



Oxford Policy Management



# KENYA HUNGER SAFETY NET PROGRAMME

## Monitoring and Evaluation Component

### HSNP Targeting Effectiveness Evaluation Report

Oxford Policy Management (OPM)

Institute of Development Studies (IDS)

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All the opinions expressed, and any mistakes, remain the responsibility of the authors.

## Executive summary

### Key findings

Compared to an absolute poverty rate of around 85%, the programme covers just 51% of households in HSNP districts. Given the considerable inequality within the HSNP districts it is important that the HSNP directs its limited resources at the poorest households.

HSNP targeting is pro-poor, but only mildly so. Beneficiary households are 30% (13 percentage points) more likely to be amongst the poorest households as compared to non-beneficiary households (57% vs. 44%).

Community-Based Targeting (CBT) was the most effective mechanism at identifying the poorest households. In CBT areas, beneficiary households are 51% (17 percentage points) more likely to be amongst the poorest (bottom 51%) as compared to non-beneficiary households (51% vs. 34%). However, a number of measures were identified which could improve CBT targeting further (see recommendations below).

The performance of Dependency Ratio (DR) targeting was undermined by implementation errors: in DR areas, 30% of beneficiaries are not eligible and 23% of eligible households are not covered by the programme. The net result is that DR is the worst performing of the three targeting mechanisms.

In contrast to DR targeting, implementation accuracy for the Social Pension (SP) is very high: 96% of beneficiaries in SP areas are eligible and 83% of eligible households are covered by the programme. However, in SP areas it appears that the presence of elderly members in a household is not strongly associated with poverty.

Simulation analysis shows a simple Proxy Means Test (PMT) approach could significantly outperform the actual targeting performance of CBT (the best performing of the three HSNP mechanisms). Under PMT targeting, beneficiaries would be nearly three times more likely to be poor than non-beneficiaries (76% vs. 26%). However, this assumes 100% implementation accuracy, which is unlikely given that PMT approaches can be difficult to implement.

### Recommendations for targeting in HSNP Phase 2

CBT was the most effective mechanism and therefore should be taken forward for Phase 2. In order to improve CBT targeting effectiveness in Phase 2, the evaluation team suggest the following recommendations:

- 1) Devise a better system for determining sub-location quotas and ensuring they reflect variations in poverty and food security across sub-locations.
- 2) Provide more advance warning of the targeting process to ensure all households can participate. Also, ensure all households and villages in each sub-location are informed of and participate in the targeting process, with effective grievance procedures in place in case any households are missed.
- 3) Either: (a) Ensure more monitoring of CBT implementation to ensure consistency and prevent capture by local elites; or (b) Complement CBT with a simple PMT-type mechanism which will screen out relatively better-off households and thereby reduce inclusion errors.

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## Abbreviations

CBT	Community-Based Targeting
CGH	Coady-Grosh-Hoddinott
DFID	Department for International Development
DR	Dependency Ratio
FGD	Focus Group Discussion
HSNP	Hunger Safety Net Programme
IDS	Institute of Development Studies
KIHBS	Kenya Integrated Household Budget Survey
KES	Kenya Shillings
M&E	Monitoring and Evaluation
MIS	Management Information System
OPM	Oxford Policy Management
PMT	Proxy Means Test
SP	Social Pension
SRS	Simple Random Sampling
TLU	Tropical Livestock Unit
WFP	World Food Programme

# 1 Introduction

## 1.1 The Hunger Safety Net Programme

The first phase of the DFID-funded HSNP (2008–2012) aims to deliver regular cash transfers to 60,000 poor and vulnerable households in 13 arid and semi-arid districts within the greater Mandera, Marsabit, Turkana and Wajir districts in northern Kenya. The programme operates under the Ministry of State for the Development of Northern Kenya and Other Arid Lands and is delivered by a number of contracted service providers.

This report presents a review and analysis of the effectiveness of the different targeting mechanisms employed by the programme using the first year of quantitative and qualitative fieldwork for the evaluation of Phase 1 of the HSNP, undertaken between September 2009 and October 2010. The findings include an assessment of the HSNP targeting performance. An analysis of the situation of selected and non-selected households from the programme areas before any payment was made to the households is presented in an accompanying report. Subsequent rounds of fieldwork will provide information on the impact of the transfers on the beneficiary households and this will be reported in the follow-up reports. This introduction briefly describes the HSNP, outlines the approach being used in the monitoring and evaluation (M&E), and sets out the structure and contents of this report.

The HSNP delivers long-term, regular, guaranteed cash transfers to poor and vulnerable households. It is one element within a broader DFID-funded social protection programme, the goal of which is to reduce extreme poverty in Kenya. The purpose is to support the establishment of a government-led national social protection system delivering long-term, guaranteed cash transfers to the poorest and most vulnerable 10% of households in Kenya.

The project is in two phases. The principal objective of Phase 1 is to implement a cash transfer programme in Mandera, Marsabit, Turkana and Wajir that will:

- successfully target the poorest and most vulnerable households; and
- reduce food insecurity and promote asset retention and accumulation in these households.<sup>1</sup>

Phase 2 is under preparation and is due to start in 2012 and continue for five years.

A core feature of Phase 1 is the rigorous evaluation component, which is intended to contribute to the evidence base on the impact of cash transfer programmes and inform the development of a scaled-up cash transfer programme in Phase 2. Specifically, it should identify:

- the most effective mechanism for targeting the poorest and most vulnerable households;
- whether the Phase 1 programme is effective in reducing food insecurity; and
- the likely cost of a scaled-up programme.

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<sup>1</sup> It is anticipated that the programme will also have positive impacts on a range of indicators of well-being and wealth, such as resilience to shocks, health and education uptake, and access to financial services.

Under Phase 1, 60,000 beneficiaries were selected to receive regular cash transfers every two months, initially for a period of three years.<sup>2</sup> At the time of writing, payments have so far been delivered to 56,000 households. The initial value of the cash transfer was KES 2,150 every two months – which was 75% of the value of the World Food Programme (WFP) food aid ration in 2006.<sup>3</sup> The transfer value is planned to increase to KES 3,000 in 2012 to bring the HSNP in line with other cash transfer programmes in Kenya.

Overall, Phase 1 is operating in around 150 sub-locations<sup>4</sup> out of a total of 434 secure sub-locations in the four greater districts. The evaluation is taking place in 48 of the 150 sub-locations.<sup>5</sup>

Targeting started in October 2008 and was due to end in mid-2011. In each of the sub-locations where it operates, the programme implemented one of the following three mechanisms for selecting beneficiaries for inclusion in the programme:

- CBT:** The community collectively selects households they consider most in need of the transfers up to a quota of 50% of all households in the community.
- DR:** This selects households in which household members under 18 years, over 55 years, and disabled or chronically ill make up more than a specified proportion of all household members.
- SP:** This selects any individual aged 55 or over.

Transfers for selected households under CBT and DR targeting are of the same value for any size of household: KES 2,150 per household. The SP selects individuals and each individual identified by the programme as being aged 55 or over receives KES 2,150. This means some households in SP areas receive multiple transfers if they contain more than one member aged 55 or over.

The targeting process took place only once in every programme location, and took place over two months in each location. There will be no graduation or retargeting in Phase 1, although households and individuals will leave the programme if they choose to leave, move out of the HSNP area, or die. Targeting and subsequent case management are implemented by the HSNP Administration Component led by Oxfam GB.

Selected households and individuals are given a Smartcard with which they or two nominated representatives can collect cash at any time from a range of paypoints (mainly *dukas* – small shops) across the four districts. If beneficiaries do not wish to collect the cash, it will remain in their account as a saving (no interest paid). The payments system is

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<sup>2</sup> A further 9,191 households were selected using the same targeting mechanism and were randomly selected into the control group. These households will start to receive transfers two years after selection.

<sup>3</sup> Due to subsequent food price inflation, when the programme started this was worth around a third of the WFP food aid ration.

<sup>4</sup> A sub-location is a geographical area corresponding to a specific official administrative unit. Each district is subdivided into divisions and these in turn are subdivided into locations. The programme is being implemented by sub-location, with the targeting taking place within each sub-location in which the programme operates.

<sup>5</sup> The programme is being implemented slightly differently in the non-evaluation sub-locations, but this report describes the programme as it operates in the sub-locations where the evaluation is being undertaken.

designed and implemented by the HSNP Payments Component (Equity Bank) in coordination with Financial Sector Deepening Kenya.

A 'Social Protection Rights' component provides a mechanism through which individuals can express grievances over the targeting process during the two-month period and complain about any aspect of the programme's operation during the three years of Phase 1 payments. A Citizens' Service Charter sets out the programme's standards. The HSNP Social Protection Rights Component is led by HelpAge International.

A Management Information System (MIS) records information on the targeting and case management process and is currently being developed to include the payments and complaints made. By the end of Phase 1, it will contain records of each household and individual who registers for the programme and each household and individual who is selected by the programme.

Evidence on targeting, impact, cost, and programme effectiveness is generated principally by the HSNP M&E Component, led by OPM. The results from the first year of this fieldwork are presented in this report.

The five HSNP Managing Consultants are coordinated by the HSNP Secretariat. The Secretariat is also responsible for taking final programme decisions, maintaining close links with the Government of Kenya, and informing DFID about programme progress.

## 1.2 M&E framework

The overall objectives of the M&E component are to:

1. **Assess targeting performance:** Has the programme succeeded in identifying and enrolling its target population?
2. **Assess programme impact:** Has the programme had a positive welfare impact on beneficiary households and their communities?
3. **Assess operational performance:** At an operational level, is the programme functioning effectively and in line with its design?
4. **Assess cost-effectiveness:** Is the programme operating efficiently? Do the programme's impacts justify its cost?

Answering these questions is intended to inform national social protection policy development and the potential scale-up of the programme, addressing whether the programme should be scaled-up and what features of the design and implementation might need to be modified or strengthened.

The overall M&E strategy and key monitoring indicators for the HSNP are outlined in the M&E Strategy document, which was developed in consultation with the Secretariat and other Managing Consultants at the beginning of the programme (HSNP M&E Strategy (OPM, IDS and RS, 2009).

The evaluation is based on a community-randomised, controlled design, which makes the findings of the impact evaluation extremely robust. Sub-locations were randomly selected for inclusion in the evaluation, after exclusions on the grounds of insecurity. Following the beneficiary selection process, half were randomly assigned to be 'treatment' sub-locations

and receive the programme payment immediately after the baseline survey had taken place in that sub-location. The other half were assigned to be 'control' sub-locations, where selected households will begin to receive transfers after two years.

This report and the evaluation as a whole draw principally from the quantitative survey and qualitative fieldwork. The quantitative survey comprises:

- A household panel survey conducted on an annual basis (baseline, year 1 follow-up, year 2 follow-up) covering 5,108 randomly selected households in the 48 evaluation sub-locations, also sampled at random.
- Quantitative community interviews conducted annually (baseline, year 1 follow-up, year 2 follow-up) in the same 48 randomly sampled sub-locations.<sup>6</sup>

The data gathered in the quantitative baseline survey provide the basis for the targeting analysis that is set out in this report. They also provide the basis for the assessment of the situation of households in programme areas and the operational monitoring that are presented in two separate baseline reports. The baseline survey will also underpin the analysis of programme impact evaluation.

All quantitative data analysis presented in this report was undertaken using analytical weights equal to the inverse of households' selection probabilities. The estimates in this report are representative of the study population – that is, those sub-locations selected for inclusion in the study – rather than the entire population of the districts covered by the HSNP. Since the programme operated differently in some respects in the non-evaluation sub-locations, the findings also represent the programme as it operates in the evaluation sub-locations. Further details of the quantitative evaluation survey design and sampling strategy are provided in Annex A.

This report also draws on the findings from the qualitative fieldwork. This is conducted each year in four treatment sub-locations in each district. In each sub-location, focus group discussions (FGDs) and interviews are conducted with beneficiaries and non-beneficiaries, as well as other key members of communities (elders, chiefs, teachers, doctors, religious leaders, labourers, minority groups, farmers, young people, and other locally important individuals and groups). In addition, a panel of beneficiaries and non-beneficiaries is being interviewed each year to track the impact of the HSNP on their lives. Follow-up reports in 2012 and 2013 will provide information on the impact of the programme and its cost-effectiveness. They will also provide information on programme operations.

### **1.3 Report structure**

This report sets out the results of the evaluation of targeting performance. Using mainly quantitative information from the baseline survey, with qualitative findings providing support, the report answers a series of key questions on targeting:

- Are the selected beneficiary households the poorest and most vulnerable?
- Do the selected beneficiary households actually fulfil the programme's eligibility criteria?
- How well do the programme selection criteria identify the poorest and most vulnerable households?

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<sup>6</sup> The respondents for the community interviews are a mixed-gender group of community members (chief, elders, and others).

The rest of the report is organised as follows:

Section 2 provides a description of the rationale and design of the three HSNP targeting mechanisms, CBT, SP and DR targeting.

Section 3 provides a descriptive review of the characteristics of beneficiary and non-beneficiary households.

Section 4 provides an assessment of the effectiveness of HSNP targeting at reaching the poorest households. This analysis first assesses the extent of poverty and inequality in the HSNP districts. Second, variations in programme coverage and poverty across CBT, SP and DR areas are presented – this reveals that inclusion and exclusion errors are not a suitable basis for comparing the targeting performance of the three HSNP targeting mechanisms. Third, an assessment of the overall effectiveness of HSNP targeting is presented, with some discussion of how HSNP targeting performance compares with other programmes internationally and within Kenya. Fourth, inclusion and exclusion errors in HSNP targeting are presented. Finally, the relative effectiveness of the three HSNP targeting mechanisms is compared.

Section 5 focuses on targeting implementation effectiveness and the design and suitability of the eligibility criteria. First, a methodology for assessing design and implementation effectiveness is presented. Second, targeting implementation performance is assessed for SP and DR targeting. Third, the degree to which the SP and DR eligibility criteria are associated with poverty and food insecurity is analysed. Finally, the effectiveness of CBT implementation is assessed and the factors associated with CBT selection identified.

Section 6 presents the results of a simulation analysis of alternative targeting mechanisms. Programme coverage, eligible and ineligible households' characteristics and targeting performance is assessed for six alternative targeting options.

Section 7 provides information on households' experience and perceptions of the targeting process.

Section 8 provides a summary of the conclusions and some recommendations for the programme going forward.

## 2 HSNP targeting mechanisms

### 2.1 Target population and rationale for multiple targeting mechanisms

In the programme memorandum (2007), the target population of the HSNP is defined as ‘chronically food-insecure households’, whilst the project logframe refers to the ‘extreme poor’ and ‘those households in the HSNP district that are amongst the poorest 10% in Kenya (i.e. in the bottom decile).’ Given the extremely high levels of poverty in the HSNP programme areas, particularly in relation to the rest of Kenya, it is very likely that any targeted programme operating in these areas will identify a large proportion of households that are amongst the poorest 10% in Kenya (i.e. the bottom decile of the national population), regardless of the accuracy of the targeting mechanisms. This is due simply to the scale of poverty in these areas. Therefore, from the outset it is important to note that a large majority of the households covered in the programme are poor relative to households in other parts of Kenya.

Nonetheless, an explicit objective of HSNP Phase 1 was to test the relative targeting efficiency of alternative mechanisms at reaching the target population – chronically food-insecure households and the extreme poor. In fact, as far as the authors are aware this is the first programme of its kind to use multiple targeting mechanisms to deliver the same transfer and therefore the study provides the first robust, much needed and very useful insight into the relative effectiveness of alternative types of targeting mechanisms.

In order to establish whether this objective is met, it is necessary to identify how well the programme targets the poorest households within our sample population – the HSNP districts. In other words, for the purpose of analysis we recognise that, even within a very poor population, overall there is an income distribution – with some households being poorer than others – and we want to know how well our targeting criteria identify those households at the lower (poorer) end of the income distribution. The results need to be interpreted within this context. For this reason, throughout the report we use the terms ‘poorest’ and ‘less poor’ (rather than ‘poor’ and ‘non-poor’). The question we are addressing is: ***how well do the targeting mechanisms identify the poorest households within a population that is itself made up of mainly poor households?***

As such, three alternative targeting mechanisms were identified and implemented by the programme. The rationale and specific design features of the three targeting mechanisms employed by HSNP to identify beneficiaries are described below.<sup>7</sup>

### 2.2 Community-based targeting

#### 2.2.1 Rationale

The rationale for including CBT as one of the three targeting mechanisms was that community-based approaches are the predominant form of targeting of existing programmes in the HSNP districts and of food aid in particular. Therefore, assessing the targeting

<sup>7</sup> The targeting principles of the HSNP are set out in greater detail in a draft targeting manual, which was prepared by the Administration Component to explain the three targeting methods and guide the field staff in their effective implementation. A first draft was released in October 2008, to coincide with the start of targeting. An updated draft version of the manual was released in November 2009.

effectiveness of CBT in identifying HSNP beneficiaries has wider relevance in terms of the targeting of food aid and other targeted support in the HSNP districts. An advantage of the CBT approach is that it allows communities themselves to identify those amongst them who are most in need of support. An assumption that the participatory nature of this approach is not only a good thing in itself but also leads to effective targeting of the poorest because communities themselves are best placed to identify the most needy amongst them drives the common use of this targeting approach. However, some evidence indicates communities in the HSNP districts do not always successfully identify the poorest households (Kenya Human Rights Commission 2006, cited in World Bank 2008). This mechanism also suffers from the problem of how to define appropriate quotas – that is, the number of households that communities are expected to select for assistance. HSNP communities were allocated a quota based on 50% of the sub-location population. This means that it is very likely that the quotas for some sub-locations would be inappropriate and not reflect the underlying poverty rate. In other words, all community targeting sub-locations would have the same coverage rate, even though chronic poverty levels may vary substantially between them. This is a generic problem with CBT.

## 2.2.2 Design

The community collectively selected the households they considered most in need of the transfers up to a specific quota (target number) of households in the community. It was intended that the HSNP should target chronic rather than acute needs and as part of the targeting process the community were actively guided to include marginalised groups and individuals. Communities were allocated a quota based on demographic data, the average household size and the expected percentage of extremely poor population, with the intention of achieving 50% coverage of the population in evaluation areas.

## 2.3 Dependency ratio targeting

### 2.3.1 Rationale

The rationale for DR targeting was to have an approach which explicitly targeted poor households based on objective, observable and verifiable characteristics. The logic underpinning DR targeting is that households with many dependents per productive member will include labour-constrained households. Also, under the assumption that productive household members in households containing high and low numbers of dependents will earn similar incomes, households with high DR scores (i.e. many dependents per productive member) will have lower *per capita* incomes, i.e. will be poorer. However, DR targeting may not be appropriate in the specific context of the HSNP districts since it is anecdotally reported that in the nomadic cultures of northern Kenya, richer households tend to gather dependents and therefore may have higher DRs than some poorer households. This problem was actually recognised during the programme's inception phase and at one point it was proposed that DR targeting would be complemented with some sort of means-testing (primarily based on asset ownership). However, this proposal was not adopted and as such it was anticipated even prior to targeting that the DR approach may not be very effective at identifying the poorest households.

There are also significant practical challenges in establishing correct ages, degree of disability and household size and composition. Another concern with DR targeting is that to generate a DR score for every household requires gathering age and disability/chronic illness information for every household member. This is administratively complicated and potentially more time consuming to implement accurately than other targeting approaches

based on objective observable household characteristics. A final concern is that there is considerable scope for gaming under DR targeting: an eligible household can present itself as two households, splitting equally the dependents and productive members, and both these households would qualify. Mitigating this risk requires implementers to verify that the reported household composition is accurate. Ideally, this is done by revisiting some households to spot-check the information given at registration.

### **2.3.2 Design**

The criteria for the DR targeting method is based on the proportion of household members that are younger than 18 years, are 55 years or above or are disabled/chronically ill, irrespective of any other criteria (including wealth).<sup>8</sup> Once this ratio was calculated for a given household, it was compared to the eligibility threshold cut-off (0.6 for Turkana and Marsabit; 0.67 for Mandera and Wajir). If the ratio for the household is above the threshold, the number of dependants in the household is assumed to be high compared to the people who can earn an income, therefore limiting the ability of the potential income earners to meet the needs of the entire household. According to the HSNP definition of disability, ‘any individual presenting physical and mental impairment that limits (or prevents) them working on basic income opportunities (e.g. firewood collection, casual labour, petty trade, herding)’ is defined as being disabled.

## **2.4 Social pension**

### **2.4.1 Rationale**

The rationale for SP targeting is to assess the appropriateness of targeting on a single, objective and (potentially) verifiable categorical characteristic. It is argued that there are a number of clear advantages to such categorical targeting. First, it is transparent and easily grasped by households in programme areas. While this may be true, in certain contexts and cultures the singling out of specific categories of people regardless of their poverty status may seem confusing or even downright bizarre.<sup>9</sup> Second, it is often suggested that categorical targeting is administratively simpler and quicker to implement accurately than other targeting approaches based on multiple objective characteristics (e.g. DR targeting). However, verifying age is actually very difficult in the context of the HSNP districts, where few individuals have birth certificates or accurate national identity cards and where calendar systems differ from each other. Similar concerns would apply to other categories of the population, such as children, orphans, disabled people, etc. Finally, it is argued that certain categories of people (e.g. children, older people, disabled, etc.) simply have a right to external support. However, where resources are limited the argument for focusing financial support on those households in most material need is quite compelling, and from a poverty-targeting perspective SP targeting may be problematic because old age is generally not strongly correlated with poverty.<sup>10</sup>

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<sup>8</sup> This is not the Government of Kenya’s definition, but one developed for the HSNP.

<sup>9</sup> In the community sensitisation process that preceded SP targeting for HSNP, communities were given the example that even the president of Kenya would qualify for the HSNP SP since he was over 55 years old. Many households interviewed as part of the baseline fieldwork found it very strange, and funny even, that such a rich man would be eligible for this support just because he was old.

<sup>10</sup> Coady et al (2004) found that categorical targeting of the elderly was the second worst performing targeting mechanism across the 111 programmes they analysed for effectiveness in reaching the poor.

## 2.4.2 Design

All individuals aged 55 or above, irrespective of any other criteria (including wealth), were eligible to receive the non-contributory SP. Individuals needed to provide proof of age on a formal document. The age on a formal document was assumed to be correct. The national identity card was considered to be the primary reference document. If an individual did not have official documents to prove their age, they were vetted by a committee representing the community. All individuals who registered without official proof of age were vetted at the same time, after registration was completed and before publication of the draft beneficiary list for public approval.

## 2.5 Targeting implementation

Targeting was implemented by sub-location. Only one targeting mechanism was used in each sub-location. All households 'living in the sub-location most of the time' and which meet the relevant targeting criteria applied for that sub-location were eligible to register. Registration involved the collection of household details such as name and national identity card number, as well as other details required to establish eligibility. Thus, the programme only registered people that the field team could physically meet during the period of the registration process. To register for the transfers, two household representatives needed to come to the registration desk. According to the targeting manual, if someone could not come to the registration desk through illness or disability, the field team visited him/her at home at an agreed time, although it is not clear to what extent this happened during implementation. Although for the core programme design registration was 'on-demand', with households/individuals coming forward to present themselves at registration desks placed strategically in the community, in selected evaluation sub-locations a 'census' approach was taken with targeting teams going 'door-to-door' to register households. This was done as part of the evaluation in order to enable an assessment of whether a census approach improved targeting performance, in particular reducing exclusion errors caused by poor households being missed entirely from the registration process.

Assessment of whether a household or individual met the eligibility criteria took place at the time of registration. With DR targeting, a calculation was made to determine whether the household qualified. Those with a national identity card indicating an age of 55 years or above were listed for the SP. Those without cards were interviewed by a vetting committee to determine their age. The CBT beneficiaries were listed by programme staff during a *baraza*.<sup>11</sup> Households were usually registered on paper and the data entered later into the MIS. The programme administration then printed the list of beneficiaries from the MIS for validation by the community. Beneficiaries were officially enrolled into the programme once the community verification process was completed. Enrolment was the final stage of the process and involved the collection of information to enable the payments to be made, including digital photos and fingerprints. Beneficiary households were required to nominate two 'recipients' to collect the cash payments. Beneficiaries were able to nominate themselves as recipients or alternatively nominate trusted individuals within or outside of the beneficiary household who could collect the cash on their behalf. Primary recipients had to be over 18 and hold a national identity card. However, a national identity card was not required for the secondary recipient, which enabled beneficiaries without cards to be able to collect their transfers themselves.

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<sup>11</sup> A *baraza* is a community meeting. *Barazas* were convened at various stages of the targeting process under the different targeting mechanisms.

### 3 Characteristics of beneficiary and non-beneficiary households

Beneficiary households were compared with non-beneficiaries on a wide range of characteristics and also for each targeting mechanism separately. Differences in these measures may sometimes directly reflect the targeting criteria – for example, the age structure of households. Others may be indirect effects of selecting households on those criteria. Table 3.1 below provides descriptive statistics for various household characteristics for each targeting mechanism, disaggregated by beneficiary status.

The mean household size is 5.5, but is slightly (but significantly) higher among selected households (5.7) compared with non-selected households (5.3), implying that all targeting mechanisms tend to favour larger households. Perhaps unsurprisingly, beneficiary households in DR areas are significantly larger for selected households (5.9) compared with non-selected (4.8). Overall, selected households had a significantly higher fraction of household members that are dependents (0.69) compared with non-selected (0.58). Surprisingly, this result is not driven solely by the DR areas, where bigger differences in this measure between selected and non-selected might be expected as compared to the other two targeting mechanisms. All selected households were significantly more likely to contain chronically ill members, disabled members and orphans compared with non-selected households. This was expected from DR targeting, but it is interesting that this is also the case for the other two targeting mechanisms.

Although only one-quarter of households in the HSNP districts are female-headed households, significantly more female-headed households were selected for the programme (33% compared with 17% amongst the non-selected). This is particularly high for CBT targeting, where 42% of all selected households were female headed. Interestingly, the SP also resulted in a significantly higher proportion of female-headed households amongst beneficiaries (29%) as compared to non-beneficiaries (18%).

As described above, the CBT method used in the HSNP was more ‘firmly specified’ by the implementing agencies than the CBT targeting method used for food aid,<sup>12</sup> with certain categories taken to identify poverty and vulnerability suggested to communities in some districts, which then discussed and agreed on them. Although there was considerable variation in what types of households were prioritised under CBT across different communities, it is clear that on average CBT tended to favour female-headed households, those containing orphans, those with low levels of livestock and those that are food insecure (i.e. sometimes go entire days without eating).

The households selected to receive the transfer were significantly more likely to be receiving food aid compared with non-selected households (76% and 63%, respectively), which appears to be driven mainly by SP areas. In addition, the proportion of households with children receiving school feeding was significantly higher for those selected (52%) compared with those not selected (40%), driven by DR areas. This could reflect the fact that beneficiary households are more likely to be from the poorest sections of the community, compared to non-beneficiaries. Alternatively, it might be that these households simply have better access to any available external aid (of all types) because of their location (e.g. proximity to sub-location centres), social networks or connections. However, the fact that a significantly higher proportion of selected households (67%) went entire days without eating during the most

<sup>12</sup> See HSNP Targeting Manual November, 2009, p. 44.

food-insecure period of the year compared with 58% of those not selected does suggest that the former are on average in need of more support to provide basic needs for the household.

In terms of household mobility, there are no significant differences between beneficiary and non-beneficiary households with the exception of SP. In SP areas, beneficiary households are relatively less likely to be full settled and more likely to be partially settled. This result is perhaps surprising since households containing elderly members might be expected to be less mobile.

There are no significant differences between beneficiary and non-beneficiary households in terms of having outstanding debts from buying goods on credit or borrowing money. Beneficiary households are significantly less likely to have cash savings (5%) compared with non-selected households (17%). This is also significant for CBT and SP areas but not for DR, where there is no difference between beneficiary and non-beneficiary households.

For the programme as a whole, there is a tendency for minority ethnic groups to be less likely to be selected for inclusion. Moreover, for CBT and SP minority religions are less likely to be beneficiaries. It is possible that these differences reflect other characteristics of these households and further analysis would be required to establish if there is any evidence that it reflects discrimination in the targeting process.

**Table 3.1 Household characteristics by targeting mechanism and beneficiary status**

	CBT areas		SP areas		DR areas		All HSNP districts	
	Ben	Non	Ben	Non	Ben	Non	Ben	Non
<b>Household composition</b>								
Mean household size	5.7	5.5	5.6	5.3	5.9***	4.8	5.7***	5.3
Mean age of household head	47**	43	60***	40	49***	44	51***	42
Mean DR score	0.66***	0.59	0.73***	0.59	0.69***	0.56	0.69***	0.58
Proportion of households with at least one chronically ill member (%)	9**	6	9**	5	7**	4	8***	5
Proportion of households with at least one disabled member (%)	12***	6	17**	9	11	12	13***	8
Proportion of households containing at least one orphan (single or double) (%)	28***	9	21***	12	23	17	24***	12
<b>Gender</b>								
Proportion of households that are female headed (%)	42***	14	29***	18	28	23	33***	17
Proportion of population that are female (%)	51*	48	48	48	49*	47	50**	48
<b>Household assets</b>								
Proportion of households owning livestock (%)	53	63	82**	72	78	79	70	70
Tropical Livestock Unit (TLU) for livestock owned currently by household and main provider	5.4*	12.1	9.6	8.5	8.3	9.6	7.9	10.1
Mean value of productive assets (KES)	1,977	2,128	3,031	2,446	2,660	1,851	2,493	2,171
<b>Food security and food aid</b>								
Proportion of households identified as food insecure (went entire days without eating during worst period) (%)	65**	47	63	63	71	70	67**	58
Proportion of households receiving food aid (%)	72**	60	91***	67	72	64	76***	63
Mean number of months food aid being received in last 12 months	5.9*	4.8	7.5	6.9	6.7	6.5	6.6**	6.0
Proportion of households taking part in school feeding programme (%)	45**	33	48	49	60***	39	52***	40
<b>Household mobility status</b>								
Proportion of households that are <i>permanently settled</i> (%)	86	80	64**	80	63	58	72	75

Proportion of households that are <i>partially settled</i> (some members of the household are permanently settled and others move around in order to herd livestock) (%)	7	9	25**	13	29	26	20*	14
Proportion of households that are <i>fully mobile</i> (the whole household moves around in order to herd livestock) (%)	6	11	11	7	9	17	8	11
<b>Household dwelling</b>								
Mean number of rooms per homestead	1.6	1.8	1.6	1.6	1.5	1.4	1.6	1.7
Proportion of households with walls of natural materials (%)	90**	78	92	87	86	92	89	84
<b>Clan, ethnicity and religion<sup>2</sup></b>								
Proportion of households that belong to a minority clan (%)	56	66	39	49	37**	27	45	51
Proportion of households that belong to a minority ethnic group (%)	6	8	11	15	5	6	6*	10
Proportion of households that belong to a minority religion (%)	25*	39	14**	24	31	29	25	32
<b>Informal support, household savings and debt</b>								
Proportion of households receiving informal cash transfers/ remittances (%)	43**	34	47	38	34	34	40	35
Proportion of households receiving informal in-kind transfers (%)	41	31	35	37	39	44	39	36
Proportion of households with any cash savings (%)	7**	20	4***	18	5	8	5***	17
Proportion of households currently in debt due to owing borrowed money (%)	9	12	8**	16	9	7	9	12
Proportion of households currently in debt due to buying on credit (%)	54	54	61*	51	56	52	56	52

Source: HSNP M&E Baseline Evaluation Survey, Households Questionnaire, Sep 2009–Oct 2010. Notes: (1) Asterisks (\*) indicate that beneficiary households estimate is significantly different to the non-beneficiary household estimate: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Proportion of households belonging to a minority clan/ethnic group/religion is calculated as being the proportion of households that do not belong to the majority clan/ethnic group/religion in their village according to the community-level data.

## 4 Effectiveness of HSNP targeting at reaching the poorest households

### 4.1 Poverty and inequality in the HSNP districts

Table 4.1 shows the official poverty rates in the HSNP districts according to the 2005/06 Kenya Integrated Household Budget Survey (KIHBS). On all measures it is clear that poverty rates in the programme areas are extremely high. In fact, this was the basis for the decision to focus the programme on the HSNP districts, since these were identified by the KIHBS 2005/06 as being the four poorest districts in Kenya.

In terms of targeting effectiveness, high absolute poverty rates are generally associated with low inclusion errors (since most households are poor) but high exclusion errors (since the programme cannot afford to reach all poor households).

**Table 4.1 Poverty rates in the HSNP districts according to KIHBS 2005/06**

	All HSNP districts
Absolute poverty line	85
Food poverty line	78
Hardcore poverty line	64

Source: Authors' own calculations using KIHBS 2005/06 data.

The household questionnaire collected information on each household's consumption and expenditure, which formed the basis for measuring consumption poverty. This measure was standardised for the number of adult equivalents in each household and is used to compare households on their level of consumption and poverty, as well as for defining each household's relative poverty status in the targeting analysis. While it is possible for households to misreport consumption, it is usually reported much more reliably than household income. Households were classified into five equal groups (quintiles) according to consumption expenditure levels, such that quintile 1 corresponds to the poorest 20% of households in the HSNP evaluation areas and quintile 5 to the least poor 20%.

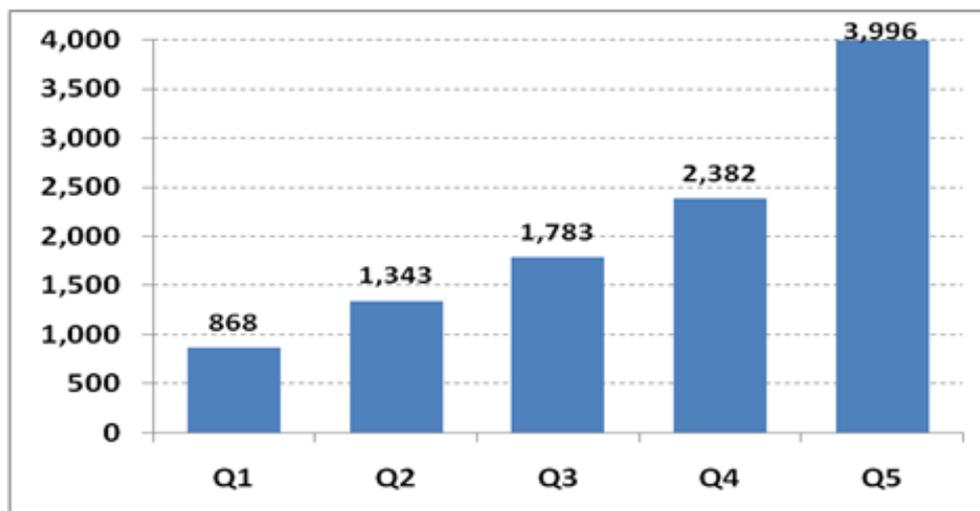
While the majority of households in the HSNP districts are poor in absolute terms, it is clear there is a substantial difference between the poorest and the least poor within the population. The wealthiest quintile spends almost five times as much as the poorest per adult equivalent (KES 3,996 vs. KES 868), which indicates an appreciable degree of income inequality within the study population (see Figure 4.1).

Although consumption expenditure is not a perfect proxy for household welfare, Table 4.2 below shows that it is highly correlated with many key dimensions of household welfare. On average, households in poorer quintiles spend a higher proportion of their total consumption budget on food, spend less on education and health services, own fewer assets, have lower adult literacy and school enrolment rates, are more likely to have been ill or injured in the past three months and have poorer quality housing. Furthermore, subjective poverty rates are significantly higher amongst households in poorer quintiles.

Although it is commonly understood that in pastoralist areas such as the HSNP districts relatively wealthier households are those with livestock, in fact it is the poorest households

that are more likely to own livestock. This implies that, in fact, the wealthiest households in the HSNP districts derive their livelihoods outside pastoralism. However, of those households that do own livestock, wealthier livestock owners do have more TLUs than poorer livestock owners.

**Figure 4.1 Mean monthly consumption expenditure per adult equivalent, by quintile**



Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010.

**Table 4.2 Household welfare by consumption expenditure quintile**

	Consumption expenditure quintile					All HSNP evaluation areas	
	Q1 (poorest)	Q2	Q3	Q4	Q5	Estimate	N
<b>Food, health and education expenditure</b>							
Mean share of food expenditure in total monthly household expenditure (KES)	83***	80***	77	77*	73***	78	5,105
Mean monthly household health expenditure (KES)	58***	72***	85***	138	277***	126	5,105
Mean monthly household education expenditure (KES)	47***	137**	198	293**	415***	218	5,105
<b>Household assets and livestock ownership</b>							
Mean value of all assets owned by household (KES)	9095**	12478*	15230*	27226	66917**	26184	5,105
Mean value of productive assets owned by household (KES)	718***	1548***	2370	3011**	4042**	2337	5,106
Proportion of households owning livestock (%)	78	77**	75**	70	53***	70	5,106
Mean TLUs owned currently (for households owning livestock)	1.0***	1.4*	2.0	2.2**	2.8***	1.8	3,778
<b>Education and health status</b>							
Proportion of adults aged 18+ that are literate (%)	14***	19	18**	27**	35***	22	12,611
Proportion of children aged 6–17 that are currently attending school (excluding <i>duksi</i> and <i>madrasah</i> ) (%)	40***	49	51	62***	68***	53	10,540
Proportion of people ill/injured in the past three months (excl. chronic illness) (%)	34***	25	20	20	13***	23	28,065
<b>Household dwelling characteristics</b>							
Proportion of households with a sand/earth floor (%)	97**	94**	94***	85	70***	88	5,106
Proportion of households with walls made of natural materials (%)	98***	94**	93***	83*	66***	87	5,106
<b>Subjective poverty</b>							
Proportion of households reporting that they are 'struggling' (%)	68***	60	65***	57	39***	58	5,106
Proportion of households reporting that they are 'unable to meet household needs' (%)	20***	14***	8**	6***	3***	10	5,106

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that a quintile estimate is significantly different to the pooled mean across the other four quintiles: \*\*\* = 99%; \*\* = 95%; \* = 90%. (3) Consumption quintiles are defined according to the distribution of consumption expenditure over the study population such that each quintile contains 20% of the population.

## 4.2 Programme coverage and poverty in the HSNP districts

Table 4.3 below shows how programme coverage varies across the three targeting mechanisms. Overall coverage across the evaluation areas is 51%, so just over half the households were selected for the programme.<sup>13</sup> The table shows that coverage varies substantially by targeting mechanism. Coverage in SP areas is lowest, at 40%, which is driven principally by the number of households containing at least one household member aged 55 or over. DR coverage is 66%, which reflects the calibration of the DR eligibility threshold cut-offs (at between 0.6 and 0.7 depending on the district). The CBT coverage rate is determined by quotas set by the administration component of the programme; in the evaluation areas, quotas were set by sub-location with the intention of covering 50% of households in each sub-location.

Table 4.3 also shows how consumption poverty and food security varies across the CBT, SP and DR areas. Consumption poverty is defined using a relative 51% poverty rate. A relative poverty line was chosen because it was not possible to apply inflation-adjusted KIHBS 2005/06 poverty lines to the baseline data.<sup>14</sup> The relative poverty line was calibrated at 51% in line with the HSNP coverage rate – given a 51% coverage rate, it is hoped that those selected for the HSNP fall within amongst the poorest 51%. Households are defined as food insecure if they reported going entire days without eating during the worst recent period of food scarcity.

The variations in coverage rates by targeting mechanisms do not reflect variations in poverty and food security across the CBT, SP and DR areas. Poverty and food insecurity is lowest in CBT areas (42% and 55% respectively), but coverage in CBT areas is significantly higher than in SP areas, which have greater levels of poverty and food insecurity. This finding is not surprising given that the CBT, SP and DR coverage levels were purposively set at different levels. However, combined with the fact that poverty and food insecurity also varies across CBT, SP and DR areas, this has significant implications for the targeting analysis.

The variations in levels of poverty and food insecurity across CBT, SP and DR areas is purely due to chance, since the allocation of a targeting mechanism across evaluation sub-locations was done randomly as part of the evaluation design. Although the randomisation process was intended to result in the populations in CBT, SP and DR areas being very similar in their characteristics, by chance this did not occur.

The implication of variations in programme coverage (by design) and poverty rates (by chance, due to the random allocation of targeting mechanism) across the targeting mechanisms is that inclusion and exclusion errors, which are standard measures of targeting effectiveness, cannot be used for assessing the relative targeting effectiveness of the three

<sup>13</sup> Note that, in the majority of the programme sub-locations (i.e. the non-evaluation sub-locations), coverage rates were set differently and were higher.

<sup>14</sup> This was for two reasons. First, the instruments used to measure consumption expenditure for the HSNP and KIHBS 05/06 survey were different (the HSNP survey used a reduced form module to keep the questionnaire to a manageable length), meaning that applying poverty lines defined using KIHBS 2005/06 onto the HSNP baseline consumption expenditure data is not valid. Second, the KIHBS 2005/06 poverty lines are defined separately for urban and rural households, but it was not possible to classify households in the HSNP baseline data using the KIHBS definitions of urban and rural.

mechanisms. Instead, ratio measures that compare the poverty rates amongst selected and non-selected households and to the overall poverty rate are used.

**Table 4.3 HSNP coverage, consumption poverty and food security by district (%)**

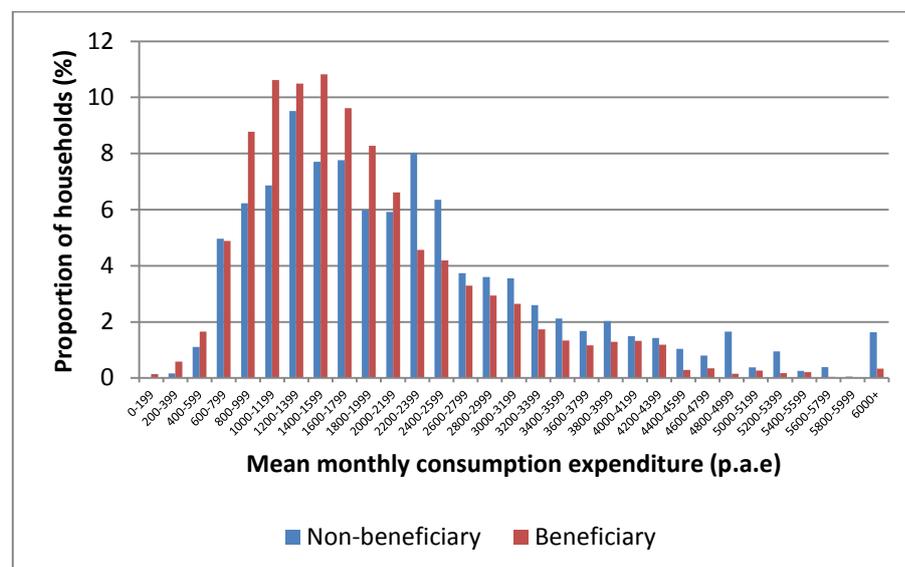
	By targeting mechanism			All HSNP evaluation areas	
	CBT areas	SP areas	DR areas	%	N
<b>Coverage rate</b>					
Proportion of households that are beneficiaries	47	40***	66***	51	5,108
<b>Consumption poverty</b>					
Proportion of households falling below 51% relative poverty line	42*	54	60	51	5,106
<b>Food security</b>					
Proportion of households identified as food insecure (went entire days without eating during worst period)	55	63	71*	63	5,106

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that the targeting mechanism estimate is significantly different to the pooled mean across the other two mechanisms: \*\*\* = 99%; \*\* = 95%; \* = 90%.

### 4.3 Assessing the overall effectiveness of HSNP targeting

Targeting can be described as being pro-poor if the poverty rates amongst beneficiary households are higher than poverty rates amongst non-beneficiaries, i.e. beneficiary households are more likely to be poor than non-beneficiary households. Within Kenya as a whole the programme is pro-poor simply by virtue of being directed at districts with such high levels of poverty. Since absolute poverty rates in the HSNP districts are so high (see Section 4.1 above), most HSNP households would be considered to be poor against most objective criteria. However, Section 4.1 also showed that there is significant inequality even within the HSNP districts. It is therefore important to assess whether the HSNP targeting process results in programme resources being directed to the poorest.

Figure 4.2 below shows the distribution of households according to mean monthly consumption expenditure per adult equivalent. The distribution is shown separately for beneficiary and non-beneficiary households. If targeting is pro-poor then the distribution for beneficiaries should be concentrated towards the left-hand side and for non-beneficiaries towards the right-hand side. In other words, the beneficiary distribution should 'peak' to the left of the non-beneficiary distribution. The fact that the non-beneficiary distribution is only slightly skewed to the right shows that HSNP targeting is pro-poor, but only mildly so.

**Figure 4.2 Distribution of households by mean monthly consumption expenditure (per adult equivalent)**


Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010.

**Table 4.4 Relative poverty rates and food security by beneficiary status**

	All HSNP evaluation areas
<b>Consumption poverty</b>	
Proportion of households falling below 51% relative poverty line	
<i>Beneficiary households (%)</i>	57***
<i>Non-beneficiary households (%)</i>	44
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.30
CGH index: % of beneficiaries that are poor/poverty rate	1.12
<b>Food security</b>	
Proportion of households identified as food insecure (went entire days without eating during worst period)	
<i>Beneficiary households</i>	67**
<i>Non-beneficiary households</i>	58
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.16
CGH index: % of beneficiaries that are poor/poverty rate	1.07

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that the beneficiary household estimate is significantly different to the non-beneficiary household estimate: \*\*\* = 99%; \*\* = 95%; \* = 90%.

Table 4.4 above shows comparative levels of poverty and food insecurity for beneficiary and non-beneficiary households. Beneficiary households are 30% (13 percentage points) more likely to be amongst the *poorest* (bottom 51%) as compared to non-beneficiary households (57% vs. 44%). In terms of food security, beneficiary households are only 16% (9 percentage points) more likely to be food insecure compared to non-beneficiaries. Does this represent effective targeting? How does this compare to other programmes internationally and within Kenya?

In order to understand how this compares to the targeting effectiveness of other cash transfer programmes around the world, the Coady-Grosh-Hoddinott (CGH) index has been calculated and is also presented in Table 4.4 above. The CGH index is a measure of the effectiveness with which programmes are targeted. It is defined as the ratio of the value of transfers going to the poor to the (relative) size of the poor in the population.<sup>15</sup> It is possible to calculate this index for both of the poverty measures used, giving values of 1.12 and 1.07 according to the consumption expenditure and food security measures used. This should be interpreted as showing that poor households are 7–12% more likely to have been selected for the programme under HSNP targeting than they would have been under random or universal targeting. Coady *et al.* (2004) presents empirical evidence in targeting efficiency and outcomes, based on an evaluation of 122 anti-poverty interventions in 48 countries from various parts of the world. The study showed that the median targeting programme had an index of 1.25, implying that it transfers 25% more resources to poor individuals than a universal programme. The 10 best performing schemes, the majority of which are in the Americas, were shown to transfer two to four times more resources to the poor than would have occurred under a universal scheme. In other words, the targeting effectiveness of HSNP does not compare particularly well with other similar programmes.

However, a number of caveats should be recognised here. First, SP targeting was never expected to be very pro-poor and the pro-poor potential of DR targeting was also questioned given the specific pastoralist context of northern Kenya. Consequently, the limited extent to which HSNP targeting is pro-poor is not necessarily very surprising. Second, Kenya is considerably poorer than most of the countries included in the comparison, as well as generally having weaker administrative systems, making the implementation of targeting more difficult. Finally, it must also be recognised that the programme is likely to be substantially more progressive (in terms of income distribution) than much of Kenya's public expenditure. A similar comparison for 'universal' programmes in health and education gives targeting scores of 0.72 and 0.75 respectively, with tertiary education expenditure having a score of 0.07 (see Table 4.5 below). Thus, the programme is certainly more 'pro-poor' than these sectors.

Nevertheless, and despite these caveats, it is clear that if the programme genuinely has a strong objective to target the poorest households in the areas in which it operates then the targeting system should be reviewed for Phase 2 of the programme. Some preliminary analysis of the potential targeting effectiveness of alternative approaches is presented in Section 6 below.

<sup>15</sup> So, for example, if the poorest 40% of the population receive 40% of the transfers by value, the ratio is 1. See Coady *et al.* (2004). Note that the CGH index takes into account resources transferred to the poor rather than simply the proportion of households that are poor relative to the national poverty rate. This is consistent with our analysis, provided the value of the transfer is constant across households and there is not much variation in household size between rich and poor households. Since there are very few households receiving multiple benefits, and since household size is relatively similar across consumption quintiles, this approximation is valid and considerably simplifies the exposition of results.

**Table 4.5 Poverty targeting of education and health public expenditure, 2005**

	Share of public spending going to the reference group ('poor')	Proportion of households in the reference group (nationally)	CGH targeting performance index
	[A]	[B]	[ = A / B ]
<b>Education:</b>			
Basic	41	40	1.02
Secondary	23	40	0.57
Tertiary	3	40	0.07
All education	30	40	0.75
<b>Health:</b>			
Referral hospital	19	40	0.48
District/provincial hospital	28	40	0.70
Primary facilities	40	40	1.01
All public facilities	29	40	0.72

Source: The Benefit Incidence of Government Health Spending in Kenya, World Bank 2010; Benefit incidence of public spending on education in Kenya, World Bank 2010. Authors' calculation of the targeting index.

#### 4.4 Inclusion and exclusion errors in HSNP targeting

Table 4.6 below shows the inclusion and exclusion errors for the HSNP programme overall. Inclusion error is defined as the proportion of HSNP households that are not poor. Exclusion error is defined as the proportion of poor households that are not covered by the programme. The poverty status of beneficiary and non-beneficiary households was determined 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 according to the 2005/06 KIHBS data. The poverty lines are then defined in our dataset such that the proportion of households at baseline matched the KIHBS 05/06 poverty rates. A limitation of this approach is that it assumes that poverty rates in the HSNP districts did not change between 2005/06 and the HSNP baseline survey in 2009/10. This approach was taken because it was not possible to apply inflation-adjusted KIHBS 2005/06 poverty lines to the baseline data.<sup>16</sup>

Since the absolute poverty rate in the HSNP districts is very high (85%), and much higher than programme coverage (51%), it is unsurprising to observe high exclusion errors (46%). To reduce exclusion error would require an increase in programme resources to facilitate an expansion in programme coverage. Although inclusion errors appear relatively low (11%), the high poverty rate means that even random or universal targeting would only result in inclusion errors of 15%. Therefore, in order to improve HSNP targeting effectiveness efforts should be made to reduce inclusion errors.

<sup>16</sup> See footnote 14 for the explanation.

**Table 4.6 Inclusion and exclusion errors associated with HSNP targeting**

	All HSNP evaluation areas	
	%	N
<b>Inclusion errors</b>		
Proportion of beneficiary households that are not living below the absolute poverty line (%)	11	3,106
<b>Exclusion errors</b>		
Proportion of households living below the absolute poverty line that are not covered by HSNP (%)	46	4,426

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: The poverty status of beneficiary and non-beneficiary households was determined using adjusted KIHBS poverty lines assuming poverty rates in the HSNP districts did not change between 2005/06 and the HSNP baseline survey in 2009/10.

## 4.5 Comparative effectiveness of the three HSNP targeting mechanisms

A core objective of the HSNP evaluation was to assess the relative effectiveness of the three targeting mechanisms implemented in Phase 1. The targeting mechanisms were randomly allocated across the 48 sub-locations covered by the evaluation to facilitate this comparative analysis.

Two measures are used to compare the targeting performance of the three mechanisms:

1. Ratio of beneficiary and non-beneficiary poverty rates; and
2. CGH index.<sup>17</sup>

The CGH index is explained above in Section 4.3 above. The ratio of beneficiary and non-beneficiary poverty rates gives an alternative measure of targeting effectiveness. For both measures, higher values indicate a better result in terms of targeting beneficiaries as compared to non-beneficiaries. On both measures, and using the two different poverty definitions (consumption poverty and food security), CBT comes out as performing best, followed by SP and then DR (see Table 4.7 below).

These results resonate with the assertions of the emerging literature on targeting, which credits CBT for its ability to address the information asymmetries affecting most other targeting methods. This is because community groups are perceived as having better information about the needs and poverty status of other community members, although risks around capture by elites also need to be recognised.

The qualitative work also provided evidence in this regard. For example, in Badasa, Marsabit, where CBT was used, respondents said:

<sup>17</sup> Coady et al. (2004).

*It is important that we as community members advise them [HSNP targeting officials] because we are the ones who understand each other's condition... that is why we should decide who gets the assistance (Male non-beneficiary, Badasa, Marsabit).*

*We villagers understand our economic situation so it is good that we guide them all through (Female beneficiary, Badasa, Marsabit).*

However, it is important to understand whether SP and DR suffered from any implementation problems (i.e. many ineligible beneficiaries and many uncovered eligible non-beneficiaries) and, if so, whether their performance would have been improved if the eligibility criteria had been more accurately applied. This is covered in sections 5 and 6 below.

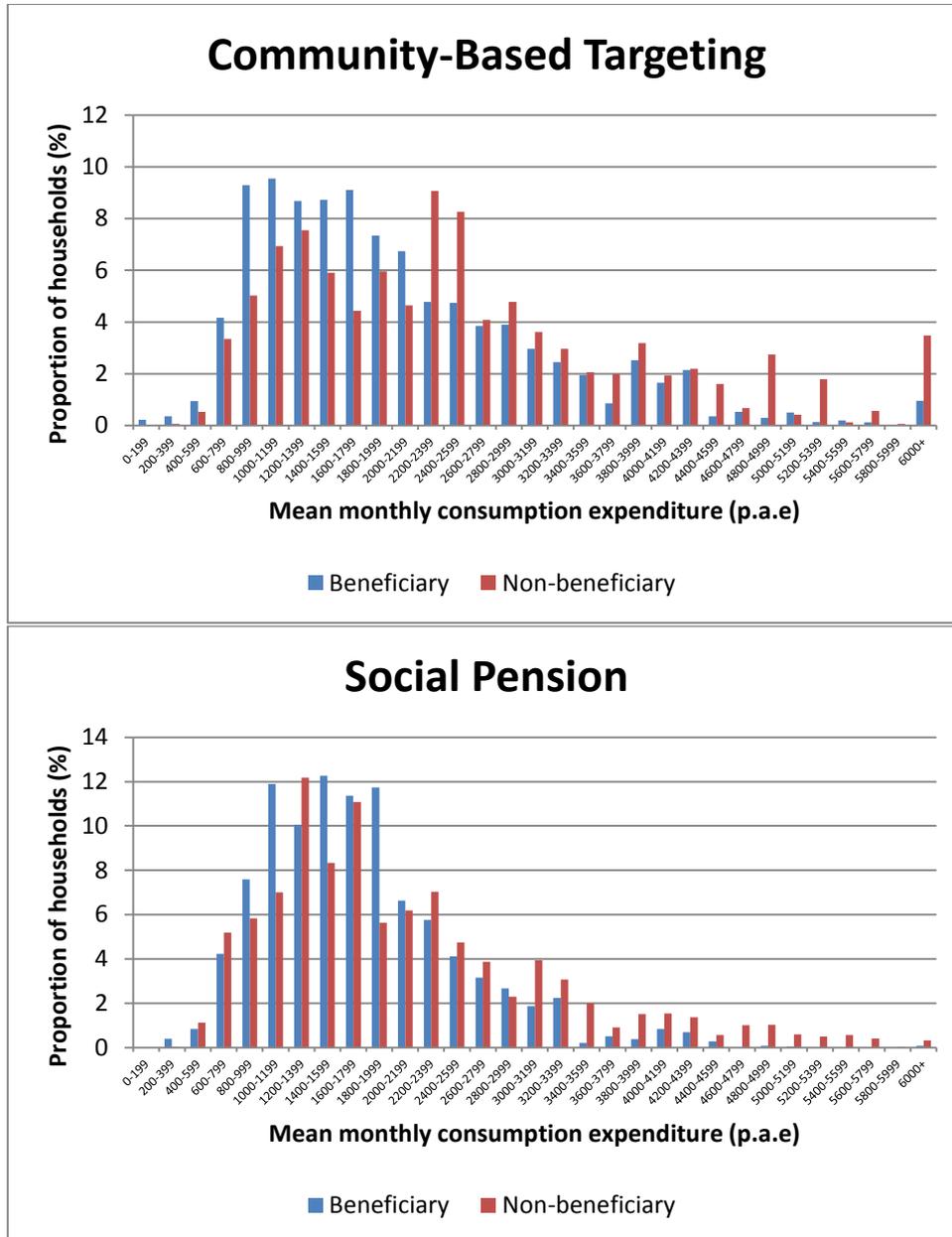
**Table 4.7 Comparative targeting performance by mechanism**

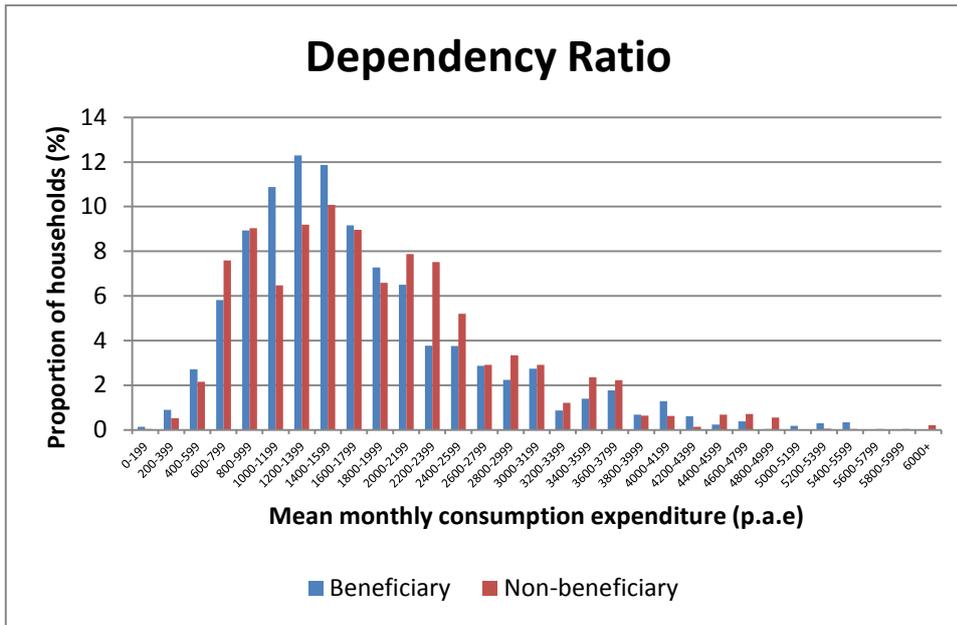
	Targeting mechanism		
	CBT areas	SP areas	DR areas
<b>Consumption poverty</b>			
Proportion of households falling below 51% relative poverty line			
<i>Beneficiary households (%)</i>	51**	58**	63
<i>Non-beneficiary households (%)</i>	34	51	54
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.50	1.15	1.16
CGH index: % of beneficiaries that are poor/poverty rate	1.21	1.08	1.05
<b>Food security</b>			
Proportion of households identified as food insecure (went entire days without eating during worst period)			
<i>Beneficiary households</i>	65**	63	71
<i>Non-beneficiary households</i>	47	63	70
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.37	1.00	1.01
CGH index: % of beneficiaries that are poor/poverty rate	1.17	1.00	1.00

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that the beneficiary household estimate is significantly different to the non-beneficiary household estimate: \*\*\* = 99%; \*\* = 95%; \* = 90%.

Figure 4.3 below shows the distributions of households according to mean monthly consumption expenditure (adjusted for household composition) for CBT, SP and DR areas. Each distribution is disaggregated by beneficiary status. Under pro-poor targeting, the beneficiary distribution should 'peak' to the left of the non-beneficiary distribution. The comparative distributions confirm that all three mechanisms are pro-poor but that targeting in CBT areas was relatively more effective than SP and DR targeting.

**Figure 4.3** Distribution of beneficiary and non-beneficiary households by mean monthly consumption expenditure (per adult equivalent) by targeting mechanism





Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010.

## 5 Targeting implementation and eligibility criteria

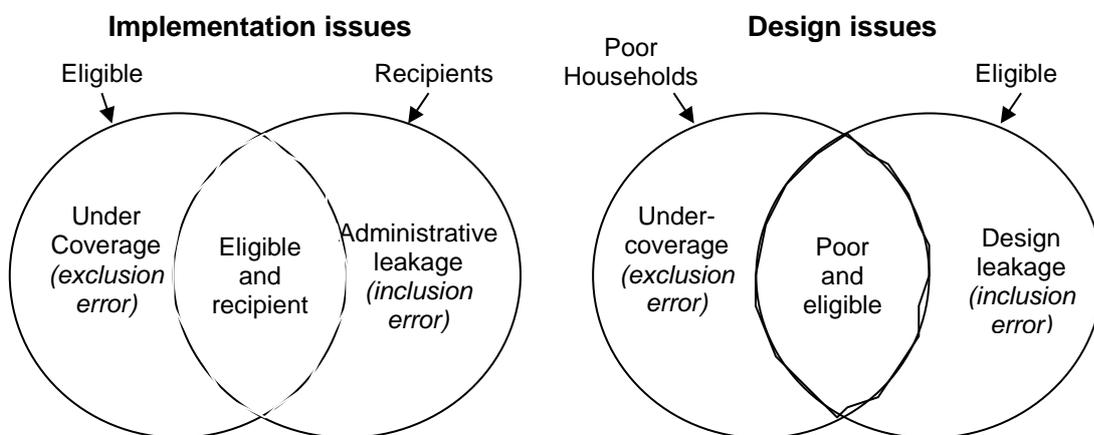
### 5.1 Methodology for assessing design and implementation effectiveness

The analysis presented above suggests there is scope to improve the effectiveness of HSNP targeting. To better understand how this could be done it is useful to decompose the targeting problem into issues of design and implementation.

Design issues relate to how well the eligibility criteria of the different targeting mechanisms succeed in pinpointing poor households. If there are large numbers of poor households that do not satisfy the eligibility criteria, or large numbers of non-poor households that do, then there will be significant targeting errors that are a consequence of the design itself.

Implementation issues relate to how successfully the targeting process is carried out in practice. If the eligibility criteria are well designed but not properly implemented then there are likely to be significant targeting errors. On the other hand, implementation leakage may sometimes result in improved targeting, particularly if the eligibility criteria have been badly designed. In some cases, for example, communities may ‘bend the rules’ in order to allow poor but ineligible households to benefit from the programme.

**Figure 5.1 Implementation and design errors**



Source: OPM (2008)

For the purposes of this study, there are two ways of analysing design issues, based on the population to which we apply eligibility criteria:

1. The HSNP design applied only to certain targeting mechanisms in specific sub-locations and it is possible to assess targeting for a given mechanism only for those sub-locations where it was implemented. Furthermore, eligible households needed to be ‘residents’ of those sub-locations. This analysis is therefore restricted to those sub-locations where a specific mechanism was implemented and to those households that indicate they are resident in those sub-locations.

2. It is also possible to analyse targeting by applying eligibility criteria across the sample as a whole, irrespective of which particular mechanism was implemented in each sub-location. Moreover, it is also possible to specify alternative targeting mechanisms and simulate outcomes for comparative poverty-targeting purposes. For instance, it is possible to simulate PMT targeting outcomes as well as other targeting criteria. This analysis can be undertaken across the sample as a whole.

Thus, there are two ways of presenting eligibility data. The first measure of 'programme eligibility' is useful for understanding both implementation and design precision within the existing programme and is the focus of Section 5.3. The second provides an insight into targeting outcomes should the programme adopt or expand a particular mechanism to cover all HSNP areas. It is thus an informative measure for future programming scenarios and therefore forms the basis of Section 6 below.

The rest of this section addresses two questions in turn. First, have the eligibility criteria been applied correctly? In other words, are there any beneficiaries who do not fulfil the eligibility criteria? Conversely, are there many non-beneficiaries in programme areas who are eligible but have been left uncovered? Second, if there have been implementation errors then the key question to answer is: if applied correctly, would the selection criteria effectively target the poorest households? A related question is: what proportions of poor and non-poor households meet the programme's eligibility criteria?

Clearly, it is very difficult to know what the eligibility criteria are for CBT targeting as this varies across communities and is often unverifiable. For this reason, it is only possible to evaluate eligibility against beneficiary status and poverty in relation to the SP and DR mechanisms. However, an assessment of CBT implementation, including an analysis of the factors associated with CBT selection, is provided in Section 5.4 below.

## 5.2 Performance of targeting implementation

When evaluating programme implementation, key questions of interest are: what proportion of the households that meet the programme's eligibility criteria are benefiting from the programme? and; What proportion of beneficiary households are not in fact eligible, i.e. do not meet the programme's eligibility criteria? This assesses how well the programme has managed to identify and enrol its target group and exclude those who are not part of the target group.

Table 5.1 below provides answers to these questions, indicating coverage as well as inclusion and exclusion errors in implementation. In terms of eligibility, we see that 54% of households overall are eligible (defined as programme eligibility). This disaggregates across targeting mechanism as 47% for SP and 60% for DR. A striking, and encouraging, finding is the very high eligibility rate among SP beneficiaries, with 96% of beneficiaries in SP areas being SP eligible. Implementation has been somewhat less effective in DR areas, with just 70% of beneficiaries in DR areas being DR eligible. Taken together, however, this indicates that the coincidence of beneficiaries and eligibility status has been reasonably high overall and the programme has been reasonably successful at enrolling the intended groups.

Finally, and in keeping with the strong coverage results, we see low implementation inclusion and exclusion errors, with SP outperforming DR as a targeting mechanism for implementation errors, with only 4% inclusion error and 17% exclusion error.

**Table 5.1 Implementation errors – by targeting mechanism**

	By targeting mechanism		All SP and DR areas	
	SP areas	DR areas	%	N
<b>Eligibility rate:</b> <i>% of households that are eligible</i>				
All households	47**	60	54	3,438
HSNP households	96***	70	79	2,047
<b>Coverage rate:</b> <i>% of households covered by HSNP</i>				
All households	40***	56	51	5,108
Eligible households	83	77	79	2,077
<b>Inclusion errors:</b>				
% of beneficiary households that do not meet eligibility criteria	4***	30	21	2,047
<b>Exclusion errors:</b>				
% of eligible households not covered by HSNP	17	23	21	2,077

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that an estimate is significantly different to the estimate in the cell to its right: \*\*\* = 99%; \*\* = 95%; \* = 90%.

Within the roll-out of the programme, different sub-locations used one of three ways to identify eligible SP and DR households – through a census targeting approach, through an on-demand system and through a hybrid of the two (discussed in Section 2). Given that very few sub-locations used a hybrid approach and that for analytical reasons the key question is whether census targeting is more efficient in terms of identifying a higher proportion of eligible households than on-demand targeting, Table 5.2 below presents statistics that compare pure census with on-demand and hybrid approaches together. In fact, census and on-demand identification of eligible households do not present any significant differences in terms of coverage and implementation errors.

**Table 5.2 Implementation errors – by implementation approach**

	Implementation approach	
	Census	On-demand
<b>Eligibility rate:</b> <i>% of households that are eligible</i>		
All households	54	54
HSNP households	80	78
<b>Coverage rate:</b> <i>% of households covered by HSNP</i>		
All households	54	54
Eligible households	79	80
<b>Inclusion errors:</b>		

% of beneficiary households that do not meet eligibility criteria	20	22
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**Exclusion errors:**

% of eligible households not covered by HSNP	21	20
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Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that an estimate is significantly different to the estimate in the cell to its right: \*\*\* = 99%; \*\* = 95%; \* = 90%.

Another aspect of implementation effectiveness concerns multiple beneficiary households. Table 5.3 below presents information about households containing multiple beneficiaries. For the SP, the targeting was done on the basis of individuals and so we would expect to see multiple beneficiaries per household, which is indeed what we find with 16% of SP beneficiary households containing multiple beneficiaries. This reflects the fact that 28% of individual SP beneficiaries live with one or more other SP beneficiaries. For DR and CBT, there are not supposed to be any multiple beneficiaries per household, since the benefit is targeted at the household as a whole. However, some households may have, either consciously or inadvertently, managed to register more than once, probably under a different household member's name.<sup>18</sup>

Reassuringly, however, the prevalence of multiple beneficiaries in DR and CBT areas is very low (3% for CBT and 2% for DR). The caveat to this analysis of multiple beneficiaries is that these estimates may be understated for a number of reasons. First, since in CBT and DR areas multiple beneficiaries per household are not permitted, such cases may have been hidden from the evaluation survey enumerators. Second, in SP areas households may have been confused and thought that it was not allowed to have more than one beneficiary per household and therefore concealed having multiple beneficiaries.

**Table 5.3 Multiple beneficiary households**

Indicator	By targeting mechanism			Overall	
	CBT areas	SP areas	DR areas	Est.	N
Proportion of HSNP households containing multiple beneficiaries (%)	3*	16***	2***	5	3,438
Mean number of beneficiaries per HSNP household	1.03*	1.16***	1.02***	1.05	3,438

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that the targeting mechanism estimate is significantly different to the pooled mean across the other two mechanisms: \*\*\* = 99%; \*\* = 95%; \* = 90%.

<sup>18</sup> It is also possible that, in practice, the same operational definition of a household was sometimes applied differently by the administration teams implementing the targeting process and the M&E survey teams.

### 5.3 Eligibility and poverty

Restricting the analysis to assess eligibility only for those sub-locations where the programme implemented specific targeting mechanisms and only those households which are residents, it is possible to assess the characteristics of eligible households, compared to ineligible, and in particular their poverty status.

Disaggregating eligibility by specific targeting mechanism (see Table 5.4 below), we see some variation in the ability of the different mechanisms to identify the poor, with 58% of eligible households in SP areas being poor, a figure significantly different to the 50% of ineligibles that are poor in the same areas. For DR areas, 68% of households that are DR eligible are poor. Again, this is significantly different from the 48% of ineligible households that are poor. However, in terms of food security, neither SP nor DR targeting criteria pinpoint those households that are food insecure, an important finding given the context and objectives of the HSNP.

There is a high degree of overlap between SP and DR eligibility. In SP areas, 70% of eligible households would also have been eligible under DR targeting, while 48% of eligible households in DR areas are also SP eligible.

Looking at the last four rows of the table, it is clear that on average both mechanisms tend to favour households containing orphans and with members that are chronically ill or disabled compared to ineligible households. This is evidenced by the significant differences between the eligible and ineligible columns.

**Table 5.4 Characteristics of eligible and ineligible households**

	SP areas		DR areas	
	Eligible	Ineligible	Eligible	Ineligible
<b>Consumption poverty</b>				
Proportion of households falling below 51% relative poverty line (%)	58**	50	68***	48
<b>Food security</b>				
Proportion of households identified as food insecure (went entire days without eating during worst period) (%)	64	62	72	69
<b>Consumption expenditure</b>				
Mean monthly consumption expenditure per adult equivalent (KES)	1763***	2,152	1600***	2,096
<b>Household composition and eligibility overlap</b>				
Proportion of households that (%):				
contain at least one member aged 55+ (SP eligible)	100***	3	48***	24
are DR eligible	70***	51	100***	3
contain at least one orphan	18*	13	25***	15
contain at least one chronically ill member	8**	5	7*	4

contain at least one disabled member	16*	9	14***	6
contain at least one disabled or chronically ill member	22**	13	20***	10

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that the eligible household estimate is significantly different to the in eligible household estimate: \*\*\* = 99%; \*\* = 95%; \* = 90%.

In order to assess how SP and DR would have compared if both had been implemented perfectly it is again necessary to use the poverty ratio and CGH measures. These are presented in Table 5.5 below.

In terms of consumption poverty, the estimates show that DR would have performed almost as well as CBT if it had been implemented with 100% accuracy. This implies that the implementation errors in DR targeting have drastically undermined the targeting effectiveness of this mechanism. Further analysis (not presented) reveals that this is driven by ineligible beneficiaries that are somewhat better off being covered by the programme in place of poorer eligible non-beneficiaries in the DR areas.

In contrast, even with 100% implementation accuracy SP targeting would not perform well from a consumption poverty-targeting perspective. This is because in the HSNP districts old age does not appear to be strongly associated with poverty. However, since SP targeting, unlike DR, was implemented effectively (96% of beneficiaries fulfilled the eligibility criteria) the actual 'net' effectiveness of SP and DR targeting was similar.

**Table 5.5 Comparative targeting performance by mechanism: predicted versus actual**

	CBT areas	SP areas		DR areas	
	Actual	Predicted	Actual	Predicted	Actual
<b>Consumption poverty</b>					
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.50	1.17	1.15	1.42	1.16
CGH index: % of beneficiaries that are poor/poverty rate	1.21	1.09	1.08	1.13	1.05
<b>Food security</b>					
Ratio of poverty rates: beneficiaries vs. non-beneficiaries	1.37	1.04	1.00	1.05	1.01
CGH index: % of beneficiaries that are poor / poverty rate	1.17	1.02	1.00	1.02	1.00

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010.

The problems of targeting poor households using SP were apparent in the key informant interviews and FGDs. A minority of respondents who perceived the system as unfair were particularly vocal with respect to the SP, saying that some non-recipients have been wrongly

excluded. The comments suggest that a selection system based on old age is irrelevant in a place where ‘everyone is poor’. For example, two respondents in Turkana commented:<sup>19</sup>

*How can you come in and say you want people of such years and still claim you want to reduce poverty – it cannot happen! You can be old and not poor. Unless you want to have targets, reducing poverty is a mirage* (Rights Committee member, Kokiselei, Turkana).

*Most people were left out for the sole reason of not attaining the required age however needy they were. But without meeting the selection criteria, they couldn't be included and we all came to terms with that* (Chief, Lorengelup, Turkana).

Similarly, people in Wajir objected:

*Hunger doesn't have age: everyone is in need of this money* (Rights Committee member, Sala, Wajir).

Respondents then went further to discuss other dimensions of perceived unfairness related to using SP as a targeting mechanism. For example, across several key informant interviews, respondents commented that the national identity cards used to verify beneficiaries' ages were inappropriate, as they did not always reflect the true age of a person:

*They used identity cards. But again the person who had given people the identity cards had lied about the people's years and it was wrong sending the old people away on the basis of identity cards* (Rights Committee member, Kokiselei, Turkana).

*The selection process was not fair because there were some cases where a person's real age differed from the age indicated on the card and so these people were not given the chance to be registered* (Rights Committee member, Sala, Wajir).

*The process was easy if not for the fact that other people were locked out because their identity cards didn't reflect their true age. The person may be old enough for the programme but the age reflected in the identity card suggested that he was young* (Rights Committee member, Lorengelup).

*There was a mother who has been denied registration because the year that appears on her national identity card means she has not reached 55 years. But the reality is that she is even older than the targeted 55 years* (Male beneficiary, Marsabit township, Marsabit).

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<sup>19</sup> These comments and reflections are perhaps unsurprising given that SP was introduced as a poverty reduction programme targeting hunger. If it had been announced that the government wanted to target older people then there might have been a different reaction.

## 5.4 CBT implementation and factors associated with selection

### 5.4.1 Problems in CBT implementation

Although the CBT coverage rates were intended to be constant across the 16 CBT sub-locations covered by the evaluation, in fact the data indicated that the coverage rates for CBT sub-locations varied widely, between 20% and 100% of sampled households (though this is based on a fairly small sample in each sub-location). This may not be a negative finding if coverage rate quotas were adjusted to reflect variations in chronic poverty rates across sub-locations. Although our sample sizes were not sufficient to estimate poverty rates precisely for each sub-location, the data suggest that CBT coverage rates per sub-location did not correspond closely with variations in poverty rates.

Support for this comes from our qualitative work, where respondents in CBT areas, in addition to acknowledging the fairness of the targeting system, seemed conscious of the fact that selection was done against a quota system that was deemed much smaller than the actual population in need of assistance:

*We believe the targeting process was fair and just. There was no corruption. Yes, there were those who were not registered but we have been told that there was a specific target to be selected from each location (Male beneficiary, Kamor, Mandera).*

*The targeting process was very fair and the only problem is that the quota was too small, meaning some needy families were left out that should also be given opportunity to benefit (Male beneficiary, Badasa, Marsabit).*

*Yes it was fair, only that the target was smaller than the entire population (Rights Committee member, Kamor, Mandera).*

Respondents in CBT areas described a further challenge related to the task of communities identifying the needy. From the wealth-ranking exercise, respondents demonstrated that they knew the poor and non-poor in their communities. However, in general it seemed that some people were hesitant to point out who they thought was 'deserving' or 'undeserving.' The following quote from a Rights Committee member in Mandera is illustrative of this:

*Yes it was a bit difficult when people were being told to point out the weak persons among themselves because of fear of being unfair to others and for workers it was tiresome to wait for decisions to be made about choosing people (Rights Committee member, Kamor, Mandera).*

Other respondents also pointed out the challenges in identifying beneficiaries:

*It was hard for us, because everybody wanted his or her name to be written (Rights Committee member, Badasa, Marsabit).*

*They involved chiefs and the community in choosing these people. This was a good idea, although it was a challenging task to identify them (Teacher, Badasa, Marsabit).*

### 5.4.2 Factors associated with CBT selection

Compared to SP and DR targeting, it is much more difficult to understand the determinants of selection used with CBT as no specific criteria were set out for identifying this target

group. Criteria were 'suggested' as discussed above, but it is instructive, in retrospect, to analyse the key indicators communities used to identify the poor. To do this, probit regressions were estimated to identify these determinants. The results are reported in Table 5.6 below. The dependent variable equals 1 if the household was targeted for inclusion in the programme through CBT and 0 for households in CBT areas that were not selected. The independent variables fall into a range of categories: household demographic categories, wealth (livestock, housing and assets), food aid receipt and residency status. In addition, dummy variables are included to control for household location by district, as well as running the regressions separately by district to check for consistency of targeting determinants across locations. Population weights are applied.

The coefficients presented in Table 5.6 below have been transformed into marginal effects: so, for example, the coefficient 0.029 found in column (1) associated with the household size means that every additional household member increases the likelihood that the household was selected by CBT by 2.9 percentage points ( $0.029 \times 100$ ). Dummy variables, such as whether the household head is female, are interpreted as 'switching the variable' from 0 to 1. The coefficient for 'fully settled' in column (1) means that a fully settled household is 19 percentage points more likely to be selected for inclusion in the programme under CBT than a partially settled household, after allowing for other characteristics of the households that are included in the model. For the full sample results, the calculation of standard errors takes into account the clustered nature of the sample.

The first column shows the results from the whole sample. One potentially confounding factor in the overall regression results is that a particular characteristic may be more associated with CBT in one district and not another. Since these would tend to cancel each other out, our aggregated results would mask these changes. Accordingly, as a robustness check, the probit regression is also run separately for each district with the results presented in the last three columns.

The most striking result from the set of regressions below is that, by looking across variable significance between districts, there is no general story to be told about CBT targeting. Different districts clearly use different criteria. The only consistent results across the overall regression and three district regressions relate to the fully settled variable, with these households being 19.5% more likely to be selected by CBT than partially mobile households. In Turkana, the expected signs and significance on chronic illness are observed (that is, a household with at least one member who has a chronic illness is 17% more likely to be selected for inclusion into CBT), as well as on the number of orphans in a household, the asset value (the higher the asset value the less likely the household is selected), and on whether the household has a toilet (this is a visible sign of wealth and the results show that households with a toilet in Turkana are 21% less likely to be selected through CBT).

Somewhat curiously, however, in Turkana (but in no other district) if a household is poor (under the relative 51% poverty rate) or if a household perceives themselves as poor, they are less likely to be selected under CBT. The negative sign on this is somewhat worrying, as it indicates that the non-poor are more likely to be targeted under CBT, once other factors have been adjusted for. In Marsabit, there is an equally unanticipated result in regard to asset values, which is that the likelihood of being selected for CBT increases as asset levels increase. In Marsabit, households that are fully settled are significantly more likely to be selected under CBT than partially settled households and, conversely, households that are mobile are significantly less likely than partially settled households to be selected.

Interestingly, in Mandera food aid indicators are significant in explaining non-selection using CBT. This is not the case in other districts. So, for instance, if a household receives food aid

or is part of a school feeding programme, they are less likely to be selected by CBT. Livestock and asset ownership is a good predictor of selection through CBT in Mandera, with households with higher livestock and assets values being less likely to be selected for CBT. Household size, orphans and chronic illness are also all positive and significant factors. Nonetheless, somewhat confusingly, households with more adult working age members are significantly more likely to be selected using CBT in Turkana and Mandera. The main expected predictors in Wajir are food aid receipt and the quality of the walls of a house, with both positively predicting selection through CBT.

There are possible explanations for some of the 'unexpected' results above. First, it may be that due to the long distance between homestead and meeting place for the targeting process, more of the non-poor, or families with more able-bodied adults, were more likely to make it to the targeting meetings. Second, it may be that these targeting mechanisms are just not useful for predicting poverty and therefore it is very difficult to see a consistent 'poverty' story.

However, the important finding here is that the results are definitely district-specific, indicating that CBT has not been implemented in a consistent manner across the different districts. To some extent, this an expected feature of the CBT approach, since communities are free to come up with their own criteria. The other clear finding is that fully settled households are much more likely to be included in the programme under CBT, controlling for other factors, suggesting that the process is very liable to exclude semi- and fully mobile households. It should be noted, however, that to the extent fully settled households are more likely to be officially resident in the sub-location, this may in part reflect the residency requirement of the programme.

**Table 5.6 Determinants of selection using CBT**

VARIABLES	Overall CBT	Turkana CBT	Marsabit CBT	Mandera CBT	Wajir CBT
<b>Household characteristics</b>					
Has person over 54	-0.001 (0.038)	0.051 (0.038)	-0.008 (0.052)	0.066 (0.083)	-0.118* (0.066)
Household size	0.029* (0.015)	0.017 (0.014)	-0.003 (0.014)	0.106*** (0.026)	-0.008 (0.009)
Chronic illness	0.025 (0.058)	0.176* (0.097)	-0.024 (0.086)	0.166* (0.095)	0.039 (0.078)
Disability	-0.042 (0.042)	-0.042 (0.053)	-0.009 (0.028)	0.001 (0.083)	-0.027 (0.041)
Has orphan(s)	-0.053 (0.036)	-0.109** (0.048)	-0.034 (0.064)	0.350*** (0.095)	-0.053 (0.050)
Number of orphans	0.020 (0.012)	0.053*** (0.017)	-0.005 (0.014)	-0.096*** (0.024)	0.016 (0.026)
Female head	0.025 (0.033)	-0.002 (0.066)	0.026 (0.042)	0.055 (0.048)	0.013 (0.058)
% of 18 to 54 year olds	0.001* (0.001)	0.002* (0.001)	0.002 (0.001)	0.008*** (0.002)	-0.000 (0.001)
<b>Mobility status</b>					
Fully settled	0.192** (0.094)	0.313** (0.159)	0.201** (0.095)	0.505*** (0.099)	-0.145 (0.115)
Fully mobile	0.208 (0.199)	-0.202 (0.229)	-0.163** (0.082)	0.308*** (0.100)	0.038 (0.197)
<b>Wealth and assets</b>					
Has livestock	-0.050 (0.062)	-0.007 (0.065)	-0.057 (0.147)	-0.007 (0.096)	0.150* (0.081)
Log (TLU)	-0.051 (0.046)	-0.012 (0.085)	-0.024 (0.055)	-0.327*** (0.073)	0.040 (0.056)
Log (assets value)	-0.011 (0.011)	-0.051*** (0.013)	0.041*** (0.016)	-0.036*** (0.011)	-0.013 (0.019)
Subjectively poor	-0.102 (0.082)	-0.313*** (0.115)	0.017 (0.072)	0.088 (0.081)	-0.029 (0.073)
Poor (below 51% relative poverty line)	-0.095 (0.063)	-0.199** (0.078)	-0.089 (0.064)	-0.049 (0.099)	0.026 (0.057)
<b>Household characteristics</b>					
Has a toilet	0.119 (0.113)	-0.212*** (0.078)	0.089 (0.099)	0.314*** (0.095)	-0.013 (0.066)
Has poor walls	0.174 (0.118)	0.070 (0.154)	0.003 (0.098)	-0.090 (0.108)	0.219** (0.111)
<b>Food security and food aid</b>					
Days without eating last hungry season	-0.031 (0.047)	0.038 (0.069)	0.013 (0.067)	-0.197*** (0.044)	-0.071 (0.095)
Receiving food aid	0.004 (0.076)	0.104 (0.096)	0.025 (0.092)	-0.217* (0.117)	0.173*** (0.061)
On school feeding	-0.143* (0.077)	-0.137 (0.112)	0.075 (0.064)	-0.158** (0.062)	-0.101 (0.074)
Observations	5,105	1,313	1,299	1,251	1,242

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that the estimated regression coefficient is statistically significant: \*\*\* = 99%; \*\* = 95%; \* = 90%.

## 6 Simulation analysis of alternative targeting mechanisms

### 6.1 Programme coverage under alternative targeting options

It is possible to simulate the application of actual and hypothetical targeting mechanisms across the data set as a whole, disregarding the mechanisms that were implemented in practice in each area. This has the benefit of averaging out any differences between the areas in which the different mechanisms were implemented that have occurred by chance (as a result of the random allocation of targeting mechanisms to evaluation sub-locations). This analysis therefore simulates targeting outcomes for a number of alternative approaches, assuming each approach was expanded to cover all locations in all HSNP districts. Accordingly, this analysis also disregards the sub-location-specific residency requirement currently imposed by the programme.

Table 6.1 below provides estimates of programme coverage under six alternative scenarios:

1. SP targeting assuming expansion to all HSNP areas;
2. DR targeting assuming expansion to all HSNP areas;
3. A household is eligible if it contains at least one orphan;
4. A household is eligible if it contains at least one member who is chronically ill or disabled;
5. A household is eligible if it contains at least one child under the age of six (this may be a criterion used under a child benefit-type programme); and
6. A household is eligible if satisfies a threshold level under a PMT.<sup>20</sup>

Coverage rates vary considerably across the different scenarios. If the programme was targeted only to those households containing at least one chronically ill or disabled member then only 16% of households in the HSNP districts would be eligible. Targeting households

<sup>20</sup> All the variables used to specify the PMT are relatively easy to collect and together are likely to predict the poverty status of a household. The following variables were used to construct the PMT measure: (1) Whether a household receives food aid (Y/N); (2) Whether a household is part of a school feeding programme (Y/N); (3) Whether the household has a toilet in the home (Y/N); (4) The number of rooms in the house; (5) An indicator of whether the walls of the house are poor quality; (6) Whether the household has at least one disabled member (Y/N); (7) Whether the household has at least one chronically ill member (Y/N); (8) Whether the household owns livestock (Y/N); (9) Household size (number of members); (10) The age of the head of household; (11) The number of orphans in the household; (12) Whether the head is a female (Y/N); (13) Whether the head is a child (Y/N); (14) Whether the household has any members over 54 years old; (15) The DR score of the household; (16) The settlement/residency status of the household (fully settled, partially settled, fully mobile); (17) The district where the household is located.

This is only a first attempt to construct a PMT measure. Of course, modifications could be made to the variables that are included or alternative variables could be used. These simulations and further analysis would help to better refine the targeting criteria for future programming. The PMT threshold for eligibility was set to match the programme's current 51% coverage rate; in other words, the bottom 51% of households, ranked according to the PMT score, are classified as eligible.

with orphans would result in similarly low coverage (18%). Targeting all households containing at least one child aged six or under would reach 63% of households. Unlike categorical targeting, the coverage of PMT does not depend on the underlying population characteristics, and has been set at 51% so as to match the actual current coverage rate of HSNP in evaluation areas.

**Table 6.1 Simulation analysis: coverage rates under alternative targeting scenarios**

	Proportion of households in HSNP districts fulfilling the eligible criteria (%)
<b>HSNP targeting mechanisms:</b>	
SP ( <i>if implemented across all HSNP areas</i> )	40
DR ( <i>if implemented across all HSNP areas</i> )	57
<b>Simulation of alternative targeting mechanisms:</b>	
Household with orphans	18
Households containing chronically ill or disabled members	16
Households containing children aged under six	63
PMT	51

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010.

## 6.2 Characteristics of eligible and ineligible households

Table 6.2 below shows the comparative characteristics of eligible and ineligible households under the same six alternative targeting scenarios listed above.

Under a relative consumption poverty measure, in five of the six alternative approaches the eligible households are significantly more likely to be poor (bottom 51%) compared to ineligible households. The exception is for the targeting of households with children under six – poverty rates for these households are actually *lower* than for other households. This indicates that targeting households with young children would not be pro-poor in the context of the HSNP districts.

In terms of food security, eligible households are significantly more likely to be food insecure for SP, DR and PMT targeting as well as targeting on the basis of having chronically ill or disabled members. Targeting households containing orphans or young children is not an effective means of identifying food-insecure households.

The bottom seven rows of Table 6.2 reveal there to generally be a high degree of overlap between the alternative targeting approaches. The main exception to this is the targeting of households containing young children aged under six. These households are relatively less likely to contain elderly, chronically ill, disabled or orphaned members compared to the other mechanisms which all target (either implicitly or explicitly) one or more of these vulnerable categories.

**Table 6.2 Simulation analysis: poverty rates and characteristics by eligibility status**

	SP (all HSNP areas)		DR (all HSNP areas)		Household with orphans		Households containing chronically ill or disabled members		Households containing children aged under six		PMT	
	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible
<b>Consumption poverty</b>												
Proportion of households falling below 51% relative poverty line (%)	60***	45	59***	41	58***	49	58***	50	48**	55	75***	26
<b>Food security</b>												
Proportion of households identified as food insecure (went entire days without eating during worst period) (%)	67***	59	66***	57	64	62	67**	62	62	64	77***	48
<b>Consumption expenditure</b>												
Mean monthly consumption expenditure per adult equivalent (KES)	1792***	2264	1813***	2423	1832***	2,128	1929**	2102	2115	2006	1484***	2685
<b>Household composition and eligibility overlap</b>												
Proportion of households that (%):												
contain at least one member aged 55+ (SP eligible)	100	0	50***	28	45*	39	58***	37	27***	62	49***	31
are eligible under DR targeting	70***	48	100	0	68***	55	71***	55	61***	50	72***	42
contain at least one orphan	20*	17	22***	14	100	0	23***	17	14***	25	21***	15
contain at least one chronically ill member	9***	5	8***	4	7	6	41***	0	5***	9	5**	8
contain at least one disabled member	16***	7	13***	7	13**	10	66***	0	8***	14	13***	8
contain at least one disabled or chronically ill member	23***	11	20***	11	20***	15	100	0	13***	22	17	15
contain at least one child aged under six	42***	76	67***	56	48***	66	49***	65	100	0	61	65

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Asterisks (\*) indicate that the eligible household estimate is significantly different to the non-eligible household estimate: \*\*\* = 99%; \*\* = 95%; \* = 90%.

### 6.3 Targeting performance under alternative targeting options

In order to assess how the six alternative targeting options compare in terms of targeting effectiveness it is again necessary to use the poverty ratio and CGH measures. These are presented in Table 6.3 below. For reference, the ratio and CGH measures for the actual and predicted targeting performance of CBT, SP and DR presented previously are also shown. The measures are all based on consumption poverty (51% relative poverty line).

The PMT approach significantly outperforms all other simulated targeting approaches and would also be expected to outperform the actual targeting performance of CBT (and therefore also SP and DR targeting). Under PMT targeting, 76% of beneficiary households would be poor compared to just 26% of non-beneficiaries. Therefore beneficiary households would be almost three times more likely to be poor compared to non-beneficiary households. However, this is a preliminary analysis and, like DR, PMT approaches can be difficult to implement effectively in practice.<sup>21</sup> As a result, rather than interpreting these results as recommending a PMT approach is best, it is suggested instead that the possible role of some type of explicitly poverty-focused targeting approach for Phase 2 should be further investigated, noting that this would require additional simulation work and should be complemented by qualitative analysis. Given the familiarity of communities in HSNP districts with CBT-type mechanisms, and the relative success of CBT in Phase 1, one option to consider is a hybrid approach that complements CBT with a PMT-type eligibility test to reduce inclusion errors (i.e. screen out non-poor households that are nonetheless identified by the community to be selected for the programme).

In line with the discussion in the previous section, it is clear that targeting households containing children would be the weakest mechanism. Under this option only 48% of eligible households would be poor compared to 55% of ineligibles. Therefore, this approach does not appear to be a good proxy for targeting poor households, although it is recognised that there may be other reasons for targeting transfers at households with young children.

It is interesting to note that expected SP performance would be better if expanded to all HSNP areas (CGH index of 1.17 vs. 1.09), outperforming DR and almost matching actual CBT targeting performance. Although this assumes 100% targeting accuracy, this assumption may not be so unrealistic given the high degree of targeting accuracy observed in SP areas (96%).

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<sup>21</sup> It is also an 'in-sample' prediction and the same coefficients applied to another data set would not be expected to have such high predictive accuracy.

**Table 6.3 Comparative targeting performance of alternative targeting scenarios**

	Ratio of poverty rates	CGH index
	<i>bens vs. non- bens</i>	<i>% of eligible households that are poor / poverty rate</i>
<b><u>HSNP targeting mechanisms:</u></b>		
<b><i>CBT</i></b>		
CBT areas – <i>actual</i>	1.50	1.21
<b><i>SP</i></b>		
SP areas – <i>predicted</i>	1.17	1.09
SP areas – <i>actual</i>	1.15	1.08
All HSNP areas – <i>simulated</i>	1.33	1.17
<b><i>DR</i></b>		
DR areas – <i>predicted</i>	1.42	1.13
DR areas – <i>actual</i>	1.16	1.05
All HSNP areas – <i>simulated</i>	1.45	1.15
<b><u>Simulation of alternative targeting mechanisms:</u></b>		
Household with orphans	1.18	1.14
Households containing chronically ill or disabled members	1.17	1.14
Households containing children aged under six	0.87	0.95
PMT	2.91	1.47

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: Poverty rate and CGH indices are based on a 51% relative poverty line.

## 7 Households' experience and perceptions of the targeting process

Beneficiary and non-beneficiary households and their communities were asked in the surveys about their experience and perceptions of the targeting and enrolment process. Indicators based on this information are presented in Table 7.1, Table 7.2 and Table 7.3 below.

Overall awareness of the programme was very high, with 94% of all households (both beneficiary and non-beneficiary) reporting that they were aware of the HSNP. Those selected by the targeting process were significantly more aware of the programme in comparison to those not selected. This may partly be due to households being absent while the programme was being introduced and possibly while the targeting was taking place.

This interpretation is supported by a number of other findings. According to the targeting manual, the public *baraza* was the principal means of creating awareness of the HSNP in communities. Overall, 35% of households were first informed about the programme through a public *baraza*.<sup>22</sup> This was lower for SP households (28%), although not significantly so. However, those selected by all three targeting mechanisms were significantly more likely to have been informed about the programme by public *baraza* than the non-beneficiaries, indicating that those not selected by the programme could have been absent during the targeting. For instance, those selected by CBT were significantly more likely to have been first informed about the programme through a public *baraza* (45%), compared with those who were not selected for CBT (30%). This corresponds to observations that, although some *barazas* are well organised and inclusive of all villages within a sub-location, better attendance rates could be achieved by giving more advance warning and holding them in additional settlements outside the main sub-location centre. The main reason given by non-beneficiaries for not being selected in the programme was that they were away during targeting (29% overall, which rose to 58% in Wajir). (It should be noted that some of these non-beneficiaries are ineligible, so not being present for targeting is irrelevant for them.)

Awareness of the HSNP and being first informed of the project by public *barazas* was particularly weak in Mandera (78% and 17% respectively), compared with the other three districts. In addition, a high proportion of non-beneficiaries said that they were not aware of the HSNP programme (44%). This could be explained by the high proportion of communities in Mandera (34%) who reported that it was more difficult for mobile households to participate in targeting compared with other districts (1.6% in Marsabit).

Discussions with communities indicated that one way to increase the participation of mobile households in the targeting process is to give them sufficient notice to return to the sub-location before registration. The average number of days' notice that households received prior to registration was 5.8. This was significantly higher in Marsabit (12.6 days) compared with Wajir (2.8 days). The number of days' notice required by mobile households to return for registration is around seven.

<sup>22</sup> The other main ways of learning about the programme are through word-of-mouth, from HSNP programme representatives talking with individuals and from the chief and elders.

**Table 7.1 Household experience of targeting process**

Indicator	CBT		SP		DR		Overall		N	
	Selected	Non-selected	Selected	Non-selected	Selected	Non-selected	Selected	Non-selected		Total
Proportion of households (%):										
➤ aware of programme in their sub-location	100**	79	100**	91	100	95	100***	87	94	5,087
➤ first informed about the programme through public <i>baraza</i>	45*	30	38***	20	43***	27	42***	26	35	4,825
➤ received an explanation of how beneficiaries would be chosen	96**	69	91*	83	67***	41	83***	67	76	4,795
➤ received an explanation and who felt selection process was fair	99***	63	97***	41	92***	43	96***	50	78	3,774
➤ had programme objectives explained to them	97**	74	91***	75	84***	66	90***	72	82	4,819
➤ involved in the targeting process	99***	29	99***	17	99***	43	99***	28	67	4,825
Average number of days notice given prior to registration	6.4***	2.6	6.6*	3.8	6.4**	3.1	6.4***	3.1	6	3,635
Average time taken to reach registration desk (return trip, minutes) ( <i>selected households only</i> )	77		86		78		79		79	2,208

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that the estimated regression coefficient is statistically significant: \*\*\* = 99%; \*\* = 95%; \* = 90%.

There were some interesting insights into the differences between the implementation of the three targeting methods as reported by households. Some 76% of households overall reported receiving an explanation of how beneficiaries would be chosen (i.e. had the targeting criteria explained to them). In DR sub-locations, a significantly lower percentage of respondents felt they had received an explanation of how beneficiaries would be selected (59%), compared with CBT (84%) and SP (87%) sub-locations (Table 7.1). This is in line with the lack of clarity around the DR criteria reported by the Rights Component. This lack of clarity in DR areas was in fact intentional, in a bid by the targeting teams to avoid households ‘gaming’ the system and inflating the number of beneficiary households.

Unsurprisingly, 96% of beneficiaries thought that that the selection process was fair, compared with 50% of non-beneficiaries. From the qualitative work, across all districts and sub-locations, the majority of respondents also perceived the targeting process to be fair. There are no apparent differences between districts. Typically, respondents’ notion of fairness related to the fact that the targeting was transparent and that those households selected in the community were most in need. A small number of respondents believed that the targeting process was fair because it was done by ‘outsiders’ with little direct involvement by local people, therefore allowing little opportunity for favouritism. The following are typical comments from beneficiaries, non-beneficiaries and key informants which reflect the perception of fairness of the HSNP targeting system. These comments include those made by a large number of non-beneficiaries. This is consistent with the earlier finding that both beneficiaries and non-beneficiaries perceive the HSNP positively.

#### **Box 9.1. Respondents’ perceptions of the targeting process**

*Despite the fact that we were not considered, it was fair (Female non-beneficiary, Turkana).*

*Yes, the selection process was just and no-one was discriminated against (Male beneficiary, Mandera).*

*They were not biased because they are not from here, so they didn’t favour anyone. They used a certain scale to choose who are needier and deserved to be enrolled (Chief, Turkana).*

*The process was free and fair because the people conducting the exercise were not from the area (Female non-beneficiaries, Turkana).*

*They did not consider any one through the back door. Everything was done in the open place (Casual labourer, Mandera).*

*The HSNP targeted old people, the sick, single mothers, orphans and the crippled. So they were selecting others and leaving some; that means they were not biased. The way I saw it, the process was easy and transparent (Male beneficiary, Turkana).*

*It was a bit fair because the elderly and the miserable were given priority (Female beneficiary, Turkana).*

*They didn’t know anyone, so they were fair in their work (Relief Committee, Wajir).*

*The targeting was fair because the clerks do not know anyone (Young male, Mandera).*

*It was good and no injustice was found. But there was an issue during registration where a person's national identity card showed a certain age yet his age was actually older than the ages entered. So in such cases, the elders and the committee met ways of distinguishing the age sects and made considerations (Chief, Marsabit).*

'Fairness' was considered to be significantly lower in SP sub-locations (67%) compared with CBT and DR (85% and 80%, respectively). However, this could be because the programme was generally explained as being a 'programme that will target the poorest and most vulnerable' and then went on to explain that eligibility was age 55 years and above, which naturally raised a lot of questions about the less poor who were over 55 years and the poorest who were under 55.

Significantly more households participated in the DR targeting process (80%) than in CBT (66%) or SP (52%). The SP criteria are so explicit and easy to understand that it is likely that anyone under the age of 55 years did not even attempt to register. A significantly higher proportion of non-beneficiary households did not participate in SP targeting because they did not think they would satisfy the criteria (72%) compared with the other targeting methods (28% for CBT and 22% for DR).

**Table 7.2 Non-beneficiary households' experience of targeting process**

Indicator	By targeting mechanism			All HSNP evaluation areas	
	CBT	SP	DR	Estimate	N
Proportion of non-beneficiary households who reported that (%):					
➤ they were not aware of the HSNP cash transfer	21*	9	5**	13	1,994
➤ they did not participate in the targeting process (of those aware)	71	83**	57*	72	1,737
➤ they did not participate because they did not think they would satisfy criteria	28**	72***	22**	44	1,191
➤ they did not participate because they were not there at time of registration	36	13*	27	25	1,191
➤ they believe they are eligible according to programme criteria (of those who had the targeting process explained to them)	61*	31***	73***	49	1,101
➤ they did not attend enrolment after registration (of those who registered)	87	71	76	79	538

Reason given for not being selected (as given by the respondent):

➤ not present in sub-location at time of registration	38	21	23	29	1,184
➤ don't know	8***	16	39***	20	1,184
➤ did not meet the targeting criteria	4	5	16	8	1,184
➤ not aware of programme	9	5	4	6	1,184
➤ rejected by vetting committee	5	12*	2**	6	1,184
➤ registration period too short	7	2	3	5	1,184
➤ judged to be too rich	7*	0**	2	4	1,184
➤ belong to marginalised group	5*	0**	1	2	1,184
➤ no national identity card	2	3	1	2	1,184
➤ too sick to attend registration	3	1	1	2	1,184
➤ incorrect DOB on identity card	0*	4*	0	1	1,184

Source: HSNP M&E Baseline Evaluation Survey, Sep 2009–Oct 2010. Notes: (1) The 'N' column denotes the overall sample size. The sample sizes for the disaggregated estimates in other columns are based on smaller sample sizes. (2) Asterisks (\*) indicate that the estimated regression coefficient is statistically significant: \*\*\* = 99%; \*\* = 95%; \* = 90%.

Half of non-beneficiaries (49%) believed themselves to be eligible. Unsurprisingly, this was highest in DR sub-locations (73%), for reasons previously discussed. However, 61% of non-beneficiaries in CBT sub-locations also believed themselves to be eligible. This is probably because of the quota, which was set at 50% in M&E sub-locations, which demonstrates the difficulties of explaining why households are not selected in areas with such high poverty rates and might also reflect the fact that the criteria used in CBT are not necessarily clear (even if the *process* is). This difficulty is obviated in SP sub-locations as the targeting criteria are clearer, resulting in a significantly lower proportion of non-beneficiaries who felt they had been unfairly excluded (31%).

Non-beneficiary households were asked about their experience and perceptions of the targeting process. Only 13% were not aware of the targeting process (which rose to 44% in Mandera compared with 0.3% in Turkana). Overall, only 11% of communities reported that they felt some ineligible households had been selected for the programme. However, this rose to 26% and 17% in Marsabit and Mandera, respectively.

According to the community interviews, there was an average of 15 days from the start of targeting to enrolment (distribution of paper cards).<sup>23</sup> The large, remote and sparsely populated nature of the areas in which the HSNP is operating is reflected in the fact that it took households on average 40 minutes each way to travel to the registration desk. However, in some sub-locations, one registration desk was centrally located while, in others, there was one desk per village/settlement.

<sup>23</sup> Note that, according to the programme manual, the entire targeting process is intended to take two months and entails mobilisation, registration, validation and finally enrolment. Estimating duration in areas where there is little time-keeping is challenging and so this measure is based to some degree on respondents' *perception* of time.

**Table 7.3 Community experience of targeting process**

	All HSNP evaluation areas	
	Estimate	N
Proportion (%) of communities reporting:		
➤ not being involved in the targeting process	3	232
➤ desk-based, rather than door-to-door based, registration	71	225
➤ that some ineligible households were selected for the programme	11	225
➤ that not everyone who was eligible was able to register	27	225
➤ that some eligible members were not able to register	29	209
➤ that not everyone who enrolled received a card	5	225
➤ that it is more difficult for migrant households to participate in targeting	19	225
➤ a Rights Committee in the sub-location	91	232
Reported average number of days from start of targeting to enrolment (distribution of paper cards)	15	224

Source: HSNP M&E Baseline Evaluation Survey, Community Questionnaire, Sep 2009–Oct 2010.

## 8 Conclusions and recommendations

### Poverty and inequality in the HSNP districts

Poverty rates in the HSNP districts are very high. In fact, this was the basis for selecting these districts to be covered by HSNP: they are the four poorest districts in Kenya according to the 2005/06 KIHBS. However, while the majority of households in the HSNP districts are poor in absolute terms, there is a substantial difference between the poorest and the least poor within the population. The wealthiest quintile spends almost five times as much as the poorest per adult equivalent per month (KES 3,996 vs. KES 868), which indicates an appreciable degree of income inequality within the study population. Although consumption expenditure is not a perfect proxy for household welfare, it is nevertheless highly correlated with many key dimensions of household welfare. On average, households in poorer quintiles spend a higher proportion of their total consumption budget on food, spend less on education and health services, own fewer assets, have lower adult literacy and school enrolment rates, are more likely to have been ill or injured in the past three months and have poorer quality housing. Furthermore, subjective poverty rates are significantly higher amongst households in poorer quintiles.

Compared to an absolute poverty rate of around 85%, the programme covers just 51% of households in HSNP districts. Given the considerable inequality within the HSNP districts it is important that the HSNP directs its limited resources at the poorest households.

### Descriptive characteristics of HSNP households

Beneficiary households were more likely, on average, to be female headed, particularly those selected by CBT. They also had a significantly higher fraction of dependents compared with non-selected households, something true of all mechanisms. Selected households had significantly more chronically ill members, disabled members and orphans compared with non-selected households. For CBT, some of these groups were taken to identify poverty and vulnerability and used by some of the communities, so the higher proportions identified by this mechanism would be expected. The DR would also be expected to favour the selection of some of these households.

Beneficiary households were more likely to be receiving food aid and to be receiving support from other households, the latter particularly for SP beneficiaries. This may reflect their higher levels of poverty but might also reflect these households having better access to available benefits of all types because of their location or social networks. Beneficiary households are also more likely to report going entire days without eating and have significantly less cash savings compared with non-selected households. However, beneficiary households do not generally have worse educational indicators.

Although there was considerable variation in the types of households prioritised under CBT across different communities, it is clear that on average CBT tended to favour female-headed households, those containing orphans, those with low levels of livestock and those that are food insecure.

### Overall effectiveness of HSNP targeting

HSNP targeting is pro-poor, but only mildly so. Beneficiary households are 30% (13 percentage points) more likely to be amongst the *poorest* (bottom 51%) as compared to non-beneficiary households (57% vs. 44%). In terms of food security, beneficiary households are only 16% (9 percentage points) more likely to be food insecure compared to non-beneficiaries. If the programme genuinely has a strong objective to target the poorest households in the areas in which it operates then the targeting system should be reviewed for Phase 2.

## Relative targeting effective of the three HSNP targeting mechanisms

### CBT

CBT was the most effective mechanism at identifying the poorest households. In CBT areas, beneficiary households are 51% (17 percentage points) more likely to be amongst the poorest (bottom 51%) as compared to non-beneficiary households (51% vs. 34%). In terms of food security, beneficiary households are 37% (18 percentage points) more likely to be food insecure compared to non-beneficiaries (65% vs. 47%). CBT was also more likely to be perceived as a fair process by households and communities. This compares reasonably well with other similar programmes.

However, a number of concerns with CBT were identified. First, the sub-location quotas did not always appear to reflect variations in poverty across sub-locations. Second, households and communities suggested the need for more advance warning in order to attend the targeting meetings and to ensure that all households and villages are fully covered by the targeting process. Finally, there appeared to be a high level of inconsistency between districts in the types of households selected under CBT. Indeed, in Turkana there was some evidence to suggest that poorer households were less likely to be selected, which would be consistent with concerns around capture of the targeting process by local elites. Addressing these issues would increase the targeting effectiveness of CBT still further.

### DR targeting

The analysis showed that DR score (fraction of household members that are dependents) is a reasonable proxy for consumption poverty and, therefore, in theory DR targeting should have delivered targeting results almost as good as those observed for CBT. However, the targeting performance of DR was undermined by implementation errors: in DR areas, 30% of beneficiaries are not eligible and 23% of eligible households are not covered by the programme. Because in DR areas relatively better-off ineligible beneficiaries are being covered by the programme at the expense of poorer eligible non-beneficiaries, the net result is that DR is the worst performing of the three targeting mechanisms.

### SP

In contrast to DR targeting, implementation accuracy for SP is very high: 96% of beneficiaries in SP areas are eligible and 83% of eligible households are covered by the programme. However, in SP areas it appears that the presence of elderly members in a household is not strongly associated with poverty. Therefore, despite effective implementation, the SP targeting was not effective at identifying the poorest households.

The simulation analysis revealed that the association between poverty and the presence of elderly members was stronger in the HSNP districts overall as compared to just the SP areas, so it is possible that the targeting effectiveness of SP would improve if it were expanded to cover all HSNP areas. However, even under 100% targeting accuracy it would still be outperformed by CBT.

### Simulation analysis

The simulation analysis assessed programme coverage, the comparative characteristics of eligible and ineligible households and targeting effectiveness under six alternative targeting options:

1. SP targeting assuming expansion to all HSNP areas;
2. DR targeting assuming expansion to all HSNP areas;
3. A household is eligible if it contains at least one orphan;

4. A household is eligible if it contains at least one member who is chronically ill or disabled;
5. A household is eligible if it contains at least one child under six (this may be a criterion used under a child benefit-type programme); and
6. A household is eligible if satisfies a threshold level under a simple PMT.

The PMT approach significantly outperforms all other simulated targeting approaches and would also be expected to outperform the actual targeting performance of CBT (the best performing of the three HSNP mechanisms). Under PMT targeting, 76% of beneficiary households would be poor compared to just 26% of non-beneficiaries, so beneficiaries would be nearly three times more likely to be poor than non-beneficiaries. However, PMT approaches can be difficult to implement effectively in practice and it is therefore informative to consider the degree to which implementation problems have undermined the targeting effectiveness of DR.

The simulation analysis also revealed that targeting households containing children would be the weakest mechanism. Under this option only 48% of eligible households would be poor compared to 55% of ineligibles. Therefore this approach does not appear to be a good proxy for targeting the poorest households, although it is recognised that there may be other reasons for targeting transfers at households with young children.

## **Recommendations for targeting in HSNP Phase 2**

CBT was the most effective mechanism and therefore should be taken forward for Phase 2.

However, in order to improve CBT targeting effectiveness in Phase 2 the following recommendations are suggested:

- 1) A better system for determining sub-location quotas and ensuring they reflect variations in poverty and food security across sub-locations should be designed.
- 2) More advance warning of the targeting process should be given in order to ensure all households can participate and ensure all households and villages in each sub-location are informed of and participate in the targeting process, with effective grievance procedures in place in case any households are missed.
- 3) Either:
  - a. Ensure more monitoring of CBT implementation to ensure consistency and prevent capture by local elites; or
  - b. Complement CBT with a simple PMT-type mechanism which will screen out relatively better-off households and thereby reduce inclusion errors.

## Bibliography

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## Annex A Quantitative survey evaluation methodology and sampling strategy

### A.1 Overview

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 (i.e. sub-location 1 (District 1) was surveyed in month 1, sub-location 2 (in District 1) in month 2, etc.<sup>24</sup>). The evaluation is taking place over the four districts of Mandera, Marsabit, Turkana and Wajir. The evaluation sub-locations are split evenly between the districts, with 12 evaluation sub-locations in each.

As a result of this methodology, the baseline survey was originally designed to take place over the course of 12 months, but due to various contingencies actually took place over 14 months. 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 quantitative survey was implemented in 48 randomly selected sub-locations in each district. The sub-locations were selected from a sample frame of all secure sub-locations in each district.

The original intention was thus to select a sample representative of all secure sub-locations in each district.<sup>25</sup> 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 using probability proportional to size with implicit stratification by population density, such that there is an even number of selected sub-locations per new district. Sub-locations were then sorted within new districts by population density and paired up. Control and treatment sub-locations were paired up so that both the treatment and control sub-locations were equivalently spread throughout the year, i.e. at least one treatment and one control area per month (for each district). 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, with one of the pair being the control and one the treatment. This measure is designed to reduce as far as possible significant variations between the characteristics of the control and treatment groups. The sub-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.

<sup>24</sup> During the course of the study design, the official designation of the administrative areas known as 'districts' 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.

<sup>25</sup> 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 Section 2.3 of the baseline report.

The sub-locations covered by the evaluation are referred to as the **evaluation sub-locations**. 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 will not receive the transfer for the first two years after enrolment – these are referred to as the **control sub-locations**.

The households in the treatment sub-locations 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 as eligible for the programme are referred to as the **control group**. These households are also beneficiaries of the programme but will 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:

- **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.
- **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 the impact of the programme. The sample included units from groups C and D to provide information on the population as a whole, in order to assess the extent to which the HSNP had selected the poorest households.

The sampling strategy for the quantitative survey has been designed to enable a comparison of the relative targeting performance of three different targeting mechanisms: CBT, SP, and DR targeting.

In the evaluation sub-locations for both the DR and SP targeting mechanisms, two different selection processes were implemented: (i) an on-demand approach, whereby households applied for the programme at a temporary 'desk' set up in the community during the targeting phase; and (ii) a door-to-door (or census) approach, whereby the HSNP administration field-staff visited each and every dwelling in the sub-location to collect the application information from all households. The survey design also allows for a comparison of the relative targeting effectiveness of the targeting approach. There are 48 evaluation sub-locations: 24 treatment and 24 control. For both the treatment and control sub-locations, there are an equal number of CBT, SP and DR sub-locations. For the SP and DR evaluation sub-locations, half were randomly allocated census targeting and half on-demand targeting. Note that no census targeting will be used in the non-evaluation sub-locations, so census targeting will only be implemented in 16 sub-locations in total.

The breakdown of evaluation sub-locations is as follows:

**Table A.1 Breakdown of evaluation sub-location sample**

Targeting mechanism	Treatment	Control	Overall
CBT	8	8	16
SP	8	8	16
	[4 census]	[4 census]	[8 census]
	[4 on-demand]	[4 on-demand]	[8 on-demand]
DR	8	8	16
	[4 census]	[4 census]	[8 census]
	[4 on-demand]	[4 on-demand]	[8 on-demand]
<b>Overall</b>	<b>24</b>	<b>24</b>	<b>48</b>
	[8 community]	[8 community]	[16 community]
	[8 census]	[8 census]	[16 census]
	[8 on-demand]	[8 on-demand]	[16 on-demand]

The intended evaluation survey sample sizes are presented below (with the letters in the cells matching groups A–D as listed), 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 difference-in-differences estimates for key indicators:

**Table A.2 Intended sample size, by population group**

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

Source: HSNP M&E Baseline Evaluation Survey, Households Questionnaire, Sep 2009–Oct 2010. 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, whilst others refused to be interviewed. Many of these households were replaced from a randomly selected replacement list in each sub-location. In some sub-locations, the intended sample size for one of the four household types (groups A,

B, C or D) could not always be attained for a variety of reasons.<sup>26</sup> The final sample sizes were therefore slightly lower than intended at baseline.

The actual number of households interviewed by population group and district in the baseline survey are presented in the table on the next page. A total of 5,108 households were interviewed and included in the baseline sample for analysis, corresponding to 97% of the intended sample. This sample included a total of 28,069 individuals, of whom 11,856 were children under 18. The most frequent reasons that households were not interviewed at baseline included: that they absent for an extended period; the household was known but not found; the household was unknown and not found; the beneficiary has already been interviewed as a member of another household; and 'other reason'.

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<sup>26</sup> These reasons included: security issues; migration of households; lack of numbers of either of the household types; and lack of replacements.

**Table A.3 Number of households interviewed at baseline**

Beneficiary status	Targeting mechanism	Mandera			Marsabit			Turkana			Wajir			Overall		
		Treatment	Control	Total	Treatment	Control	Total									
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
<b>Total</b>		<b>645</b>	<b>607</b>	<b>1,252</b>	<b>654</b>	<b>646</b>	<b>1,300</b>	<b>659</b>	<b>655</b>	<b>1,314</b>	<b>581</b>	<b>661</b>	<b>1,242</b>	<b>2,539</b>	<b>2,569</b>	<b>5,108</b>

Source: HSNP M&E Baseline Evaluation Survey, Households Questionnaire, Sep 2009–Oct 2010.

In addition to the household survey, interviews were conducted with community groups. Communities were defined by settlements or groups of settlements within a sub-location.<sup>27</sup> A settlement was defined as a concentration of households (more than one family) living in the same area and sharing access to common resources, shops, etc. Settlements were sometimes grouped together into a single community interview as was appropriate based on size and geographical proximity. A community interview was conducted for all the communities that at least one interviewed household stated they were closest to at the time of interview. In this way, each household can be linked with a particular community. A total of 245 community interviews were conducted at baseline (see below for a breakdown of the number of community interviews conducted by district and treatment and control areas).

Due to missing data, 64 out of 5,108 completed household interviews at baseline are not linked to any community-level data.

**Table A.4 Number of community interviews conducted at baseline**

District	Treatment	Control	Overall
Mandera	23	22	45
Marsabit	28	28	56
Turkana	51	55	106
Wajir	18	20	38
<b>All districts</b>	<b>120</b>	<b>125</b>	<b>245</b>

Source: HSNP M&E Baseline Evaluation Survey, Community Questionnaire, Sep 2009–Oct 2010. Notes: community questionnaires were conducted in every community for which at least one household interview was attached. A community was defined as a settlement or a sub-section of a settlement if that settlement had been segmented due to its size. Due to missing data, a small proportion of households are not linked to any community data.

## A.2 Household sampling

Because targeting was conducted in both treatment and control areas, households were sampled in the same way across both.

Beneficiary 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.<sup>28</sup>

Non-beneficiary 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:

- Main settlement, 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.

<sup>27</sup> Settlements may be either permanent or non-permanent, larger or smaller, formal or informal collections of households.

<sup>28</sup> In a couple of sub-locations, this was not possible due to insufficient numbers of beneficiaries in the programme records. 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.

- Permanent settlements, defined as a collection of dwellings where at least some households are always resident, and/or there is at least one permanent structure.
- 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 there can only be one main settlement per sub-location.

Large settlements (over approximately 300 households) were grouped 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.5 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
<b>TOTAL</b>	<b>36</b>	<b>8</b>	<b>44</b>

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.6 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 (As and Bs, Cs and Ds) were placed on a replacement list and used to replace non-completed interviews. For non-beneficiary households, the replacement list was also stratified by settlement and residency so that replacement households were as far as possible drawn from the same 'category' as the households that were being replaced, according to the logic of:

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

### A.3 Sampling 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, thereby preventing 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 beneficiaries (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-beneficiaries (groups C and D), the weights are given by:

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

$$w_{ijk} = 1 / [ (a_{ijk}/A_{ijk}) * (1/b_{ij}) * (1/c_{ij}) ]$$

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 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. The exception to this is for community-level indicators, where community weights were approximated by the sum of the household weights across the households linked to that community interview.