.1	-4.4**	20.1	17.6	-2.5	-1.8	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.4 Health status and health-seeking behaviour

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Proportion of people who did not consult a formal health care provider because they could not afford it	26.3	23.2	-3.1	22.5	22	-0.6	-2.5	363
Proportion of people who did not consult a formal health care provider because facility too far away	16.8	20.5	3.7	19.9	27.3	7.4*	-3.7	363
Proportion of people who did not consult a formal health care provider because illness not severe enough	21.1	16.1	-5	13.7	20.3	6.6*	-11.7	363
Proportion of people who did not consult a formal health care provider because self-treated	22.2	19.3	-2.9	35.7	16.9	-18.9*	16.0	363

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.5 Supply of health care facilities

Outcome	HSNP households			Control households				Number of observations
	BL	FU2	Dif	BL	FU2	Dif	Dif-in-dif	(at FU2)
Of those consulting, proportion of people who choose to use a non-governmental health facility (private doctor/nurse, private hospital, NGO/faith-based organisation facility, pharmacist)	20	7.8	-12.2**	21.4	8.9	-12.5	0.3	1,345
Of those consulting, proportion of people who choose to use a government health facility (government hospital, health centre or dispensary)	77.6	78.6	1	71.4	85.4	14.0*	-13.0	1,345

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.6 Proportion of children that have ever attended school and reasons for having never attended

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Proportion of children who have never attended school due to belief that education is not important	10.7	13.9	3.2	12.8	14.6	1.9	1.4	1,755
Proportion of children who have never attended school due to cost	3.2	0.5	-2.7*	3.7	0.6	-3.2**	0.4	1,755
Proportion of children who have never attended school due to HH labour requirement	56.3	66.9	10.6*	56	65	9	1.6	1,755

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%; (2) Estimates are an unweighted average by sub-location (i.e. weight is 1 for each sub-location).

Table D.7 Household members aged 5–17 main livelihood activities (%)

Outcome	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Proportion of HH members engaging in different activities								
Herding/Livestock production	14.6	14.3	-0.4	18.9	18.2	-0.7	0.3	5,674
Farming/Agricultural production	0.1	0.4	0.2	0.1	0.1	0	0.2	5,674
Collecting bush products: for sale	0.4	0.5	0.1	0.5	0.6	0.1	0.0175	5,674
Self-employed	0.3	0.1	-0.2	0.2	0.2	0	-0.2	5,674
Paid work including casual labour	0.3	0.4	0.2	0.3	0.2	-0.1	0.3	5,674
Unpaid domestic and other work	8.5	5.5	-3.0*	11.2	7.7	-3.5	0.5	5,674
Education	69.1	70	0.9	58.3	62.5	4.1*	-3.3	5,674
Not working	6.6	8.7	2.1	10.2	10.2	0	2.1	5,674

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%.

Table D.8 Household members aged 18–54 main livelihood activities (%)

Proportion of HH members engaging in different activities	HSNP households			Control households			Dif-in-dif	Number of observations (at FU2)
	BL	FU2	Dif	BL	FU2	Dif		
Herding/Livestock production	18	20.1	2.1	28.4	27.5	-0.9	3.0	4,737
Farming/Agricultural production	1.5	1.4	-0.1	0.4	0.5	0.1	-0.3	4,737
Collecting bush products: for sale	8	7.5	-0.6	10	10	-0.1	-0.5	4,737
Self-employed	11.5	13	1.5	7.1	7.6	0.5	1.0	4,737
Paid work including casual labour	13.9	15.9	2.0**	10.5	13.1	2.6**	-0.6	4,737
unpaid domestic and other work	25.3	20.7	-4.6***	26.5	23.5	-3.1	-1.6	4,737
education	12.6	13.8	1.2	9	12.1	3.1***	-1.9	4,737
not working	8.1	6.2	-1.9	5.6	3.2	-2.5**	0.6	4,737

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%. Note: the columns do not total 100% because a tiny proportion of households are excluded on the basis of livelihood activities that do not fit into the given categories.

Table D.9 Household mobility

Proportion of households that are (%):	Treatment areas			Control areas			Dif-in-dif	Number of observations (at FU)
	BL	FU	Dif	BL	FU	Dif		
Fully mobile	6.6	3.5	-3.1**	8.4	6.5	-1.9*	-1.2	2,436
Partially mobile	16.6	24.8	8.2***	25.8	33	7.2**	1.0	2,436
Fully settled	76.8	71.7	-5.1**	65.8	60.5	-5.3*	0.2	2,436

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box 1: *** = 99%; ** =95%; * = 90%; (2) Fully mobile = (whole household moves with livestock); Partially mobile = (some members move with livestock); Fully settled = (no household members move with livestock).

Annex E Methodology for analysis of anthropometrical data

E.1 Calculation of child malnutrition measures

The anthropometric measures presented in Section 4.3 of this report to assess a child's nutritional status have been measured using the z-score system. The z-score system allows for the standardisation of anthropometric data with reference to an international standard. In this case, the international standard is the WHO Multicentre Growth Reference Study (MGRS) (WHO 2006). These new standards were developed 'in accordance with the idea that children, born in any region of the world and given an optimum start in life, all have the potential to grow and develop within the same range of height and weight for age' (Mei and Grummer-Strawn, 2007). This allows for the WHO 2006 child growth standards to be used worldwide and to thus provide a common basis for the analysis of growth data.

Three standard indices of physical growth that describe the nutritional status of children are presented in this report, as defined in Cogill (2003):

- Height-for-age
- Weight-for-height
- Weight-for-age

Each indicator is expressed in standard deviation units (z-scores) from the median of the standard population. The z-score system expresses anthropometric values as several standard deviations above or below the reference median value taken from the WHO MGRS and is calculated using the equation below:

$$zscore_i = \left\{ \frac{x_i - median(x)}{standard\ deviation(x)} \right\}$$

That is, for each indicator *i* of interest, including height-for-age, weight-for-age and weight-for-height, the z-score is calculated as the difference between the child's indicator and the median value in the reference population, divided by the standard deviation of the indicator.

Each of the indices provides different information about growth and body composition, which is used to assess nutritional status:

- **Stunting (length-height-for-age** – length is measured for children below 2 years of age, height is measured for children aged 2): identifies past or present chronic undernutrition, but cannot measure short-term changes in undernutrition, i.e. it is not responsive to recent changes in dietary intake or health status. Stunting in a child occurs when growth falters or stops altogether, resulting in a failure to achieve expected height-for-age compared to a healthy well-nourished child. It is associated with a number of long-term factors, often in combination, including chronic insufficient protein, energy and micro-nutrient intake, frequent infection/disease, sustained inappropriate feeding practices and poverty.

  Children whose height-for-age z-score is below minus two standard deviations (-2 SD) from the median of the standard population are considered to be **stunted** and are chronically undernourished. Children below minus three standard deviations (-3 SD) from the standard population are considered to be **severely stunted**.

- **Wasting (weight-for-height/length):** identifies children suffering from current or acute undernutrition, with weight significantly below the weight expected of a child of the same length or height in the standard population. Causes include inadequate current food intake, incorrect feeding practices, disease and infection or, more frequently, a combination of these factors. Wasting in individual children can change rapidly and shows marked seasonal patterns associated with changes in food availability or disease prevalence.

  Children whose z-score is below minus two standard deviations (-2 SD) from the median of the standard population are considered **wasted** for their height and are acutely undernourished. Children whose z-score is below minus three standard deviations (-3 SD) from the median of the standard population are considered to be **severely wasted**.

- **Underweight (weight-for-age)**: is a composite measure of stunting and wasting. As such, it measures both past (chronic) and present (acute) undernutrition, although it is impossible to distinguish between the two.

  Children with z-scores below minus two standard deviations (-2 SD) from the median of the standard population are considered to be **underweight**. Children whose z-score is below minus three standard deviations (-3 SD) from the median of the standard population are considered to be **severely underweight**.

Table E.1 gives the seriousness of malnutrition from a public health perspective as defined by the prevalence of malnutrition of different types within a population.

Table E.1 WHO classification of public health importance of prevalence of malnutrition[43]

	Acceptable	Poor	Serious	Critical
Wasted	<5%	5–10%	10–15%	>15%
Stunted	<20%	20–30%	30–40%	>40%
Underweight	<10%	10–20%	20–30%	>30%

E.2 Quality of anthropometric data

Table E.2 to Table E.5 show a small but progressive drop in proportions of children in the sample between baseline, follow-up 1 and follow-up 2. These trends are especially marked in Mandera and Wajir, which both saw serious and sustained insecurity over the life of the multi-round survey.

[43] WHO, 1995.

Table E.2 Age distribution, by survey round and district (%) for beneficiary households only

Age/survey round	Mandera	Marsabit	Turkana	Wajir	Total	*N*
Baseline						
0–1	2.7	3.6	4.2	5.4	4	*585*
2–5	12.8	9.9	10.3	14.6	12	*1,762*
6	4.6	3.4	3.1	3.3	3.6	*524*
>6	80	83.2	82.5	76.7	80.4	*11,755*
	3,620	*3,470*	*3,348*	*4,188*	*14,626*	
Follow-up 1						
0–1	3.4	3.4	3.5	5.8	4	*574*
2–5	11.7	8.6	10.4	13.2	11	*1,564*
6	4.1	3.2	3.1	3.9	3.6	*510*
>6	80.8	84.7	83	77.1	81.4	*11,563*
	3,425	*3,388*	*3,687*	*3,711*	*14,211*	
Follow-up 2						
0–1	1.3	2.4	2.5	4.6	2.8	*402*
2–5	10.8	8.5	11.8	13.1	11.2	*1,604*
6	3.4	2.3	3	3.2	3	*426*
>6	84.5	86.7	82.7	79.1	83.1	*11,918*
	3,429	*3,348*	*3,593*	*3,980*	*14,350*	

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Baseline and follow-up 1 data exclude sub-locations not visited at follow-up 2.

Table E.3 Newborn household members and household members aged below three years at baseline no longer in the household by follow-up round for beneficiary households

Age	Mandera	Marsabit	Turkana	Wajir	Total
Follow-up 1					
Newborn	82	66	94	124	366
Movers (<3 at BL)	20	4	8	20	52
Follow-up 2					
Newborn	38	41	53	120	252
Movers (<3 at BL)	29	1	4	15	59

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012. Notes: Baseline and follow-up 1 data exclude sub-locations not visited at follow-up 2.

Table E.4 Sample size by age group, by survey round

Age in months	Baseline	Follow-up 2
0–23		
N	411	311
%	34%	29%
24–60		
N	781	751
%	66%	71%
Total	**1192**	**1062**

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table E.5 Sample size by age group, by survey round and district

Age in months	Baseline	Follow-up 2	Age in months	Baseline	Follow-up 2
Mandera					**Marsabit**
0–23					0–23
N	24	30	N	107	72
%	14%	16%	%	33%	32%
24–60					24–60
N	145	154	N	217	155
%	86%	84%	%	67%	68%
Total	**169**	**184**	**Total**	**324**	**227**
Turkana			**Wajir**		
0–23					0–23
N	129	87	N	151	122
%	41%	33%	%	41%	35%
24–60					24–60
N	189	179	N	230	263
%	59%	67%	%	60%	68%
Total	**318**	**266**	**Total**	**381**	**385**

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table E.6 and Table E.7 show that the proportion of outliers found in the sample also increased between survey rounds. This is particularly driven by Mandera and Turkana. This is likely due to a combination of factors, including:

- Age data between baseline and follow-up two for individual household members present in both survey rounds did not always match. This is despite the best efforts of the survey teams using detailed locally constructed event calendars.[44] This is due to the widespread lack of

[44] A detailed event calendar was constructed in each sub-location by the field team supervisors in conjunction with sub-location chiefs and a collection of elders and other informed community members such as teachers and health workers.

knowledge by respondents as to their own ages and those of their young children, alongside a widespread lack of reliable documentary evidence as to date of birth for household members.

- Insecurity in the four districts, and especially in Madera and Wajir, meant that survey supervision by international expertise was more limited in follow-up 2 as compared to the baseline.

Table E.6 Proportion of outliers among beneficiaries, by survey round and age group (weighted)

Age in months		BL	FU2
0–23	Overall	15%	26%
	Underweight	2%	2%
	Stunting	8%	23%
	Wasting	9%	12%
24–60	Overall	8%	14%
	Underweight	2%	1%
	Stunting	4%	8%
	Wasting	5%	8%

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

Table E.7 Percentage of outliers among beneficiaries, by survey round, age group, and district (weighted)

Age in months		BL	FU2	Age in months		BL	FU2
Mandera				**Marsabit**			
0–23	Overall	30%	54%	0–23	Overall	26%	21%
	Underweight	4%	1%		Underweight	3%	3%
	Stunting	20%	48%		Stunting	12%	17%
	Wasting	11%	25%		Wasting	18%	10%
24–60	Overall	15%	15%	24–60	Overall	10%	7%
	Underweight	0%	1%		Underweight	3%	0%
	Stunting	8%	14%		Stunting	3%	5%
	Wasting	7%	1%		Wasting	7%	3%
Wajir				**Turkana**			
0–23	Overall	7%	18%	0–23	Overall	11%	33%
	Underweight	0%	0%		Underweight	3%	4%
	Stunting	5%	18%		Stunting	6%	26%
	Wasting	3%	8%		Wasting	7%	15%
24–60	Overall	3%	3%	24–60	Overall	10%	33%
	Underweight	0%	1%		Underweight	3%	1%
	Stunting	2%	3%		Stunting	5%	15%
	Wasting	1%	0%		Wasting	5%	26%

Source: HSNP M&E Impact Evaluation Survey, Sep 2009–Nov 2012.

E.3 Child nutrition estimates from other studies

Table E.8 Nutrition indicators by province

	Stunting			Wasting			Underweight		
	2000	**2003**	**2008–09**	**2000**	**2003**	**2008–09**	**2000**	**2003**	**2008–09**
Nairobi	29.6	18.7	22.7	3.1	4.5	2.6	12.4	6.3	10
Central	27.4	27	25.7	4.6	4.4	4.5	15.4	14.6	16.7
Coast	33.7	34.9	34	6.4	5.7	11.2	21.1	25.4	28.5
Eastern	42.8	32.5	32.8	7.8	4.2	6.7	29.6	21.4	25.2
Nyanza	35.9	31.1	26.9	5.2	2.3	3.2	19.9	15.6	13.7
Rift Valley	36.8	31.6	30.9	7.6	7.7	6.7	24.9	24	23.7
Western	38.1	30.2	28.4	5.5	4.5	2.6	21.5	19	14.8
North Eastern	**na**	**24.3**	**31.1**	**na**	**26.5**	**18.4**	**na**	**33.7**	**31.1**

Source: DHS (2008–09).

Table E.9 Acute malnutrition rates by district (%)

		GAM	SAM	GAM (MUAC)
Mandera Central	April–May 2012	17.9	3.5	10.1
Wajir East	Nov-11	30.6	7.6	5.1
Wajir North and Wajir West	Nov-11	27.9	5.6	7.6
Wajir South	Jan-12	23.1	4.6	9.4
Turkana Central	Dec-11	16.9	3.1	10.7
Turkana South	Dec-11	15.5	2.2	10.6
Turkana North East	Dec-11	13.7	3.2	18.4
Turkana North West	Dec-11	9.7	2.6	14.3

Source: Various surveys published on the OCHA Kenya page.[45] Note: Global Acute Malnutrition (GAM) is Weight-for-Height <-2 and/or Oedema. Severe Acute Malnutrition (SAM) is Weight-for-Height <-3 and/or Oedema. Mid-Upper Arm Circumference (MUAC) GAM is <= 125mm.

[45] http://ochaonline.un.org/kenya/FieldCoordination/tabid/6428/language/en-US/Default.aspx

Annex F Standard errors and design effects for baseline and follow-up samples

Table F.1 provides measures of the standard errors and design effects for the baseline and follow-up samples for a number of sample characteristics. It also provides data on intra-cluster correlation at baseline and follow-up, as well as temporal correlation between the two surveys.

The samples upon which these metrics have been calculated are comprised of household types As, Bs, Cs and Ds (see Section A.1.4 in Annex A above). The means have been calculated using different weights to those that are used in the impact analysis featured in this report.[46]

[46] The reason the impact evaluation estimates are weighted only to represent only the population in the 48 evaluation sub-locations is that the programme operated differently in evaluation areas compared to non-evaluation areas. This means that the beneficiary groups in those areas are different, making it not viable to draw inferences about programme impact for a wider population than the 48 evaluation sub-locations.

Table F.1 Means, standard errors, confidence intervals, design effects and intra-cluster correlations for baseline and follow-up samples, and temporal correlation between baseline and follow-up

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Mean consumption expenditure	1860.7	109.3	1646.5	2074.9	22.6	4.8	0.1	1836.1	108.5	1623.5	2048.6	36.3	6.0	0.1	0.4
Proportion of households (%):															
absolute poverty line	90.2	2.6	85.2	95.2	9.6	3.1	0.0	91.7	2.9	86.0	97.3	14.9	3.9	0.0	0.2
in the bottom national decile	57.4	5.2	47.2	67.6	19.1	4.4	0.0	55.0	4.9	45.5	64.6	22.4	4.7	0.1	0.3
Poverty gap	43.1	2.8	37.6	48.6	26.0	5.1	0.1	43.0	2.8	37.4	48.6	38.6	6.2	0.1	0.5
Mean food consumption expenditure (KES)	1419.7	62.2	1297.7	1541.7	13.4	3.7	0.0	1419.0	62.7	1296.1	1541.9	22.1	4.7	0.0	0.3
Mean food share of consumption expenditure (%)	77.9	1.2	75.4	80.3	26.6	5.2	0.1	78.9	1.4	76.1	81.7	49.3	7.0	0.1	0.3
Mean dietary diversity score	6.4	0.2	6.0	6.9	46.6	6.8	0.1	6.7	0.2	6.3	7.2	36.4	6.0	0.1	0.2
Proportion of households food insecure in worst recent food shortage period (%)	67.3	3.6	60.3	74.4	14.8	3.9	0.0	40.4	5.8	28.9	51.8	36.4	6.0	0.1	0.2
Food aid	78.3	5.5	67.6	89.0	30.8	5.5	0.1	71.9	6.2	59.7	84.1	46.8	6.8	0.1	0.3
School feeding	55.7	3.1	49.8	61.7	6.6	2.6	0.0	56.1	3.1	50.0	62.1	8.3	2.9	0.0	0.4
Supplementary feeding	14.0	2.9	8.3	19.6	15.5	3.9	0.0	5.0	1.5	2.1	7.9	9.4	3.1	0.0	0.1
Proportion of households owning…															
Any livestock	71.6	6.5	58.9	84.2	41.6	6.4	0.1	71.4	6.1	59.4	83.4	42.1	6.5	0.1	0.4
Goats / sheep	68.8	6.5	56.1	81.6	42.6	6.5	0.1	69.7	6.2	57.5	81.8	41.9	6.5	0.1	0.5
Camels	33.6	5.7	22.5	44.7	35.1	5.9	0.1	33.1	5.6	22.2	44.1	36.1	6.0	0.1	0.6
Cattle	18.0	3.1	12.0	24.0	16.1	4.0	0.0	14.5	2.5	9.6	19.3	13.9	3.7	0.0	0.4

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Proportion of households owning…															
Any asset	87.4	1.9	83.7	91.1	5.2	2.3	0.0	88.0	2.5	83.1	93.0	10.1	3.2	0.0	0.1
Animal cart	6.0	1.7	2.7	9.3	11.6	3.4	0.0	10.0	2.8	4.5	15.6	20.7	4.6	0.0	0.3
Water drum	9.8	2.6	4.8	14.9	20.7	4.5	0.0	13.8	3.5	6.9	20.6	21.9	4.7	0.0	0.2
Plough	0.4	0.2	-0.1	0.9	4.0	2.0	0.0	0.1	0.1	0.0	0.3	0.9	1.0	0.0	0.7
Wheelbarrow	5.4	1.3	2.9	8.0	8.2	2.9	0.0	9.5	3.5	2.6	16.5	27.9	5.3	0.1	0.1
Sickle	2.2	1.0	0.4	4.1	8.5	2.9	0.0	2.3	1.3	-0.2	4.7	27.4	5.2	0.1	0.0
Pick axe	12.2	2.9	6.5	18.0	20.3	4.5	0.0	2.7	0.7	1.2	4.1	5.0	2.2	0.0	0.0
Axe	55.1	6.4	42.5	67.7	37.3	6.1	0.1	50.4	7.2	36.3	64.5	54.0	7.3	0.1	0.4
Hoe	11.9	3.2	5.6	18.2	21.2	4.6	0.1	11.4	2.7	6.0	16.7	17.3	4.2	0.0	0.3
Spade	13.0	2.0	9.0	17.0	6.4	2.5	0.0	11.8	2.6	6.7	17.0	11.6	3.4	0.0	0.2
Machete	49.3	5.0	39.5	59.2	19.2	4.4	0.0	66.5	3.2	60.3	72.8	8.6	2.9	0.0	0.1
Mean monthly *per capita* health expenditure per household (KES)	21.1	2.1	17.0	25.3	2.4	1.6	0.0	31.8	4.3	23.2	40.3	6.2	2.5	0.0	0.1
Proportion of population ill or injured in the past three months (%)	22.7	4.3	14.3	31.2	270.9	16.5	0.1	11.9	1.0	9.9	13.9	12.2	3.5	0.0	0.1
Mean monthly household education expenditure per child (KES)	101.9	21.6	59.6	144.1	6.0	2.5	0.0	122.3	33.7	56.2	188.5	13.0	3.6	0.0	0.3
Proportion of children currently attending school (%):															
All children, aged 6–17	53.8	4.2	45.5	62.0	66.3	8.1	0.0	66.8	3.1	60.6	72.9	18.3	4.3	0.0	0.5
All children, aged 6–12	53.6	4.2	45.4	61.8	40.8	6.4	0.0	67.8	2.8	62.4	73.3	9.6	3.1	0.0	0.4
All children, aged 13–17	54.1	4.6	45.0	63.2	31.4	5.6	0.0	65.1	4.1	57.0	73.2	12.0	3.5	0.0	0.6
Proportion of children aged 10–17 currently in school that have passed Std IV (%)	50.4	2.6	45.3	55.5	6.3	2.5	0.0	55.2	2.0	51.2	59.2	3.2	1.8	0.0	0.4

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Mean highest class achieved for children aged 6–17 currently in school	5.7	0.1	5.4	5.9	6.0	2.4	0.0	5.9	0.1	5.7	6.0	3.1	1.7	0.0	0.8
% of children 6–17 passed Std IV	34.2	2.1	30.1	38.3	5.9	2.4	0.0	37.4	1.9	33.8	41.1	3.8	1.9	0.0	0.5
% of children aged 9–17 passed Std IV	45.1	2.5	40.3	49.9	6.0	2.4	0.0	49.9	1.9	46.1	53.7	3.2	1.8	0.0	0.5
Was child enrolled in an education facility this academic year?	55.6	3.8	48.2	63.1	54.9	7.4	0.0	61.3	3.3	54.9	67.7	18.0	4.2	0.0	0.6
Average number of days absent from school in the last 12 months	1.0	0.3	0.5	1.5	3.6	1.9	0.0	1.9	0.3	1.2	2.6	5.7	2.4	0.0	0.0
% of adults (aged 18+) whose main activity is productive work	57.7	1.8	54.1	61.3	11.8	3.4	0.0	59.7	2.0	55.8	63.7	8.7	3.0	0.0	0.5
% of adults (aged 18+) whose main activity or secondary activity is productive work	61.9	2.0	58.0	65.8	14.0	3.7	0.0	65.5	2.3	61.0	70.0	12.0	3.5	0.0	0.5
% of adults (aged 18+) whose main activity or secondary activity is paid work	12.9	1.7	9.6	16.2	26.6	5.2	0.0	15.4	1.7	12.2	18.7	10.1	3.2	0.0	0.5
% of adults (aged 18–54) whose main or secondary activity is productive work	62.5	2.2	58.2	66.8	13.0	3.6	0.0	66.0	2.8	60.4	71.5	12.6	3.5	0.0	0.5
% of adults (aged 18–54) whose main activity is productive work	57.9	2.1	53.8	62.0	11.8	3.4	0.0	59.7	2.4	55.1	64.4	8.9	3.0	0.0	0.6
Proportion of households (%):															
currently have cash savings	5.0	0.9	3.2	6.8	3.4	1.8	0.0	11.6	2.7	6.2	16.9	14.1	3.8	0.0	0.1
have borrowed money in the last 12 months	11.8	2.1	7.6	15.9	6.1	2.5	0.0	16.8	2.3	12.2	21.4	5.9	2.4	0.0	0.1
bought something on credit in last three months	62.2	4.6	53.2	71.1	18.4	4.3	0.0	68.5	3.7	61.2	75.8	12.9	3.6	0.0	0.3

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Proportion of households that in the last 30 days have had to (%):															
Borrow food or rely on help from family or relatives	38.8	3.8	31.3	46.3	12.2	3.5	0.0	58.8	5.9	47.3	70.3	38.2	6.2	0.1	0.1
Sell any of your animals to buy food	65.5	6.1	53.5	77.5	41.1	6.4	0.1	53.0	6.1	41.1	64.9	37.0	6.1	0.1	0.2
Sell other assets (not animals)	97.5	0.5	96.5	98.5	2.0	1.4	0.0	97.6	0.7	96.2	98.9	2.9	1.7	0.0	0.0
Buy food on credit from a shop	38.5	4.8	29.0	47.9	20.3	4.5	0.0	25.7	3.8	18.3	33.1	17.1	4.1	0.0	0.2
Collect and eat wild foods and/or animals	85.6	3.6	78.4	92.7	38.3	6.2	0.1	94.6	1.8	91.1	98.1	21.8	4.7	0.0	0.4
Reduced number of meals	17.6	5.0	7.9	27.4	38.5	6.2	0.1	35.6	4.0	27.7	43.4	14.3	3.8	0.0	0.1
Eaten smaller meals	19.8	5.3	9.5	30.1	38.1	6.2	0.1	44.2	3.6	37.2	51.2	10.3	3.2	0.0	0.1
Skipped entire days without eating	35.9	4.7	26.7	45.1	20.2	4.5	0.0	56.5	5.2	46.4	66.6	25.8	5.1	0.1	0.1
% of main budget decision makers that are female, for…															
All households	45.3	3.0	39.5	51.2	7.1	2.7	0.0	52.3	3.0	46.4	58.1	6.6	2.6	0.0	0.3
Female-headed households	84.3	2.5	79.4	89.2	2.4	1.5	0.0	95.7	1.3	93.2	98.2	1.9	1.4	0.0	0.2
Male-headed households	26.1	3.2	19.8	32.4	7.1	2.7	0.0	31.4	3.4	24.8	38.0	6.8	2.6	0.0	0.0
Proportion of people aged 55+ ill or injured in past three months (%)	34.0	4.2	25.8	42.1	22.2	4.7	0.0	24.2	2.8	18.7	29.8	7.6	2.8	0.0	0.1
Proportion of people aged 55+ ill or injured in past three months (%) (excluding Turkana)	22.0	2.6	16.9	27.1	7.1	2.7	0.0	26.7	3.7	19.4	34.0	8.9	3.0	0.0	0.2
Proportion of people aged 55+ whose main activity is paid or unpaid work (%):															
Including unpaid domestic work	77.5	1.7	74.1	80.8	4.2	2.1	0.0	80.1	2.2	75.8	84.4	4.9	2.2	0.0	0.4

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Excluding unpaid domestic work	62.2	2.0	58.4	66.1	4.2	2.1	0.0	71.2	1.9	67.6	74.9	2.7	1.7	0.0	0.4
Proportion of children (0–17) ill or injured in past three months (%)	21.4	4.5	12.6	30.1	173.6	13.2	0.0	10.7	1.2	8.3	13.0	9.0	3.0	0.0	0.1
Proportion of children (0–17) ill or injured in past three months (%) (excluding Turkana)	8.3	0.9	6.6	10.0	9.7	3.1	0.0	8.3	0.8	6.7	10.0	5.3	2.3	0.0	0.0
Proportion of children (0–17) immunised against BCG (%)	82.1	3.3	75.7	88.6	20.2	4.5	0.0	94.9	0.9	93.1	96.7	1.8	1.3	0.0	0.1
Proportion of children (5–17) whose main activity is paid or unpaid work (%):															
Including unpaid domestic work	27.5	3.0	21.6	33.4	48.2	6.9	0.0	22.1	3.0	16.2	28.0	21.8	4.7	0.0	0.5
Excluding unpaid domestic work	18.1	2.3	13.6	22.7	34.5	5.9	0.0	16.3	2.4	11.6	21.0	16.5	4.1	0.0	0.4
Proportion of children (5–17):															
Herding/Livestock production	17.7	2.4	12.9	22.5	36.0	6.0	0.0	15.9	2.3	11.4	20.4	14.9	3.9	0.0	0.5
Farming/Agricultural production	0.1	0.0	0.0	0.1	1.3	1.1	0.0	0.2	0.1	0.0	0.5	2.4	1.5	0.0	0.0
Collecting bush products: for sale	0.6	0.3	0.0	1.2	7.2	2.7	0.0	0.5	0.2	0.2	0.9	3.0	1.7	0.0	0.1
Self-employed	0.3	0.1	0.1	0.4	1.6	1.2	0.0	0.1	0.1	0.0	0.2	1.1	1.0	0.0	0.0
Paid work including casual labour	0.2	0.1	0.1	0.3	1.4	1.2	0.0	0.3	0.1	0.1	0.5	2.0	1.4	0.0	0.0
Unpaid domestic and other work	11.2	1.4	8.4	14.0	22.9	4.8	0.0	6.4	0.8	4.9	8.0	4.5	2.1	0.0	0.2
Education	61.8	3.8	54.4	69.2	58.9	7.7	0.0	66.9	3.5	60.0	73.7	23.4	4.8	0.0	0.6
Not working (no specific duty, too old, too young, unable, no opportunity)	7.9	1.0	6.0	9.9	10.7	3.3	0.0	9.3	1.4	6.6	12.0	11.4	3.4	0.0	0.2

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Proportion of adults (18–54):															
Herding/Livestock production	22.6	3.3	16.2	29.0	46.8	6.8	0.0	23.2	3.7	15.9	30.5	25.8	5.1	0.0	0.5
Farming/Agricultural production	1.8	0.9	0.1	3.5	39.4	6.3	0.0	1.0	0.6	-0.1	2.1	10.6	3.3	0.0	0.1
Collecting bush products: for sale	7.5	1.9	3.8	11.2	31.3	5.6	0.0	8.5	2.0	4.6	12.4	24.3	4.9	0.0	0.3
Self-employed	10.2	1.4	7.4	13.0	14.9	3.9	0.0	10.8	2.2	6.5	15.0	10.8	3.3	0.0	0.3
Paid work including casual labour	13.7	1.9	10.0	17.3	22.8	4.8	0.0	14.7	1.6	11.6	17.9	7.0	2.6	0.0	0.5
Unpaid domestic and other work	27.8	1.5	24.9	30.8	8.6	2.9	0.0	21.8	2.0	17.9	25.7	8.5	2.9	0.0	0.5
Education	8.4	0.9	6.6	10.2	7.4	2.7	0.0	13.1	1.2	10.8	15.5	4.6	2.1	0.0	0.7
Not working (no specific duty, too old, too young, unable, no opportunity)	5.6	0.8	3.9	7.2	7.8	2.8	0.0	4.9	0.9	3.1	6.7	4.1	2.0	0.0	0.3
Receiving cash support															
Proportion receiving informal cash transfers (%)	42.8	3.2	36.5	49.2	6.7	2.6	0.0	37.3	3.3	30.7	43.8	10.1	3.2	0.0	0.1
Mean amount received for those receiving (KES)	3157.3	928.9	1336.6	4978.0	16.9	4.1	0.0	3356.1	591.6	2196.5	4515.7	15.7	4.0	0.0	0.6
Receiving in-kind support															
Proportion receiving informal in-kind transfers (%)	41.8	5.7	30.5	53.0	34.6	5.9	0.1	24.6	3.7	17.4	31.7	14.1	3.8	0.0	0.2
Mean value received for those receiving (KES)	506.3	60.0	388.6	623.9	16.5	4.1	0.0	634.7	58.4	520.2	749.3	6.0	2.5	0.0	0.1
Giving cash support:															
Proportion giving informal cash transfers (%)	20.5	2.9	14.8	26.3	8.5	2.9	0.0	17.9	3.1	11.9	23.9	12.5	3.5	0.0	0.1
Mean amount given for those giving (KES)	2412.2	1165.0	128.8	4695.6	14.6	3.8	0.0	744.4	230.2	293.1	1195.6	42.3	6.5	0.1	0.3
Giving in-kind support:															
Proportion giving informal in-kind transfers (%)	25.0	5.1	15.1	34.9	30.8	5.6	0.1	12.9	2.9	7.2	18.6	15.4	3.9	0.0	0.1

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Mean value given for those giving (KES)	274.8	19.2	237.3	312.4	5.0	2.2	0.0	232.5	56.6	121.6	343.4	99.8	10.0	0.2	0.2
Mean household size	5.8	0.2	5.4	6.1	9.1	3.0	0.0	6.0	0.2	5.6	6.3	8.1	2.8	0.0	0.8
Mean DR	0.7	0.0	0.7	0.7	4.4	2.1	0.0	0.7	0.0	0.7	0.7	6.0	2.5	0.0	0.7
Mean number of children (<6) per HH	1.0	0.1	0.8	1.1	9.0	3.0	0.0	0.9	0.1	0.7	1.0	8.3	2.9	0.0	0.7
Mean number of children (<18) per HH	3.2	0.1	3.0	3.5	10.1	3.2	0.0	3.3	0.1	3.0	3.5	9.0	3.0	0.0	0.8
Mean number of elderly (aged 55+) per HH	0.7	0.1	0.6	0.8	19.4	4.4	0.0	0.7	0.1	0.6	0.8	18.3	4.3	0.0	0.9
Proportion of households containing at least one (%):															
Child (<18)	91.2	1.7	87.9	94.4	5.4	2.3	0.0	91.9	1.4	89.1	94.7	5.7	2.4	0.0	0.7
Elderly member (aged 55+)	56.4	4.1	48.4	64.4	18.0	4.2	0.0	58.5	3.9	50.9	66.1	16.4	4.0	0.0	0.9
Orphan (single or double)	19.2	1.7	16.0	22.5	2.5	1.6	0.0	25.0	2.1	20.9	29.2	3.2	1.8	0.0	0.6
Chronically ill member	8.2	0.9	6.5	9.9	2.9	1.7	0.0	9.2	1.4	6.4	11.9	3.5	1.9	0.0	0.1
Disabled member	12.9	1.2	10.5	15.3	2.8	1.7	0.0	13.6	1.2	11.2	16.1	2.9	1.7	0.0	0.5
Proportion of households (%): Containing only one member (i.e. single person household)	1.3	0.5	0.4	2.2	2.4	1.6	0.0	0.6	0.2	0.3	1.0	1.3	1.1	0.0	0.5
Are 'skip generation' household (no-one aged 18–54)	7.2	1.0	5.2	9.3	3.3	1.8	0.0	6.0	1.1	3.9	8.1	4.3	2.1	0.0	0.7
Proportion of households (%): with female household head	33.0	2.7	27.8	38.3	5.6	2.4	0.0	32.5	2.4	27.8	37.2	4.6	2.1	0.0	0.8
with child household head	0.3	0.1	0.0	0.5	0.9	0.9	0.0	0.1	0.1	0.0	0.2	1.1	1.0	0.0	0.0
with elderly household head	46.2	3.8	38.9	53.6	14.3	3.8	0.0	49.2	3.9	41.5	56.9	15.3	3.9	0.0	0.9
with main provider that is a household member	89.0	1.2	86.6	91.4	3.5	1.9	0.0	91.9	1.3	89.3	94.5	4.7	2.2	0.0	0.4

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Proportion of individuals that are divorced (%):															
Overall	2.9	0.3	2.3	3.4	4.1	2.0	0.0	3.1	0.4	2.3	3.8	3.5	1.9	0.0	0.5
Males	0.9	0.1	0.6	1.2	1.9	1.4	0.0	1.3	0.2	0.8	1.7	1.6	1.3	0.0	0.3
Females	4.9	0.5	3.9	5.9	3.5	1.9	0.0	5.0	0.7	3.6	6.3	2.9	1.7	0.0	0.6
Proportion of households that are (%):															
Fully mobile	7.4	1.9	3.7	11.1	10.7	3.3	0.0	4.8	1.5	1.8	7.7	8.8	3.0	0.0	0.6
Partially settled	20.6	4.2	12.3	28.8	21.0	4.6	0.0	28.3	4.6	19.3	37.4	20.7	4.6	0.0	0.7
Fully settled	72.1	4.9	62.5	81.7	24.6	5.0	0.1	66.9	5.3	56.5	77.3	25.4	5.0	0.1	0.7
Food aid:															
Mean number of months food aid being received	6.9	0.3	6.3	7.4	23.9	4.9	0.1	5.5	0.3	4.9	6.1	74.2	8.6	0.2	0.2
Mean monthly value of food aid (as reported by respondents) (KES)	1162.6	80.4	1004.9	1320.3	36.6	6.1	0.1	1920.8	93.3	1737.9	2103.7	19.5	4.4	0.0	0.1
School feeding:															
Mean number of months of receiving school feeding	7.9	0.3	7.3	8.6	13.7	3.7	0.0	7.6	0.3	7.1	8.2	21.5	4.6	0.0	0.0
Mean monthly value of school feeding programme (as reported by respondents) (KES)	1032.6	161.7	715.6	1349.6	13.4	3.7	0.0	1615.5	298.3	1030.9	2200.1	21.8	4.7	0.0	-0.1
Supplementary feeding:															
Mean number of months of receiving supplementary feeding	4.1	0.4	3.3	4.9	4.8	2.2	0.0	4.8	0.4	4.0	5.6	2.9	1.7	0.0	4.1
Mean monthly value of supplementary feeding (as reported by respondents) (KES)	397.9	128.0	147.1	648.7	20.0	4.5	0.0	717.2	122.0	478.0	956.4	1.7	1.3	0.0	397.9
Mean age	21.6	0.3	21.1	22.2	5.0	2.2	0.0	23.6	0.6	22.5	24.8	11.2	3.3	0.0	1.0

Indicator	Baseline sample							Follow-up 2 sample							temp corr
	Mean	Sampling error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	Mean	Standard error	Confidence intervals @ 95% Lower limit	Confidence intervals @ 95% Upper limit	DEFF	DEFT	ICC	
Proportion of population (%):															
Male	51.2	0.4	50.4	52.0	1.6	1.3	0.0	51.2	0.6	50.1	52.4	1.5	1.2	0.0	1.0
Disabled	2.1	0.2	1.7	2.4	3.1	1.8	0.0	2.5	0.3	2.0	3.0	3.3	1.8	0.0	0.6
Chronically ill	1.3	0.2	1.0	1.6	6.5	2.5	0.0	1.6	0.3	1.1	2.2	3.8	2.0	0.0	0.1
Proportion of children (aged 18+) (%):															
Orphaned (single or double)	12.5	0.8	10.9	14.1	8.1	2.8	0.0	18.4	2.1	14.3	22.5	13.1	3.6	0.0	0.8
Orphaned (double)	0.9	0.2	0.5	1.4	5.6	2.4	0.0	2.5	0.8	0.9	4.2	11.1	3.3	0.0	0.6
Disabled	1.0	0.1	0.7	1.3	2.5	1.6	0.0	0.9	0.2	0.5	1.2	1.6	1.3	0.0	0.7
Chronically ill	0.4	0.1	0.2	0.6	4.1	2.0	0.0	0.4	0.1	0.2	0.6	1.5	1.2	0.0	0.1
Proportion of adult males (aged 18+) currently married or in consensual union (%)	29.1	0.7	27.7	30.5	4.3	2.1	0.0	26.9	0.8	25.3	28.5	2.6	1.6	0.0	1.0
Proportion of adult males (aged 18+) currently married or in consensual union and with more than one wife	16.0	1.9	12.3	19.6	9.9	3.1	0.0	20.3	2.5	15.5	25.2	5.3	2.3	0.0	0.3
Mean number of wives for married adult males (aged 18+) with more than one wife	2.3	0.1	2.2	2.4	2.7	1.6	0.0	2.2	0.0	2.1	2.2	2.6	1.6	0.0	0.6
Proportion of children aged 11–18 that have ever been married or in a consensual union (%)	1.2	0.3	0.6	1.8	3.8	1.9	0.0	0.7	0.2	0.3	1.0	1.2	1.1	0.0	0.6
Proportion of adults (aged 18+) with no National ID Card	21.5	2.3	17.0	25.9	36.6	6.1	0.0	16.7	1.4	13.9	19.5	7.7	2.8	0.0	0.5
Proportion children<6 with no birth certificate	94.4	1.8	90.9	98.0	21.0	4.6	0.0	94.4	2.1	90.4	98.5	12.3	3.5	0.0	0.1