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Lesotho's Child Grant Programme: 24-month impact report on productive activities and labour allocation

Lesotho country case study report

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Abstract

This report uses data from a twenty-four-month randomized experimental design impact evaluation to analyse the impact of the Lesotho Child Grant Programme (CGP) on individual and household economic decision-making including labour supply, the accumulation of productive assets and other productive activities. The general framework for empirical analysis is based on a comparison of programme beneficiaries with a group of controls interviewed before the programme began and again two years later, using both single and double difference estimators. The findings reveal mixed impacts of the CGP across a broad spectrum of livelihood indicators. While no effects have been detected on agricultural assets, such as tools and livestock, the programme is associated with higher use of inputs, especially pesticides that prevented major crop losses after a severe armyworm outbreak. The CGP contributed to increase production, both for the home garden and for main staple crops, including maize. The programme did not impact labour participation, apart from reducing the intensity of adult participation in paid occasional and irregular work. Finally, the CGP had a significant impact in strengthening the informal risk-sharing arrangements in the community, particularly around food.

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Abbreviations

CGP	Child Grant Programme
CT	Cash Transfer
DiD	Difference-in-Differences
FAO	Food and Agriculture Organization of the United Nations
IPW	Inverse Probability Weighting
MCDMCH	Ministry of Community Development, Mother and Child Health
MoSD	Ministry of Social Development
OPM	Oxford Policy Management
pp	Percentage points
RCT	Randomized Control Trial
SD	Single Difference
UNICEF	United Nations Children's Fund
LSL	Lesotho Maloti

Executive summary

The Lesotho Child Grant Programme (CGP) is an unconditional cash transfer targeted to poor and vulnerable households. Eligible households are selected through a combination of Proxy Means Testing (PMT) and community validation, and are registered in the National Information System for Social Assistance (NISSA). Beneficiaries receive a quarterly transfer of between LSL360 and LSL750, with the request that the money be spent on children. The programme is run by the Ministry of Social Development (MoSD) of the Government of Lesotho, with financial support from the European Union and technical support from UNICEF-Lesotho.

This report uses data collected from a twenty-four-month randomized experimental design impact evaluation (2011 and 2013) to analyse the impact of the CGP on productive activities and investments, asset accumulation and labour allocation. Although the programme is designed to promote child health and education there are good reasons to expect other economic impacts. Beneficiary households are primarily agricultural producers and face a multitude of constraints which can be relaxed through receipt of a cash transfer. Results presented in this report document the nature and extent to which this occurred.

First, receipt of the GCP is associated with increased use of crop inputs among beneficiary households. A higher proportion of households spent money on agricultural inputs, especially pesticides and fertilizers, compared to the control group, with a positive and significant effect on the use of pesticides.

Second, in part because of greater input use, the CGP increased agricultural production. Involvement in farm activities was greater in 2013 than in 2011; households increased garden plot harvests and total production of main staples – particularly maize – as a result of their participation in the programme.

Third, the CGP had moderate impacts on productive investment and asset accumulation. Apart from the increase in purchases of crop production inputs, the only strong and significant result is that the programme contributed to an increase in the proportion of beneficiary households owning pigs and in the number of pigs owned. Piglets were probably bought with funds from the Food and Emergency Grant. Involvement in other livestock activities appeared to be largely unaffected by the programme, while we observe a decline in money spent on fodder that might have been substituted with home produced maize for livestock. With respect to agricultural assets the CGP increased the use and purchase of scotch-carts (small two-wheeled carts of southern Africa with a detachable or slanting panel at the back).

Fourth, the CGP had a significant impact in strengthening the informal sharing arrangements in the community, particularly around food. The CGP was associated with an increase in the probability of beneficiary households receiving informal in kind support from other family members, friends or neighbours. At the same time the CGP had a significant impact on the probability of beneficiary households providing support to the rest of the community, both in terms of cash and in kind support. Furthermore the study highlights

a reduction in the amount of private cash transfers beneficiary households received from non-resident household members living abroad.

Finally, in terms of labour supply, the CGP did not appear to impact labour participation either positively or negatively. Observed changes in livelihood patterns of adults and elderly were common to individuals in both CGP and non-CGP households. If anything the CGP seems to have reduced the intensity of adult participation in paid occasional and irregular work, particularly piecework labour; generally considered to be a negative coping mechanism in times of hardship.

Overall, the study offers direct evidence that the CGP programme influences the livelihood strategies of the poor, with differential intensity across households with different labour capacities.

1. Introduction

This document constitutes the quantitative impact evaluation report on productive activities and labour allocation of the Child Grant Programme (CGP) implemented by the Ministry of Social Development (MoSD) of the Government of Lesotho (GoL). The United Nations Children's Fund (UNICEF) in Lesotho contracted Oxford Policy Management (OPM) to design and run a randomized control trial (RCT) for a two-year impact evaluation of the programme. While many of the results presented here are included in the overall two-year impact evaluation report (OPM, 2014), this report provides additional focus to assessing productive and economic dimensions of the study.

The CGP is an unconditional social cash transfer programme targeting poor households with children. The programme was launched in 2009 with 1 250 beneficiary households. Through a series of expansions the programme covered five districts (Berea, Leribe, Mafeteng, Maseru and Qacha's Nek) and approximately 20 000 households (50 000 children) at the end of 2013. Originally the transfer was LSL 120 (USD 12) per month irrespective of the number of children. In April 2013 the amount was indexed to the number of resident children as follows: 1-2 children: LSL 360 (USD 36); 3-4 children: LSL 600 (USD 60); 5+ children: LSL 750 (USD 75).

The rationale behind the CGP is to foster the greater well-being of poor and vulnerable children living in the poorest households in Lesotho. By supplementing household income the transfer aims to promote greater levels of education, health and nutrition – especially for children. While the transfer is unconditional the CGP features strong messaging conveying the programmes intended purpose and desired outcomes. To the extent possible beneficiaries are urged to spend the cash for the betterment of their children.

While supporting household spending on children is the primary call of the CGP there are good reasons to believe additional impacts on productive and economic livelihoods can be achieved. Since the programme targets rural areas, the majority of beneficiaries depend heavily on subsistence agriculture and live in places where markets for financial services (such as credit and insurance), labour, goods and inputs are likely to be lacking or inadequate.

Our hypothesis is that the liquidity and security of regular and predictable cash transfers can increase productive and other income-generating investments, influence beneficiaries' roles in social networks, increase access to markets and inject resources into local economies. These impacts come through changes in individual and household behaviour (labour supply, investments and risk management) and through impacts on the local economy of the communities (social networks, labour and good markets, multiplier effects) where the CGP operates.

Previous research in other sub-Saharan countries has shown that unconditional cash transfers have an impact on agricultural and non-agricultural productive choices (Covarrubias *et al.* 2012; Asfaw, *et al.*, 2013, Daidone *et al.*, 2013). This report will provide impact estimates of the CGP on a range of household and individual level outcomes. At the household level we examine consumption and non-consumption expenditure, agricultural asset accumulation, agricultural production and use of inputs, and saving behaviour. At the individual level we consider both adult and child labour supply, overall and by gender.

2. Research design

The two eligibility criteria for the CGP are that a given household must a) have at least one resident child aged 0-17 and; b) be among the poorest in the community. To identify the poorest households a combination of proxy means testing (PMT) and community validation procedures are conducted. In PMT information on different wealth indicators (e.g. dwelling conditions, ownership of land and assets, etc.) are used to statistically estimate a given household's wealth status or score. Households falling within the first and second quartiles of this score-distribution are identified as being poor. In addition, and independently, village heads identify the households they deem to be worst-off in their respective communities. Households identified as being poor by both the PMT and the community leaders qualify for the programme (OPM 2011, OPM 2014)¹. The impact evaluation constitutes a community randomized longitudinal design, with a baseline household survey conducted in June-August 2011 and a subsequent follow-up with the same households in June-August 2013.² The evaluation covers ten Community Councils (CCs) comprising 96 Electoral Divisions (EDs). EDs were split equally into treatment and control arms through public lottery events in each CC. That is, eligible households in 48 EDs were randomly selected to receive the CGP in 2011 (after baseline collection) while eligible households in 48 different EDs were randomly selected to enrol in 2013 (after follow-up data collection).

In addition to collecting information on eligible households, non-eligible households were also surveyed. Comparing information on the relatively better-off households with information on those eligible for the CGP adds additional analytical scope. The comparison has been used to evaluate the targeting success of the programme (at baseline), and it can be used to assess potential spillover effects on non-eligible households in communities where the CGP operates (at follow-up).

The final study sample comprises a panel of 2 150 households and 10 456 panel individuals. Over 60 percent of the households are poor and eligible for the CGP while the remainder are non-eligible. Specific details on sample construction and attrition can be found in section 4.2.

3. Analytical approach

3.1. Difference in differences estimator

When panel data are available with pre- and post-intervention information, which is the case with most of the outcome variables, the statistical approach we take to derive average treatment effects of the CGP is the difference-in-differences (DiD) estimator. This entails calculating the change in an indicator (Y), such as maize production, between baseline and follow-up period for beneficiary (T) and non-beneficiary (C) households and comparing the magnitude of these changes.

Two key features of this design are particularly attractive for deriving unbiased programme impacts. First, using pre- and post-treatment measures allows us to net out unmeasured fixed time-invariant family or individual characteristics (such as entrepreneurial drive) that may

¹ These studies conclude the performance of CGP is similar to other programmes in the region. Nevertheless, exclusion errors (not reaching poor households) and inclusion errors (enrolling non-poor households) were estimated at around 50 percent and 30percent respectively. Also there is some concern that the community validation process was, at least initially, perceived as lacking transparency and provoking community conflicts. Currently cheaper and better targeting alternatives are being explored.

² The design of the study is described in detail in OPM, 2014.

affect outcomes. Second, using the change in a control group as a comparison allows us to account for general trends in the value of the outcome. For example, if there is a general increase in maize production because of higher rainfalls, deriving treatment effects based only on the treatment group will confound programme impacts on production with the general improvement in weather conditions.

The key assumption underpinning the DiD is that there is no systematic unobserved time-varying difference between the treatment and control groups. For example, if plot quality for the T group remains constant over time but the C group experiences on average deterioration and erosion, then we would attribute a greater increase in agricultural production in T to the programme rather than to this unobserved time-varying change in soil characteristic. In practice the random assignment to T and C, the geographical proximity of the samples, and the rather short duration between pre- and post-intervention measurements make this assumption reasonable.

In large-scale social experiments like the CGP it is typical to estimate the DiD in a multivariate framework, controlling for potential intervening factors that might not be perfectly balanced across T and C units and/or are strong predictors of the outcome (Y). Not only does this allow us to control for possible confounders, but it also increases the efficiency of our estimates by reducing the residual variance in the model. The basic set-up of the estimation model is shown in equation (1):

$$Y_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_t + \beta_3 (R_t * D_i) + \sum \beta_i Z_i + \varepsilon_{it} \quad (1)$$

where Y_{it} is the outcome indicator of interest; D_i is a dummy equal to 1 if household i received the treatment and 0 otherwise; R_t is a time dummy equal to 0 for the baseline and to 1 for the follow-up round; $R_t * D_i$ is the interaction between the intervention and time dummies, and ε_{it} is the statistical error term. To control for household and community characteristics that may influence the outcome of interest beyond the treatment effect alone, we add in Z_i , a vector of household and community characteristics to control for observable differences across households at the baseline which could have an effect on Y_{it} . These factors are not only those for which some differences may be observed across treatment and control groups at the baseline, but also ones which could have some explanatory role in the estimation of Y_{it} . As for coefficients, β_0 is a constant term; β_1 controls for the time-invariant differences between the treatment and control; β_2 captures changes over time; and β_3 is the double difference estimator which captures the impact of the programme.

3.2. Cross-sectional estimators

When panel data are not available, as is the case for some of our outcome variables that are observed only at follow-up, a single difference (SD) estimator or propensity score matching (PSM) or a combination of the two, such as the inverse probability weighting (IPW), can be applied.

SD estimates impacts by comparing the mean values of the indicator of interest for the recipients and the non-recipients. This estimator relies on the random assignment of the households to the treatment and the control groups before the intervention takes place. Causal effects estimates are unbiased since both potential outcomes and observed characteristics are independent from the treatment. Equation (2) presents the regression equivalent of the SD with covariates,

$$Y_i = \beta_0 + \beta_1 D_i + \sum \beta_i Z_i + \varepsilon_i \quad (2)$$

where the estimated β_1 coefficient is the causal effect of the programme, conditional on the Z_i vector of pre-treatment variables, added to remove any potential bias arising from the misallocation of the transfer. In this setting it is crucial to ensure that the controls Z are also exogenous. Even with an RCT, it is easy to break the experimental design by introducing endogeneity at the analysis stage.

Reweighting methods like the IPW are generally preferred for their finite sample properties (smaller bias and more efficient) over PSM methods. Unsurprisingly, since randomization worked well, results between the simple SD and the double robust IPW were very similar in both significance and magnitude. In the results section therefore we present only the former estimator.

4. Data

The impact evaluation data comes from two surveys conducted before and after communities began receiving the CGP programme. Most data derive from the household questionnaire which was designed as a multi-topic instrument capturing both household and household members' information. In order to measure impacts on investment data were collected on household ownership of land, livestock, agricultural assets, non-agricultural assets and durable goods. To measure impacts on production, crop level information on planting and harvests, input use and expenditures, market activity and non-farm enterprise were captured. At the individual level detailed information was gathered on labour allocation choices and activities.

The same questionnaire was applied in both waves, with an additional section at follow-up on household gardening activities (see section 5.2 for details). Further, at follow-up some logistical edits were incorporated based on “lessons learned” during baseline data collection, with more options for reporting land size and differences in sampling procedures due to tracking protocols. To minimize potential seasonality effects on consumption patterns, harvest yields and other relevant outcomes baseline and follow-up data collection occurred in the same period, between June and August. This period covers the winter season in Lesotho, which is in some cases aligned with winter school holidays and represents the end of harvest for most of the main crops.

4.1. Baseline

The baseline data include information for 3 054 households corresponding to 15 989 individuals. Roughly half of these households are eligible households, which in turn split equally into treatment and control groups. The geographic distribution of households and individuals is shown in Table 1. Across all districts household sizes are similar, with on average 5.5 members in CGP eligible households and an average 4.9 members in non-CGP eligible households.

The baseline report OPM (2011) demonstrates that randomization was successful, as mean characteristics were balanced across groups. For the purpose of our study however we test a different set of outcome measures which are related to productive activities. In Table 2 we report most of the outcomes that we will consider in the regression analysis. We confirm that randomization was successful in balancing covariates although differences are apparent.

Simple t-tests revealed only nine indicators out of 108 with p-values lower than the 5 percent level. However, the Hotelling squared t-test, which compares the entire vector of household level outcomes, rejected the null hypothesis of equal means between the treatment and the control groups. Furthermore the standardized bias is greater than 10 percent, the conventional level for assuming covariate balance, for 25 variables. In light of these cases special efforts have been made to control for covariate imbalances in the regression framework. Given the large sample size, we have power to detect very small and substantively meaningless differences.

Besides checking for statistical equivalence between groups, the baseline provides a clear snapshot of the livelihoods in the targeted rural areas. A large majority of programme-eligible households are crop producers (almost 80 percent). By far the most important crop is maize followed by vegetables and sorghum (Table 3). Less than 8 percent of producers are involved in crop marketing either through sales or barter – of those who are, their sales are mainly of vegetables, generating a negligible amount of cash income. Very small quantities are used as by-products and as inputs to animal production, though data were not collected on fodder production. The time period covered by the survey was anomalous as over 75 percent of producers reported losing at least half their harvest from flooding during 2010/11.

Livestock production is also pervasive among households in the sample – over 60 percent have at least one animal. As shown in Table 4, around fifty percent of the eligible population with livestock production own cattle and/or poultry, with an average herd size of 2.8 heads and 4.5 chickens respectively. Around one-quarter of households with animals own donkeys and small ruminants such as sheep and goats.

Households exhibit a relatively low use of inputs and technology in both crop and livestock production. Only 44 percent of crop producers used purchased inputs mainly seeds and around 15 percent chemical fertilizers. Some differences emerge at the district level, with Berea and Leribe more involved in crop and livestock input purchases. A very low share of households hired labour for agriculture, an indication that probably this is not the scarcest resource available in rural areas. As shown in Table 5, crop producers among eligible households spent at baseline on average LSL72 in crop inputs, mainly for seeds and inorganic fertilizers, while households herding livestock spent only LSL39 for livestock inputs. No statistically significant differences are observed for any indicator of input amounts between treatment and control households. Over 70 percent of households in the sample have or use basic agricultural implements: about 56 percent of households own a hoe, 30 percent a yoke and 25 percent have a plough. Because of the high levels of poverty in these areas, it is not surprising that less than 20 percent of agricultural producers use a tractor in their fields, and only 2.5 percent own one.

In terms of household income sources, financial transfers dominate. Almost half of eligible households rely on public and private transfers (Table 7), the latter of which are most important (reaching 40 percent of households). Overall, private transfers average LSL750 per year in eligible households (around US\$70). Private transfers primarily consist of remittances from non-resident household members (24 percent of households) and support from family members living in the community (14 percent of households). Only 13 percent of households received any kind of public transfer at baseline, almost exclusively the elderly pension. No significant differences emerge between the treatment and the control groups, both in terms of share of households receiving the various types of transfers and the corresponding amounts.

Almost two-thirds of all adults are economically active (Table 8). Over half are involved in own-farm activities, and over a third in wage labour. This wage labour is almost exclusively

unskilled, casual labour in the agricultural sector. Adult labour supply is fairly consistent across gender (Table 8). Women are more involved in non-farm self-enterprise activities (11 to 5 percent), while men participate slightly more in paid jobs (39 vs 33 percent) and own-farm activities (55 vs 47 percent). No significant differences between treatment and control households emerge.

4.2. Evaluation sample, attrition and programme implementation

3 054 households (1 484 eligible and 1 569 non-eligible) were interviewed in 2011 whereas 2 150 (1 353 eligible and 797 non-eligible) were successfully interviewed at follow-up. Part of this drop in numbers reflects a decision to reduce the number of sampled ineligible households in 2013 by half, for financial reasons. Nevertheless the dissolution of households, through death/divorce, and other logistical challenges resulted in some difficulty in re-locating households in 2013.

Overall, the attrition rate is 6 percent. Attrition can cause problems within an evaluation because it not only decreases the sample size (leading to less precise estimates of programme impact) but can introduce selection bias, which leads to incorrect impact estimates, and may change the sample's characteristics to the extent that the generalizability of the study is reduced. OPM (2014) conducted detailed attrition analysis and produced analytical weights to correct for the selective non-response. These weights are applied in subsequent analyses.

The logistical challenge of tracking households was complicated by the fact that special emphasis was placed on ensuring children were successfully re-interviewed (i.e. the goal was to "follow the children"). So aside from relocating the same baseline households, additional tracking efforts were established if children had moved away. Succinctly there were five possible tracking outcomes at follow-up: a) the household was not found; b) the same household was found and no child relocated; c) the entire family relocated; d) some children had relocated to another household (first split); and d) different children relocated to yet another household (second split). Of course the implications of this are that a baseline household can correspond to one or more households at follow-up. For analytical purposes households containing the majority of baseline children were taken as the follow-up household (additional details and discussion in OPM, 2014).

That same report reveals three implementation challenges encountered over the study period, with potential implications for the analysis. First, CGP payments were often delivered with delays with respect to the intended schedule. Second, as previously mentioned, the size of the transfer was indexed to the number of children in April 2013, resulting in boosted transfer sizes for many. Finally, in September 2012 beneficiaries began receiving an additional (bi-monthly) transfer of LSL400 as part of a separate Food Emergency Grant, which was provided in response to a food security crisis following a period of sustained drought. This continued for another two payments in 2013, albeit to a slightly lower number of beneficiaries as a result of donor budgetary constraints. Taken together, the confluence of these three factors contributed to making CGP transfer payments lumpy and unpredictable. The efficient disbursement of funds is crucial in cash transfer programmes since payment regularity and low transaction costs in terms of accessing money accentuate programme effectiveness.

5. Results and discussion

In this section we discuss the average treatment effects of the Lesotho CGP programme on the treated households over six broad groups of outcome variables – crop production, home gardening, livestock production, non-agricultural business activities, savings/credit decisions and labour supply. When the baseline information is available for a given outcome variable we employ a DiD estimator in a multivariate framework. However when baseline information is missing, we use the single difference estimator. All t-statistics reported in the tables are clustered at community level. For most household-level outcomes we provide heterogeneous impacts and disaggregate results by labour-constrained vs unconstrained households. We define a household severely labour constrained if there is no able-bodied member or fit-to-work (FTW), i.e. no adult member (18-59 years of age) without chronic illnesses and disabilities (corresponding to approximately 9 percent of panel households). A household is moderately labour constrained if there is at least one able-bodied member and the ratio of members not fit-to-work (NF) to FTW is greater or equal to three (23 percent of households). Finally a household is labour unconstrained if there is at least one able-bodied member and the dependency ratio is less than three (68 percent of households).

5.1. Crop production

We look at various dimensions of the productive process in order to ascertain whether households have increased spending in agricultural activities, including crop production and agricultural input use. Overall, in terms of these direct impacts on crop activity, we find some positive and significant effects on the use of some crop inputs (Table 9) but not on agricultural assets. The CGP significantly increases the share of households using pesticides (7.9 pp), especially those which are labour-unconstrained and who are also more likely to purchase pesticides as a result of receiving the CGP. We also observe a 7.4 pp increase in the proportion of households purchasing seeds, the magnitude being significant and greater for labour-unconstrained households. A positive but not statistically significant magnitude is instead observed in the intensity of purchase. This means that while CGP allowed more households to access inputs, the amount of the grant was probably not high enough to sustain greater levels of expenditure on inputs. Generally fertilizers are the first type of input that farmers tend to buy when liquidity constraints are relaxed, as in the case of the CGP, and the purchase of pesticides is not very common. However a pest and armyworm outbreak severely affected many districts in Lesotho in January/February 2013 (FAO Lesotho, 2014). Combined with the relatively low cost of buying pesticides, especially for home gardening, it does not come as a surprise that beneficiary households used part of the grant to invest in this specific input, in order to avoid major crop losses.

Further, we did not find any impact on land, neither on the share of households owning/cultivating crop fields or the kitchen/garden plot, nor on the amount of hectares owned/cultivated (not shown in the table). Given some issues in data quality for land measurement at baseline, we have also analysed the same indicators by simply comparing the difference in land use between the treatment and the control groups at follow-up only. Results however confirm the absence of impacts.

In terms of crop production trends were increasing for both the treatment and the control group. This does not come as a surprise since two major shocks – heavy rains and flooding during the 2010/11 farming season and the prolonged period of drought during the 2011/2012 season – almost halved Lesotho's maize production. In this context a Food Emergency Grant

was disbursed to CGP beneficiaries in the form of a bi-monthly top-up of LSL400 (LSL200/month) in addition to the standard CGP grant. We find that the CGP did not contribute to extending the proportion of households involved in own-farming. However the impact of the programme – most likely through the increased use of inputs – on the quantity harvested is evident. As shown in Table 10, production of maize, the main staple commodity, increased in CGP households (around 39 kg more than the control group), especially for households with more available household labour. There has been also an impact on sorghum, with an estimated impact of around 10 kg, which is larger in severely constrained households, probably because sorghum requires less labour as compared to other major crops.³

Most of the increase in crop production seems to be consumed at home. CGP beneficiaries are not more involved in market/trade activities than non-beneficiaries, with the exception of a modest increase of bartering. There may be multiple reasons for this behaviour: i) difficulty accessing markets because of remoteness, lack of transport and roads; and ii) high levels of food insecurity affecting the beneficiary households. Unfortunately we are not able to assess directly whether consumption of home-produced goods increased owing to the design of the household survey questionnaire. Part of the increased production may also have been directed towards feeding livestock, serving as a substitute for purchased fodder.

5.2. Home-gardening

In the follow-up round of the CGP impact evaluation more detailed data on the kitchen/garden plot were collected in the crop production module in order to provide information for a FAO initiative, Linking Food Security to Social Protection (LFSSP). The objective of this pilot programme is to improve the food security status of poor and vulnerable households in the short and long term, via the provision of technical support and materials in building keyhole gardens combined with training and information in nutrition, food preservation and food production practices. The programme is being implemented as a complement to the CGP, with the idea that the cash in combination with improved food production and practices will lead to a greater impact on food security, compared to each programme on its own. The pilot is currently implemented in Leribe district in two community councils: Litjotjela and Malaoaneng, covering all 780 households eligible for the CGP. Even though collected with the purposes of representing the baseline of the LFSSP programme, the data on the kitchen/garden plot can be analysed to assess whether CGP had an impact on production of vegetables.

As shown in Table 11, beneficiary households were much more likely to harvest vegetables than non-beneficiaries, both in terms of cultivated products and seasons. The magnitude of this increase was higher for spinach and tomatoes compared to other products and for all seasons of the year, particularly in spring and summer. All results were consistently larger and statistically significant for unconstrained and moderately labour-constrained households compared to households with no adult members fit to work. Further, in terms of production processes and techniques, households in treated communities are much more likely to use keyhole gardens (8 pp) and practice food preservation (4 pp) after CGP implementation (results not reported).

³ In the Bondo district in Kenya, Bishop-Sambrook (2003) found that the total labour requirements for 1 ha of sorghum and finger millet was around 123 days, compared to 152 days for pure stand maize, 177 for mixed stand of maize and beans, 217 days for cassava, 155 days for groundnuts and 144 days for cotton.

5.3. Livestock production

As we have seen in section 4.1 livestock activities represented an important component of households' livelihood strategies at baseline, with cattle playing the prominent role. Evidence from other countries suggests that livestock is one of the areas of investment of cash transfers, especially poultry and small ruminants, while cattle ownership plays an important role with Basotho culture. Contrary to expectations, we did not find an impact of the programme, neither in the share of households investing in livestock nor for the number of animals owned. The only significant impacts that can be attributed to CGP are an increase of about 8 pp in the proportion of households owning pigs and a 0.1 pp increase in the number of pigs owned. There may be a number of reasons for which we observed impacts on pigs and not on other types of animals. First, in Lesotho, chickens are relatively easier to obtain in the community than in the market. When a farmer needs a chicken for consumption needs, the tendency will be to ask to relatives/neighbours instead of buying one. These kinds of informal sharing arrangements are discussed in more detail in paragraph 5.6. Second, compared to other animals like goats and sheep, pigs are less difficult to manage, more resilient to health shocks and less likely to be robbed (FAO-Lesotho, 2014). Third, despite being more expensive than chickens and small ruminants, piglets are still cheaper than cattle (around LSL150 at the time of the survey). The large payment received in March/April 2013 therefore may have encouraged investment in this animal.

Beneficiaries did not seem to have used their grants to buy inputs for livestock. As shown in Table 13, the share of households purchasing livestock inputs twelve months before the survey has remained stable, with a significant increase only in the proportion of moderately constrained households. When looking at the amount spent, we observe an overall statistically significant decline in fodder expenses. Magnitudes are larger for unconstrained households and become significant also for the total amount spent and for feed. As already mentioned in paragraph 5.1, the interpretation of this result is that part of the increase in maize production has gone towards feeding livestock.

Finally, we notice that beneficiaries are not more involved, relative to non-beneficiaries, in livestock market participation. In fact, no significant changes have been observed neither in the share of households selling and purchasing livestock, nor in the proportion of households selling livestock by-products or the amounts earned in both activities. The only statistically significant result is an overall increase in sales of mohair, even though the magnitude is relatively low (LSL 30/year).

5.4. Non-farm business activities

Cash transfers could potentially have an effect on non-farm enterprises by removing liquidity constraints that prevent them starting or developing small businesses. The analysis indicates that non-farm businesses operated by beneficiary households were very small scale and often operating in a sporadic way during the course of the year. Overall the results reported in Table 14 suggest that the CGP does not have a significant effect on engagement in this type of activity. The share of households operating a non-farm business decreased by 4.8 pp (at 10 percent significance level) in the thirty days prior to the survey. This reduction is mainly driven by fewer households engaged in home brewing, an income-generating activity that is generally performed infrequently, at small scale, and often as an activity of last resort. These results are corroborated by the heterogeneity analysis, since for severely labour-constrained households we observe a significant drop in the engagement in off-farm activities.

5.5. Impact on credit and savings

Borrowing in Lesotho is very common; at baseline around 70 percent of eligible households report having borrowed some money in the 12 months prior to the survey. Borrowing occurs mainly through informal channels, from relatives, neighbours and friends. Cash transfers may affect households' financial behaviour in three ways: i) providing a safeguard in case of negative shocks and protecting households from the need to borrow and consequently from the risk of falling into a spiral of debt; ii) if provided in a predictable fashion, they could represent a collateral, enabling poor households gain more access to credit; and iii) households may be willing to take the risk of taking a loan.

As shown in Table 15, no detectable impact of the CGP was found on households' propensity to save or on the size of savings, irrespective of whether the money was saved in a formal or informal institution. The impact on the share of households saving in a formal institution is statistically significant, but its magnitude (-2 pp) is economically irrelevant.

Similarly no impacts are detected on household borrowing patterns, with the exception of a 4.2 pp reduction in borrowing from community groups. We do not observe any significant change in the outstanding amount of loans; however the results on this indicator need to be taken with caution since we have a substantial number of missing values which might bias the estimates. Finally we do not find any significant evidence on the propensity of purchasing on credit. The lack of impact on financial behaviour has a double explanation: i) the size of the transfer and the messaging associated with it, as cash was fully utilized to meet its intended purpose, which is to respond to children needs; and ii) the lack of predictability in payments may have prevented beneficiary households from planning an alternative use of resources.

5.6. Remittances and social networks

Nuclear and extended family relations play an important role in the Basotho culture and their ability to deal with unforeseen shocks, functioning as traditional risk-sharing, safety-net mechanisms. The qualitative research carried out by OPM (2014) found numerous examples of individuals and households receiving support from neighbours and relatives living in the community. Ultra-poor people turn to their neighbours for help and what they receive is usually the in-kind type of help because they generally do not expect anything in return. In addition, the assistance they receive is mostly in the form of food and clothing, although there are also examples of households sharing and borrowing animals with/from one another. Around forty percent of households in the sample receive informal transfers in the form of either remittances from non-resident members mainly living abroad or cash support from relatives or neighbours living in the community. Further, around three-quarters of households receive help from community members in the form of food.

Bringing together the qualitative and quantitative evidence, the CGP had a significant impact in strengthening the reciprocity arrangements around food sharing in the treatment villages. In fact, both the proportion of households receiving and the proportion providing in-kind help in the form of food increased as a consequence of the programme. The impact is strong and significant, 15 and 18 pp respectively, and the magnitude is larger for households with no labour capacity. On the other hand, participation in the programme led to a reduction of LSL400 in remittances – cash transfers from family members living outside the community.

5.7. Impact on labour supply

The extent to which a household has available labour is likely to condition the potential for cash transfer impacts on work participation. If labour is available and under-utilized, owing to liquidity constraints, an increase in work participation would be expected for less labour-constrained households. Conversely, households with tighter labour constraints may be less responsive (or reduce labour supply) to a cash transfer in their work participation if members are not fit to work. Furthermore household labour supply is likely to vary over the course of the year, as demonstrated by contrasting results regarding work participation and intensity over short versus long reference periods. The overall impact of the CGP on individual labour supply depends on the nature and location of the activity in question as well as the gender and age of the household member.

To assess the impact on labour supply information was collected covering two time periods: the last year and the last seven days. The former captured information on the number of months an individual was engaged in a particular activity, and the latter captured hours and days spent in that activity.⁴

Impacts on labour participation over the previous 12 months are small in magnitude and concentrated in the reduction of individual involvement in paid work outside the household (Table 17). A 3 pp reduction in participation in the previous year is observed while time spent in such activity in the previous week falls by 1.7 hours. The results for the overall sample mask heterogeneity linked to household labour constraints, gender and age categories. Impact estimates for the previous 12 months demonstrate that individuals in the most constrained households are also those most influenced by the cash transfer. For this subsample, ownership of non-farm businesses drops -11.7 pp. Members of moderately constrained households are 9.3 pp more likely to participate in any labour activity, suggesting individuals were available to work but that cash flow constraints may have limited their entry to participation in productive activities. Individuals in unconstrained households are less likely to work outside the household (-4.9 pp), a result that could indicate a preference towards home-based activities and that the household labour supply was not previously underutilized.

The overall reduction of 3 pp in paid work outside the household over the past 12 months is linked to lower participation among individuals in unconstrained households (-4.9 pp), notably men, both adult ages 18 to 59 (-8.7 pp) and those aged 60 and above (-18.5 pp). These impacts are magnified in the narrower time frame of the previous week, for unconstrained households and for adult males. Reduced participation rates are matched by a lower intensity of work as revealed by fewer hours per week spent in paid labour outside the household. Results are weaker when considering days worked in the previous week (not shown).

Female household members increased involvement in household agricultural activities (Table 18). Whereas adult women significantly increased their participation in crop production by 8.2 pp (not shown in the table), a greater share of elderly women (11 pp) participated in both crop and livestock activities over the previous year. Over a narrower time frame, elderly

⁴ The results presented here are slightly different compared to those reported by OPM, 2014. In the latter report the main results are based on a DiD estimator without controls. However, in the appendix, a sensitivity analysis compares DiD, DiD with covariates, household level and individual level-fixed effects for a subset of indicators. While similar in sign and significance to those reported by OPM, 2014, we observe small differences in point estimates, mostly attributable to a differing sample size. This difference is driven by the treatment of missing values for constructing the outcomes of interest. In our analysis we opted for logical imputations (e.g. if an individual is searching for a job, she cannot be in paid labour), while OPM left the indicator missing.

women also increased participation in the previous week (14 pp) and hours worked per week (3.6 hours) in household crop and livestock activities.⁵ On the other hand, adult men slightly increased involvement in non-farm business. In the week prior to the interview we observe a significant increase in both participation (2 pp) and intensity (0.5 hours). These effects however are probably temporary, as they are not present with the larger time frame of the previous twelve months.

In terms of child labour we confirm results reported by OPM (2014) showing very limited impacts on child productive time use when looking at the full sample of children. Unlike that analysis, however, we split the sample at 13 years of age. This is the scheduled age for completing primary school which is – at least technically – free and compulsory in Lesotho.⁶ Additionally the legal age for employment is 15. Taken together, the break off provides an intuitive basis for examining labour market choices of children benefitting from the CGP. Table 19 and Table 20 show results from using this split.

As can be seen the only story to emerge is a reduction in labour activities undertaken by older boys. This is reflected in a -12 pp impact on the likelihood of working in the last week. Given sample baseline values this represents a reduction of over 25 percent. The reduction was driven almost entirely by reduced time in own-farm activities. This result can perhaps be explained by the fact that boys aged 14-17 are the age and gender profile most likely to be engaged in agricultural activities. As a result of the strong education emphasis embedded with the transfer, households which would otherwise put older boys to farm work instead send them to school. Indeed, analysis shows that this is occurring, with impacts on enrolment and school clothing becoming greater for males, and especially older males (OPM, 2014).

5.8. Impact on non-CGP households

The CGP's impact is not only on households receiving the transfer, but also on the communities in which the programme operates. Spillover effects from beneficiaries to non-beneficiaries can occur by stimulating demand in the local economy (general-equilibrium effects), enhancing social networks (interaction effects), increasing awareness and social norms surrounding the objectives of the programme (behavioural effects) and through various other externalities (e.g. reduced infectious disease in the community, knowledge sharing on improved farm practices, etc.). Accounting for the totality of these effects can add to the overall impact of the programme and enable us to more appropriately gauge how the programme performs overall.

Existing evidence coming from similarly designed studies of cash transfer programmes (i.e. collecting RCT data on ineligibles as well) has found positive consumption spillover impacts among non-recipient neighbours of cash transfer beneficiaries (Angelucci and De Giorgi, 2009). The economic rationale centres again on the strong reliance on informal support and networks existent in poor rural communities. In the absence of formal insurance markets, households pool resources to protect against idiosyncratic shocks and are able to maintain consumption levels irrespective of a given household's income at a given point in time. This consumption smoothing occurs through increased transfers via loans, gifts and savings.

⁵ As with OPM, we performed a sensitivity analysis by comparing DiD with covariates, household level and individual level-fixed effects estimators. We find that all significant impacts substantially vanish when we move to a fixed effects estimation, even though we still observe a reduction in paid labour. The sensitivity analysis on labour supply requires further investigation.

⁶ In the sample roughly 99 percent of children had been enrolled in primary school.

To examine these potential impacts in the context of the CGP the above analysis on eligible households was re-run on ineligible households in treatment and control communities. The same assumptions mentioned in section 3.1 apply here: randomization successfully balanced ineligible household characteristics, and no spillover between treatment and control communities occurred. While we are not able to assess the extent of spillover between treatment and control households, with respect to randomization baseline characteristics for the ineligible population these are equally balanced between the group of non-recipient households in treated communities and the group in control communities.

Table 21 shows the CGP significantly boosted the proportion of households both providing as well as receiving food support from others in the community by approximately 17 pp. The injection of cash into CGP communities promotes in-kind sharing for both eligible and ineligible households with equal magnitude. Interestingly, there is no discernible impact on the provision or receipt of cash support from within communities. This result notwithstanding, household debt and savings are influenced by the programme: ineligible households reduced savings by 13 pp and increased borrowing in community groups by 6 pp. With the exception of savings, these results are similar to those observed among eligible households. Taken together, the CGP has increased food sharing, encouraged borrowing and reduced household savings. So what were households doing given this position?

On the production side ineligible households in treatment areas experienced a positive accumulation of some farm implements, notably cultivators (12 pp) and scotch-carts (9 pp), as compared to their ineligible counterparts in control areas (Table 22). The CGP also led to an increase in crop input expenditure (pesticides and inorganic fertilizer) among non-beneficiary households. These gains translated into greater wheat harvests which increased by 3 kg, and maize harvests for unconstrained households (results not shown).

Further we observe a reduction in the ownership and number of chickens and a corresponding increase in the value of income derived from livestock sales for ineligible households in CGP communities. There are a couple of possible explanations for this apparent disinvestment in chicken production: i) relatively wealthier households maybe more willing to engage in sharing agreements with CGP eligible neighbours, since after entering the programme the latter will be more likely to cooperate with other means in the community; ii) a higher market demand of poultry occurred as a consequence of the CGP which translated in larger volumes of sales for the better-off. OPM (2014) found a large increase in poultry consumption for eligible households in treatment communities yet no significant difference was found when compared to eligible households in control communities.

With respect to non-farm enterprises we do not observe a significant impact among ineligibles. However the share of households running an off-farm business in the last 30 days did not decline as in the case of the eligible population (see OPM, 2014). These results can be attributed partly to the messaging and partly to the amount of the grant which was not high enough to sustain higher level of expenditures for the eligible population.

Turning finally to productive time use, we see large decreases in time spent in labour activities, especially for men (Table 23). The magnitudes are quite striking: adult men reduced participation in any labour activity over the last year by 12 pp and in the last week by 19 pp, corresponding to around 7.5 hours. As with the CGP recipients, the large decrease is related to a reduction in casual wage labour. These results will require further examination.

6. Conclusions

This report uses data collected from a twenty-four month randomized experimental design impact evaluation (2011 and 2013) to analyse the impact of the Lesotho Child Grant Programme on productive activities and investments, asset accumulation and labour allocation.

This paper explored changes in livelihoods strategies that may have been triggered by the cash grant. With respect to involvement in farm activities, the CGP has contributed to increased production, especially the frequency of harvests from the garden plot and the overall volumes of main staples, particularly maize. However neither did we observe an expansion of operated land nor more time spent on field by household members and/or hired labour. Probably the impact on production was generated by a higher use of inputs, especially pesticides, which have been purchased to face a severe armyworm outbreak. Investments in inputs and crop production were also influenced by the Food Emergency Grant which was provided to CGP beneficiaries with the specific objective of increasing agricultural production and consequently reducing food insecurity. However while we observed an increase in input use, there has been no effect on assets accumulation in the form of either agricultural implements and/or livestock, with the exception of piglets ownership. Irregularity of payments and lumpiness probably did not allow beneficiary households to plan their investment decisions in a more consistent manner.

In terms of labour supply the CGP did not appear to impact labour participation either positively or negatively. Observed changes in livelihood patterns of adults and the elderly were common to individuals in both CGP and non-CGP households. If anything, the CGP seems to have reduced the intensity of adult participation in paid occasional and irregular work, particularly piecework labour, generally considered to be a negative coping mechanism in times of hardship. These results are common to many other similar programmes in the region and confirmed by qualitative evidence, indicating that some beneficiaries did reduce the amount of piecework/casual labour mainly around pay dates. For children, the programme reduced time spent in own-farm activities, especially older boys, which is consistent with results showing increased rates of school enrolment.

Further the CGP had a significant impact in strengthening the informal sharing arrangements in the community, particularly around food. Beneficiaries were more actively engaged in reciprocal community sharing networks and not only in the role of receivers, but also in that of providers of support to other community members. The study also highlights a crowding-out effect created by private cash transfers received from non-resident household members living abroad.

Finally, the CGP had an impact not only on households receiving the transfer, but also on the communities in which the programme operated. We observed significant spillover effects from beneficiaries to non-beneficiaries occurring because of interaction effects, especially around food sharing within social networks, and behavioural effects, whereas non-recipients also reduced time spent in casual labour.

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8. Tables

Table 1 Baseline household and individual sample sizes by district and treatment status

District	Control	Treated	Ineligible	Total
Maseru	137 <i>741</i>	150 <i>856</i>	289 <i>1 386</i>	576 <i>2 983</i>
Leribe	161 <i>892</i>	167 <i>975</i>	365 <i>1,899</i>	693 <i>3,766</i>
Berea	214 <i>1 106</i>	199 <i>1 061</i>	419 <i>1 902</i>	832 <i>4 069</i>
Mafeteng	186 <i>1 017</i>	197 <i>1 201</i>	397 <i>2 029</i>	780 <i>4 247</i>
Qachas Nek	41 <i>237</i>	34 <i>208</i>	98 <i>479</i>	173 <i>924</i>
Total	739 <i>3 993</i>	747 <i>4 301</i>	1 568 <i>7 695</i>	3 054 <i>15 989</i>

Note: sample of individuals in italic.

Table 2 Covariates baseline balance

Indicator	Mean [T]	Mean [C]	Diff	P- value	Total N	% bias
HH in crop production	0.805	0.748	0.057	0.100	1 486	13.68
HH planted maize	0.680	0.642	0.037	0.844	1 138	7.88
HH planted sorghum	0.231	0.188	0.043	0.219	1 138	10.47
HH planted wheat	0.044	0.024	0.020	0.378	1 138	11.25
HH planted beans	0.086	0.106	-0.019	0.417	1 138	6.58
HH planted peas	0.014	0.007	0.006	0.129	1 138	6.16
HH planted vegetables	0.771	0.745	0.027	0.579	1 138	6.22
HH planted fruits	0.095	0.049	0.046	0.075	1 138	17.70
Quantity harvested, maize, kg	51.767	34.295	17.472	0.025	1 138	15.73
Quantity harvested, sorghum, kg	15.480	12.030	3.450	0.311	1 138	6.67
Quantity harvested, wheat, kg	3.525	2.500	1.025	0.784	1 138	3.77
HH participated in crop market	0.071	0.062	0.009	0.904	1 138	3.66
Total earnings from selling crops	9.624	16.515	-6.891	0.064	1 138	8.28
HH used any crop inputs	0.978	0.978	0.000	0.649	1 138	0.09
HH used seed	0.969	0.974	-0.005	0.679	1 138	3.00
HH used pesticide	0.127	0.124	0.003	0.707	1 138	0.91
HH used organic fertilizer	0.339	0.374	-0.035	0.156	1 138	7.33
HH used inorganic fertilizer	0.231	0.184	0.046	0.586	1 138	11.40
HH purchased any crop inputs	0.439	0.394	0.045	0.351	1 138	9.09
HH purchased seed	0.325	0.308	0.017	0.494	1 138	3.66
HH purchased pesticide	0.092	0.102	-0.011	0.683	1 138	3.60
HH purchased organic fertilizer	0.025	0.026	0.000	0.193	1 138	0.08
HH purchased inorganic fertilizer	0.114	0.084	0.030	0.637	1 138	9.93
HH expenditure for crop inputs	63.447	58.088	5.360	0.849	1 138	2.81
HH expenditure for seed	23.749	25.082	-1.333	0.879	1 138	1.81
HH expenditure for pesticide	5.524	4.224	1.299	0.671	1 138	4.97
HH expenditure for organic fertilizer	3.820	4.735	-0.915	0.585	1 138	2.51
HH expenditure for inorganic fertilizer	30.354	24.046	6.309	0.888	1 138	4.47
Hired ag. labour: days for crop activities	3.680	2.166	1.514	0.327	1 138	6.45
HH owns/herds any livestock	0.613	0.579	0.034	0.275	1 486	6.92
Sheep owned by HH	0.238	0.238	0.000	0.970	886	0.08
Goats owned by HH	0.203	0.213	-0.010	0.906	886	2.35
Horses owned by HH	0.107	0.075	0.032	0.699	886	11.21
Donkeys owned by HH	0.301	0.278	0.023	0.959	886	5.13
Chickens owned by HH	0.485	0.502	-0.018	0.697	886	3.52
Pigs owned by HH	0.203	0.292	-0.089	0.003	886	20.71
Cattle owned by HH	0.557	0.493	0.064	0.786	886	12.78
# sheep owned by HH	1.415	1.187	0.228	0.920	886	5.13
# goats owned by HH	1.212	1.112	0.100	0.947	886	2.73
# horses owned by HH	0.153	0.093	0.059	0.474	886	13.79
# donkeys owned by HH	0.513	0.423	0.090	0.841	886	9.84
# chickens owned by HH	2.279	2.421	-0.141	0.964	886	3.54
# pigs owned by HH	0.286	0.369	-0.083	0.016	886	10.86
# cattle owned by HH	1.627	1.341	0.286	0.751	886	13.97
HH participates in livestock mkt.	0.275	0.318	-0.043	0.243	886	9.34
HH sold livestock by-products	0.096	0.091	0.005	0.429	886	1.70
HH earnings from all by-product sales	39.775	34.535	5.240	0.552	886	1.82
HH used any livestock inputs	0.509	0.432	0.076	0.918	886	15.35
HH used feed	0.419	0.364	0.055	0.925	886	11.22
HH used fodder	0.214	0.180	0.034	0.359	886	8.56
HH used vet services	0.227	0.208	0.019	0.702	886	4.63
HH purchased any livestock inputs	0.395	0.360	0.035	0.789	886	7.30
HH purchased feed	0.378	0.334	0.044	0.873	886	9.11
HH purchased fodder	0.013	0.012	0.001	0.287	886	1.28

HH purchased vet services	0.122	0.145	-0.023	0.425	886	6.64
HH expenditure for livestock inputs	39.897	35.685	4.213	0.786	886	3.58
HH expenditure for feed	26.498	22.061	4.437	0.965	886	5.47
HH expenditure for fodder	3.913	4.533	-0.620	0.600	886	1.17
HH expenditure for vet services	9.487	9.091	0.396	0.861	886	1.10
Hired ag. labour: days for livestock activities	4.498	1.638	2.860	0.102	886	9.40
HH owns any asset	0.629	0.554	0.075	0.155	1 257	15.32
HH owns hoe	0.573	0.505	0.068	0.249	1 257	13.60
HH owns sprayer	0.009	0.011	-0.002	0.393	1 257	1.98
HH owns plough	0.222	0.153	0.069	0.195	1 257	17.73
HH owns planter	0.108	0.054	0.054	0.003	1 257	19.95
HH owns tractor	0.008	0.008	0.000	0.890	1 257	0.36
HH owns cultivator	0.137	0.078	0.059	0.004	1 257	19.23
HH owns scotch-cart	0.100	0.055	0.045	0.110	1 257	16.74
HH owns yokes	0.250	0.172	0.078	0.100	1 257	19.08
HH rents tractor	0.067	0.062	0.005	0.880	1 257	2.20
HH operating non-farm business last 12 months	0.198	0.179	0.020	0.306	1 486	4.99
HH operating non-farm business last 30 days	0.703	0.644	0.059	0.203	280	12.51
# of non-farm enterprises operated	1.054	1.030	0.024	0.539	280	10.92
# of employees	0.236	0.106	0.130	0.579	280	14.46
# months in operation	6.405	6.220	0.186	0.780	280	4.57
HH received public transfers	0.135	0.131	0.004	0.573	1 486	1.16
HH member received pension	0.112	0.108	0.004	0.589	1 486	1.34
HH received private transfers	0.424	0.388	0.036	0.765	1 486	7.33
HH received remittance from non-resident members	0.258	0.223	0.035	0.416	1 486	8.21
HH received cash support from family members	0.139	0.147	-0.008	0.420	1 486	2.36
HH received cash support from non-family members	0.066	0.068	-0.002	0.525	1 486	0.83
HH made private transfers	0.076	0.078	-0.002	0.238	1 486	0.81
HH received food from network members	0.700	0.763	-0.063	0.027	1 486	14.26
HH provided food to network members	0.470	0.501	-0.031	0.234	1 486	6.16
HH received help in time/labour from network members	0.116	0.108	0.008	0.677	1 486	2.60
HH provided help in time/labour to network members	0.183	0.160	0.024	0.756	1 486	6.29
HH received ag. inputs from network members	0.463	0.406	0.057	0.904	1 486	11.56
HH provided ag. inputs with network members	0.232	0.241	-0.009	0.536	1 486	2.18
HH saved money	0.510	0.475	0.035	0.923	1 486	7.02
Amount of savings, last contribution	39.296	27.100	12.196	0.169	1 486	7.71
HH borrowed money, last 12 months	0.668	0.720	-0.052	0.047	1 486	11.27
Outstanding amount of debts	271.625	233.588	38.036	0.682	1 269	7.26
HH bought on credit in last 12 months	0.373	0.347	0.026	0.830	1 468	5.39
Individual in any labour activity, last 12 months	0.608	0.603	0.004	0.309	3 563	0.91
Individual in paid-work outside the HH, last 12 months	0.333	0.336	-0.003	0.812	3 563	0.65
Individual in any own agriculture activities, last 12 months	0.493	0.473	0.020	0.271	3 563	4.07
Individual in non-farm business activities, last 12 months	0.062	0.073	-0.012	0.986	3 563	4.61
Individual in any labour activity, last week	0.476	0.485	-0.009	0.975	3 563	1.74
Individual in paid-work outside the HH, last week	0.325	0.329	-0.004	0.828	3 563	0.87
Individual in any own agriculture activities, last week	0.254	0.234	0.021	0.450	3 563	4.80
Individual in own non-farm business activities, last week	0.026	0.036	-0.010	0.642	3 563	5.79
Hours last week: any labour	12.822	13.194	-0.372	0.990	3 563	1.77
Hours last week: paid labour	4.851	5.294	-0.444	0.585	3 563	3.34
Hours last week: crop and livestock	7.272	6.949	0.323	0.696	3 563	2.04
Hours last week: own enterprise	0.699	0.951	-0.252	0.619	3 563	4.16
Individual with permanent jobs	0.023	0.028	-0.006	0.354	3 563	3.56
Individual with temporary jobs	0.040	0.048	-0.008	0.878	3 563	3.81
Individual with occasional jobs	0.265	0.254	0.011	0.493	3 563	2.60

Table 3 Share of households producing given crop, over those who are crop producers (by treatment status, baseline)

	Eligibles	Treatment	Control	Diff
Maize	0.692	0.688	0.697	-0.008
Sorghum	0.241	0.270	0.209	0.061
Wheat	0.023	0.029	0.016	0.013
Beans	0.092	0.084	0.101	-0.017
Peas	0.009	0.014	0.005	0.009
Vegetables	0.750	0.761	0.737	0.024
Fruit	0.046	0.062	0.028	0.034
N	1 138	590	548	

Note: difference *significant at 10%, ** significant at 5%.

Table 4 Share of households owning given livestock animal, over those who own livestock. By treatment status, baseline

	Eligibles	Treatment	Control	Diff	Herd size
Any livestock	0.632	0.653	0.610	0.043	1.5
Sheep	0.252	0.251	0.253	-0.002	5.3
Goats	0.225	0.222	0.227	-0.005	4.7
Horses	0.071	0.076	0.066	0.010	1.4
Donkeys	0.275	0.274	0.276	-0.002	1.6
Chickens	0.477	0.468	0.486	-0.018	4.5
Pigs	0.245	0.194	0.304	-0.110	** 1.2
Cattle	0.556	0.562	0.549	0.013	2.8
	886	458	428		

Note: difference *significant at 10%, ** significant at 5%. Herd size refers to TLU units in the first row.

Table 5 Share of households using and purchasing crop inputs, and total amount spent (by district, baseline)

	Maseru	Leribe	Berea	Mafeteng	QN	Total
<u>% households using</u>						
Any crop input	99	97	98	99	97	98
Seeds	99	96	97	98	96	98
Pesticides	9	14	39	1	1	16
Organic fertilizers	24	47	76	16	15	39
Inorganic fertilizers	19	18	40	19	9	24
Hired labour	8	9	18	5	5	10
Any livestock input	42	56	57	49	32	50
Feed	37	48	46	39	32	42
Fodder	7	26	36	22	2	22
Veterinary services	22	24	33	23	15	25
Hired labour	4	3	0	2	2	2
<u>% households purchasing</u>						
Any crop input	38	59	53	33	24	44
Seeds	31	51	22	28	24	31
Pesticides	5	11	32	1	1	12
Organic fertilizers	4	2	1	4	3	3
Inorganic fertilizers	10	12	31	3	0	13
any livestock input	36	47	41	38	29	39
Feed	34	44	40	34	29	37
Fodder	0	2	1	2	0	1
Veterinary services	15	13	20	13	9	15

Note: Share of households using hired labour equals the share purchasing.

Table 6 Crop and livestock input amounts among producers (by treatment status, baseline)

	Eligibles	Treatment	Control	Diff
<i>Crop inputs</i>	72.0	73.9	69.9	4.0
Seed	25.2	24.7	25.7	-1.0
Pesticides	5.9	6.4	5.3	1.1
Organic fertilizer	4.7	5.5	3.7	1.9
Inorganic Fertilizer	36.3	37.3	35.2	2.1
Hired labour	3.7	4.8	2.4	2.4
<i>Livestock inputs</i>	39.1	40.2	37.9	2.2
Feed	25.8	25.9	25.6	0.3
Fodder	3.4	4.1	2.6	1.5
Veterinary Services	9.9	10.1	9.6	0.5
Hired labour	3.7	5.7	1.3	4.3

Note: difference *significant at 10%, ** significant at 5%. Hired labour expressed in days/year. All other variables are expenditures in LSL.

Table 7 Share of households receiving transfers and amount (by treatment status, baseline)

	Eligibles	Treatment	Control	Diff
<u>% households</u>				
Any transfer	49.5	50.2	48.9	1.3
<i>Public</i>	13.3	14.0	12.6	1.4
Pension	11.2	11.8	10.6	1.2
<i>Private</i>	40.2	40.8	39.6	1.2
Non-resident HH members	23.6	25.1	22.0	3.1
Family members in the Community	13.6	12.7	14.6	-1.9
Non-family members	7.3	6.7	8.0	-1.3
<u>Amount received, LSL</u>				
Public, monthly	49	43	55	-11
Private, last 12 months	754	908	590	318
N	1 486	747	739	

Note: difference *significant at 10%, ** significant at 5%.

Table 8 Adult labour participation (18-59 yrs) in last 12 months (by treatment status, baseline)

	Eligibles	Treatment	Control	Diff
<i>Male %</i>				
Any labour	64.6	66.4	62.7	3.7
Wage labour	38.6	40.2	36.9	3.3
Own-farm	54.8	55.1	54.6	0.5
Off-farm business	4.9	4.9	5.0	-0.1
N	1 656	858	798	
<i>Female %</i>				
Any labour	61.1	61.2	60.9	0.4
Wage labour	32.9	32.9	32.8	0.0
Own-farm	47.0	48.4	45.3	3.1
Off-farm business	11.2	11.0	11.5	-0.5
N	1 905	1 000	905	

Note: * 0.10 ** 0.05 *** 0.01.

Table 9 **Impact of the CGP on crop input use**

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<i>Use (% households)</i>								
Any crop input	0.030 (0.70)	0.778	0.018 (0.44)	0.795	0.159 (2.21)	0.767	-0.128 (-1.00)	0.691
Seed	0.038 (0.86)	0.772	0.032 (0.73)	0.790	0.154 (2.02)	0.753	-0.128 (-1.00)	0.691
Pesticides	0.079 (2.10)	0.122	0.127 (3.31)	0.142	0.096 (1.39)	0.085	-0.256 (-2.58)	0.061
Organic fertilizer	<u>0.074</u> (1.66)	0.315	0.054 (1.17)	0.351	<u>0.144</u> (1.73)	0.263	-0.002 (-0.02)	0.182
Inorganic fertilizer	0.052 (1.18)	0.191	0.028 (0.57)	0.194	0.056 (0.72)	0.193	0.172 (1.59)	0.163
<i>Purchase (% households)</i>								
Any crop input	0.051 (1.08)	0.341	0.064 (1.19)	0.369	0.139 (1.56)	0.290	-0.185 (-1.35)	0.254
Seed	<u>0.074</u> (1.74)	0.237	<u>0.089</u> (1.77)	0.251	0.073 (0.95)	0.221	-0.109 (-0.85)	0.183
Pesticides	0.051 (1.45)	0.092	0.112 (3.37)	0.105	0.020 (0.33)	0.064	-0.211 (-2.33)	0.061
Organic fertilizer	0.010 (0.55)	0.022	0.006 (0.22)	0.024	0.034 (1.28)	0.019	-0.012 (-0.31)	0.010
Inorganic fertilizer	<u>0.058</u> (1.68)	0.104	0.043 (1.05)	0.124	0.070 (1.28)	0.071	0.171 (2.24)	0.042
<i>Expenses, LSL</i>								
Any crop input	15.085 (0.89)	61.271	1.758 (0.08)	69.989	9.636 (0.55)	41.535	129.266 (1.40)	43.318
Seed	12.004 (1.48)	21.036	5.868 (0.55)	24.084	14.496 (1.25)	15.470	12.474 (0.64)	12.164
Pesticides	-2.164 (-0.79)	5.129	-1.672 (-0.44)	5.464	-3.347 (-0.65)	5.116	-4.861 (-1.10)	2.993
Organic fertilizer	-2.929 (-0.64)	4.545	-5.458 (-0.89)	5.513	1.843 (0.44)	3.082	1.695 (0.35)	1.138
Inorganic fertilizer	8.174 (0.76)	30.560	3.019 (0.20)	34.929	-3.356 (-0.32)	17.867	119.957 (1.46)	27.022
N	2 706		1 808		600		298	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 10 Impact of the CGP on crop production and use

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<i>HH in crop production (%)</i>								
Total	0.018 (0.43)	0.783	0.013 (0.32)	0.801	<u>0.141</u> (1.92)	0.766	-0.174 (-1.38)	0.699
Maize	0.030 (0.62)	0.542	0.037 (0.79)	0.560	0.080 (0.89)	0.517	-0.222 (-1.50)	0.472
Sorghum	0.019 (0.48)	0.190	0.022 (0.55)	0.179	0.019 (0.25)	0.247	-0.051 (-0.45)	0.150
Wheat	0.023 (1.57)	0.019	0.023 (1.28)	0.022	0.009 (0.42)	0.010	0.077 (1.19)	0.018
Beans	0.024 (0.92)	0.072	0.035 (1.14)	0.079	-0.040 (-0.84)	0.062	-0.027 (-0.41)	0.042
Peas	-0.002 (-0.34)	0.006	-0.009 (-0.98)	0.005	0.002 (0.15)	0.008	0.015 (0.42)	0.005
Potatoes	0.003 (0.43)	0.005	-0.003 (-0.39)	0.005	0.015 (1.10)	0.008	-0.003 (-0.29)	0.004
Sunflowers	-0.000 (-0.05)	0.001	-0.003 (-1.35)	0.001	0.008 (1.42)	0.000	0.009 (0.97)	0.004
Vegetables	0.034 (0.59)	0.590	0.007 (0.12)	0.614	<u>0.170</u> (1.72)	0.547	-0.039 (-0.25)	0.516
Fruits	-0.001 (-0.02)	0.035	0.002 (0.04)	0.029	0.079 (1.11)	0.056	-0.117 (-1.05)	0.035
<i>Harvested crops (kg)</i>								
Maize	38.870 (2.15)	37.099	62.349 (2.35)	41.349	19.791 (0.72)	26.318	-34.887 (-1.04)	30.607
Sorghum	<u>9.817</u> (1.80)	12.817	0.370 (0.07)	10.785	22.740 (2.27)	18.706	49.324 (2.43)	14.494
Wheat	<u>6.866</u> (1.66)	1.730	10.755 (1.46)	1.571	2.868 (1.00)	0.801	0.132 (0.02)	4.567
Beans	-0.561 (-0.09)	1.759	0.498 (0.05)	2.300	-1.276 (-1.09)	0.653	-3.372 (-1.24)	0.420
Peas	0.045 (0.70)	0.050	-0.027 (-1.00)	0.035	0.038 (0.58)	0.125	0.000 (.)	0.000
<i>Crop use</i>								
HH in crop market (%)	-0.010 (-0.39)	0.061	0.015 (0.47)	0.070	-0.094 (-2.45)	0.044	0.014 (0.30)	0.036
HH sells (%)	-0.019 (-0.77)	0.058	0.005 (0.17)	0.067	-0.103 (-2.97)	0.037	0.007 (0.16)	0.036
HH barter (%)	0.027 (2.77)	0.005	0.033 (2.34)	0.005	0.009 (0.61)	0.007	0.035 (1.76)	0.005
Income from crop sales	11.928 (1.02)	15.792	<u>27.963</u> (1.69)	20.416	-30.643 (-1.54)	5.400	23.273 (1.41)	6.118
N	2 706		1 808		600		298	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 11 Impact of CGP on home gardening

	All		Unconstrained		Moderately		Severely	
	b/t	F	b/t	F	b/t	F	b/t	F
<i>% harvesting</i>								
<i>Product</i>								
Total	0.055 [2.00]	0.643	0.034 [1.08]	0.659	0.187 [2.69]	0.574	-0.034 [-0.34]	0.678
Spinach	0.084 [2.75]	0.458	0.078 [2.18]	0.463	0.143 [2.08]	0.420	-0.130 [-1.42]	0.501
Florida leaf	-0.024 [-0.74]	0.385	-0.054 [-1.34]	0.386	0.057 [0.87]	0.371	-0.077 [-0.88]	0.410
English rape	<u>0.057</u> [1.75]	0.382	0.027 [0.75]	0.386	0.178 [2.68]	0.383	-0.129 [-1.34]	0.354
Cabbage	0.023 [0.91]	0.270	0.005 [0.18]	0.284	0.112 [2.59]	0.209	-0.078 [-0.77]	0.294
Pepper	0.003 [0.45]	0.016	0.011 [1.25]	0.018	-0.037 [-1.35]	0.017	0.000 [0.04]	0.002
Onion	-0.016 [-2.03]	0.025	<u>-0.019</u> [-1.86]	0.025	-0.025 [-1.31]	0.032	0.009 [0.58]	0.010
Peas	0.000 [-0.01]	0.016	-0.004 [-0.52]	0.018	0.021 [1.54]	0.015	-0.025 [-1.17]	0.003
Carrots	0.000 [-0.01]	0.016	0.013 [0.56]	0.096	0.061 [1.41]	0.100	-0.021 [-0.52]	0.061
Tomatoes	0.037 [1.98]	0.138	0.016 [0.70]	0.148	0.065 [1.39]	0.133	0.016 [0.30]	0.079
Beetroot	0.006 [0.25]	0.128	-0.008 [-0.34]	0.132	0.062 [1.31]	0.121	-0.120 [-1.54]	0.119
Green beans	0.004 [0.70]	0.009	0.003 [0.50]	0.010	0.001 [0.06]	0.010	0.001 [0.24]	0.002
Other	0.034 [2.11]	0.074	0.007 [0.40]	0.071	<u>0.078</u> [1.76]	0.084	0.094 [2.04]	0.075
<i>Season</i>								
Spring	0.098 [3.84]	0.285	0.062 [2.30]	0.282	0.192 [3.01]	0.307	0.063 [0.76]	0.261
Winter	<u>0.057</u> [1.88]	0.42	0.041 [1.14]	0.424	0.188 [2.77]	0.394	-0.092 [-0.98]	0.442
Summer	0.115 [3.90]	0.472	0.107 [2.83]	0.489	0.171 [2.06]	0.446	0.056 [0.66]	0.41
Autumn	0.072 [2.47]	0.6	<u>0.056</u> [1.79]	0.617	0.179 [2.36]	0.525	0.066 [0.68]	0.637
# vegetables	<u>0.227</u> [1.74]	1.994	0.075 [0.50]	2.037	0.715 [2.47]	1.895	-0.459 [-1.23]	1.911
# of seasons	0.342 [3.65]	1.776	0.266 [2.49]	1.812	0.730 [3.07]	1.673	0.092 [0.34]	1.749
N	1 353		904		300		149	

Note: Estimations use single difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. F refers to follow-up mean value of indicator shown in the preceding column.

Table 12 Impact of the CGP on livestock holding

	Owns (%)		Owns (#)	
	b/t	B	b/t	B
Total	0.028 (0.77)	0.594	-0.0 (-0.16)	0.9
Sheep	-0.030 (-1.07)	0.165	-0.1 (-0.43)	0.9
Goats	0.007 (0.24)	0.145	0.3 (1.11)	0.7
Horses	0.002 (0.08)	0.046	-0.0 (-0.49)	0.1
Donkeys	0.002 (0.09)	0.172	0.0 (0.21)	0.3
Chickens	0.012 (0.25)	0.304	-0.0 (-0.12)	1.4
Pigs	0.078 (2.12)	0.153	0.1 (2.16)	0.2
Cattle	-0.027 (-0.71)	0.348	-0.1 (-0.73)	1.0
N	2 706		2 706	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 13 Impact of the CGP on livestock inputs and income

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<u>Purchase (% households)</u>								
<i>Any livestock input</i>	0.041 (1.02)	0.249	0.001 (0.03)	0.279	0.136 (1.96)	0.204	-0.005 (-0.05)	0.142
Feed	0.031 (0.82)	0.233	-0.015 (-0.30)	0.262	<u>0.122</u> (1.80)	0.194	0.062 (0.66)	0.123
Fodder	-0.015 (-1.26)	0.010	-0.021 (-1.29)	0.014	0.001 (0.09)	0.002	-0.009 (-0.30)	0.002
Vet services	-0.011 (-0.36)	0.099	-0.031 (-0.86)	0.112	0.025 (0.48)	0.086	-0.048 (-0.72)	0.046
<u>Expenses, LSL</u>								
<i>Any livestock input</i>	-11.838 (-1.06)	31.547	-29.291 (-1.99)	33.507	32.759 (1.53)	36.574	2.414 (0.12)	9.097
Feed	-2.427 (-0.35)	20.153	-16.446 (-2.05)	19.154	<u>33.833</u> (1.85)	29.588	6.547 (0.49)	8.249
Fodder	-10.649 (-2.32)	3.476	-15.514 (-2.39)	4.857	0.871 (0.54)	0.618	-3.968 (-0.64)	0.113
Vet services	1.238 (0.22)	7.918	2.669 (0.34)	9.496	-1.945 (-0.27)	6.369	-0.165 (-0.02)	0.735
<u>Market participation</u>								
HH in livestock market (%)	0.025 (0.80)	0.177	0.002 (0.05)	0.190	0.057 (0.82)	0.151	0.075 (0.61)	0.146
livestock income	18.2 (0.19)	187.0	-73.6 (-0.56)	185.2	266.9 (1.53)	188.2	200.1 (0.83)	196.1
HH sells by-products (%)	0.011 (0.48)	0.060	0.023 (0.80)	0.067	-0.000 (-0.00)	0.057	-0.033 (-0.75)	0.022
By-products income	35.4 (1.58)	26.0	34.3 (0.98)	28.1	5.3 (0.12)	26.3	73.4 (0.88)	11.5
Sales: milk	<u>-2.4</u> (-1.80)	0.0	<u>-3.7</u> (-1.88)	0.0	0.0 (.)	0.0	0.0 (.)	0.0
Sales: eggs	0.6 (0.41)	0.5	0.1 (0.06)	0.7	0.4 (0.56)	0.0	-0.4 (-1.04)	0.2
Sales: meat	-0.2 (-1.07)	0.0	0.0 (.)	0.0	-1.2 (-1.27)	0.0	0.0 (.)	0.0
Sales: mohair	<u>37.4</u> (1.70)	25.5	37.8 (1.11)	27.4	6.1 (0.14)	26.2	73.8 (0.88)	11.3
N	2 706		1 808		600		298	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 14 Impact of the CGP on non-farm enterprises

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<u>% households with off-farm business</u>								
Last 12 months	-0.038	0.210	-0.016	0.199	-0.025	0.237	-0.252	0.231
	(-1.04)		(-0.37)		(-0.33)		(-2.14)	
Last 30 days	<u>-0.048</u>	0.152	-0.036	0.144	0.004	0.164	-0.314	0.182
	(-1.66)		(-0.99)		(0.07)		(-3.02)	
# off-farm enterprises	-0.036	0.221	-0.009	0.210	-0.027	0.239	-0.328	0.258
	(-0.92)		(-0.19)		(-0.36)		(-2.64)	
# employees	0.007	0.038	0.001	0.047	<u>0.036</u>	0.019	-0.028	0.017
	(0.29)		(0.02)		(1.72)		(-0.76)	
# months in operation	-0.226	1.360	-0.078	1.280	-0.317	1.416	-1.360	1.770
	(-0.79)		(-0.23)		(-0.57)		(-1.28)	
N	2 706		1 808		600		298	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 15 Impact of the CGP on saving and borrowing

	Share of households			Amount, LSL		
	b/t	B	N	b/t	B	N
<i><u>Saving</u></i>						
Total	-0.024 (-0.47)	0.508	2 706	-26.7 (-0.93)	42.2	2 698
Stockvel	-0.029 (-1.27)	0.042	2 706	-1.3 (-0.35)	4.5	2 706
Burial plan/society	-0.050 (-0.97)	0.441	2 706	-18.0 (-1.08)	15.2	2 701
Formal institution	<u>-0.020</u> (-1.94)	0.018	2 706	-3.8 (-0.22)	6.3	2 705
Other	0.030 (1.15)	0.094	2 706	-3.3 (-0.42)	16.2	2 702
<i><u>Borrowing</u></i>						
Total	0.003 (0.09)	0.711	2 706	-114.7 (-1.41)	311.7	2 485
Bank	0.005 (0.55)	0.011	2 706			
Micro-lender	0.005 (0.12)	0.191	2 706			
Relative/friend	0.021 (0.50)	0.571	2 706			
Community group	<u>-0.042</u> (-1.65)	0.082	2 706			
Stockvel	-0.018 (-1.24)	0.034	2 706			
Other	0.004 (0.20)	0.016	2 706			
<i><u>Purchased on credit</u></i>	0.025 (0.53)	0.347	2 689			

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 16 Impact of the CGP on informal transfers and social networks

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<i><u>Private transfers received</u></i>								
Total (%)	-0.027 (-0.66)	0.397	0.018 (0.40)	0.431	-0.231 (-2.54)	0.373	0.143 (1.22)	0.223
Total, LSL	<u>-431.6</u> (-1.81)	907.7	-429.9 (-1.37)	1,183.5	-425.5 (-1.42)	425.2	-113.8 (-0.73)	64.2
Non-resident members (%)	-0.024 (-0.69)	0.227	-0.010 (-0.27)	0.279	-0.070 (-0.87)	0.169	-0.008 (-0.19)	0.004
Non-resident members, LSL	<u>-406.2</u> (-1.75)	803.7	-387.6 (-1.28)	1,077.2	-391.9 (-1.36)	306.4	-99.9 (-0.99)	3.0
Family members in community (%)	0.001 (0.02)	0.137	0.014 (0.39)	0.132	-0.047 (-0.94)	0.152	0.040 (0.35)	0.137
Family members in community, LSL	-53.6 (-1.33)	82.9	-59.9 (-1.19)	85.1	-49.3 (-0.79)	94.9	-70.6 (-0.58)	45.2
Non-family members (%)	0.009 (0.40)	0.072	0.018 (0.77)	0.066	-0.090 (-1.55)	0.086	0.143 (2.23)	0.082
Non-family members, LSL	9.1 (0.96)	18.0	4.9 (0.42)	21.1	-11.9 (-1.62)	10.1	52.1 (1.10)	12.7
<i><u>Private transfers given</u></i>								
Total (%)	0.012 (0.59)	0.070	0.014 (0.56)	0.067	0.003 (0.07)	0.087	0.001 (0.02)	0.061
Total, LSL	-12.2 (-0.43)	41.7	18.5 (0.42)	46.6	-83.2 (-1.60)	37.6	31.2 (0.70)	18.0
Non-resident members (%)	-0.007 (-0.42)	0.032	-0.013 (-0.60)	0.036	-0.010 (-0.43)	0.024	0.046 (1.24)	0.018
Non-resident members, LSL	-5.7 (-0.21)	35.6	18.0 (0.41)	42.6	-53.2 (-1.18)	25.6	45.9 (1.09)	10.2
Family members in community (%)	0.011 (0.78)	0.026	0.009 (0.62)	0.018	0.011 (0.27)	0.040	-0.022 (-0.44)	0.045
Family members in community, LSL	-6.5 (-1.25)	4.5	-3.3 (-1.13)	2.7	-28.4 (-1.02)	9.6	-6.9 (-0.79)	6.4
Non-family members (%)	0.013 (1.32)	0.016	0.019 (1.48)	0.015	0.002 (0.09)	0.023	-0.002 (-0.17)	0.008
Non-family members, LSL	-0.2 (-0.06)	1.5	3.6 (1.55)	1.3	-1.6 (-0.41)	2.4	-7.9 (-0.75)	1.4
<i><u>% HH receiving help</u></i>								
Food	0.150 (3.54)	0.752	0.181 (3.93)	0.731	0.007 (0.08)	0.802	0.301 (2.41)	0.788
Labour/time	-0.028 (-0.65)	0.110	0.038 (0.75)	0.101	-0.190 (-2.64)	0.099	-0.103 (-1.00)	0.190
Ag inputs	0.027 (0.51)	0.474	0.058 (1.06)	0.485	-0.010 (-0.10)	0.464	-0.172 (-1.10)	0.420
<i><u>% HH providing help:</u></i>								
Food	0.184 (3.30)	0.488	0.181 (2.74)	0.499	0.057 (0.51)	0.424	0.342 (2.67)	0.538
Labour/time	-0.003 (-0.07)	0.176	0.025 (0.52)	0.177	-0.030 (-0.37)	0.170	-0.143 (-1.28)	0.180
Ag inputs	0.017 (0.40)	0.237	-0.009 (-0.18)	0.244	<u>0.152</u> (1.93)	0.224	-0.109 (-0.96)	0.220
N	2 706		1 808		600		298	

Note: Estimations use difference-in-difference modelling among panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 17 Impact of the CGP on labour supply, by labour constraints

	All		Unconstrained		Moderately		Severely	
	b/t	B	b/t	B	b/t	B	b/t	B
<i><u>Participation last 12 months (%)</u></i>								
Any labour activity	0.004 (0.17)	0.524	-0.017 (-0.70)	0.532	0.093 (2.09)	0.5	-0.063 (-0.78)	0.507
Own NF business	-0.006 (-0.38)	0.063	0.005 (0.27)	0.062	-0.001 (-0.04)	0.059	-0.117 (-2.41)	0.081
Own agricultural activities	0.023 (0.85)	0.45	0.012 (0.43)	0.458	0.074 (1.46)	0.428	-0.028 (-0.33)	0.441
Paid work outside HH	<u>-0.03</u> (-1.67)	0.215	-0.049 (-2.33)	0.226	0.027 (0.98)	0.193	0.008 (0.15)	0.168
<i><u>Participation last week (%)</u></i>								
Any labour activity	<u>-0.05</u> (-1.85)	0.393	-0.076 (-2.47)	0.404	0.03 (0.61)	0.366	-0.051 (-0.68)	0.353
Own NF business	0.004 (0.51)	0.027	0.004 (0.40)	0.026	0.003 (0.20)	0.028	-0.034 (-0.98)	0.032
Own crop & livestock production	-0.035 (-1.51)	0.242	<u>-0.044</u> (-1.71)	0.248	-0.012 (-0.25)	0.22	-0.05 (-0.73)	0.242
Paid work outside HH	-0.044 (-2.53)	0.21	-0.061 (-3.08)	0.221	0.015 (0.60)	0.188	-0.009 (-0.18)	0.164
<i><u>Hours worked last week</u></i>								
Any labour	-2.8 (-3.20)	11	-3.8 (-3.63)	11.1	-0.1 (-0.04)	10.6	-3.2 (-1.10)	10.5
Own NF enterprise	-0.1 (-0.33)	0.7	0 (0.08)	0.8	-0.3 (-1.01)	0.6	0.1 (0.14)	0.9
Own crop & livestock	-1.1 (-1.37)	7.1	-1.2 (-1.46)	7.2	-0.8 (-0.52)	6.9	-3.3 (-1.63)	6.5
Paid labour	-1.7 (-3.49)	3.1	-2.6 (-4.82)	3.1	1.1 (1.24)	3.1	-0.1 (-0.03)	3.1
N	12 433		8 562		2 845		1 026	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 18 Impact of the CGP on adult labour supply, by age and gender

	Adults (18-59)		Elderly (60+)		Adult men		Elderly men		Adult women		Elderly women	
	b/t	B	b/t	B	b/t	B	b/t	B	b/t	B	b/t	B
<i><u>Participation last 12 months (%)</u></i>												
Any labour activity	0.019 (0.61)	0.633	0.022 (0.42)	0.736	-0.055 (-1.60)	0.649	0.038 (0.43)	0.823	<u>0.079</u> (1.76)	0.618	0.004 (0.07)	0.697
Own NF business	-0.004 (-0.18)	0.085	<u>-0.057</u> (-1.67)	0.121	0.012 (0.60)	0.051	0.059 (1.21)	0.075	-0.015 (-0.49)	0.116	-0.103 (-2.20)	0.142
Own agricultural activities	0.048 (1.23)	0.513	0.076 (1.51)	0.693	0.027 (0.59)	0.552	-0.035 (-0.35)	0.79	0.067 (1.43)	0.479	<u>0.107</u> (1.65)	0.649
Paid work outside HH	<u>-0.056</u> (-1.67)	0.352	-0.076 (-1.24)	0.256	<u>-0.087</u> (-1.84)	0.381	<u>-0.185</u> (-1.69)	0.302	-0.03 (-0.72)	0.327	-0.004 (-0.06)	0.235
<i><u>Participation last week (%)</u></i>												
Any labour activity	<u>-0.064</u> (-1.75)	0.509	0.02 (0.28)	0.53	-0.108 (-2.45)	0.57	-0.006 (-0.06)	0.663	-0.027 (-0.56)	0.454	0.032 (0.41)	0.469
Own NF business	0.009 (0.88)	0.038	-0.02 (-0.66)	0.059	0.019 (2.00)	0.019	-0.003 (-0.10)	0.044	0.003 (0.20)	0.054	-0.034 (-0.85)	0.066
Own crop & livestock production	-0.047 (-1.29)	0.261	0.104 (1.48)	0.376	-0.057 (-1.20)	0.336	-0.011 (-0.09)	0.514	-0.036 (-0.86)	0.195	<u>0.141</u> (1.72)	0.314
Paid work outside HH	-0.068 (-2.17)	0.343	<u>-0.102</u> (-1.86)	0.254	-0.11 (-2.63)	0.373	-0.142 (-1.29)	0.302	-0.032 (-0.94)	0.317	-0.066 (-1.06)	0.233
<i><u>Hours worked last week</u></i>												
Any labour	-4.0 (-3.03)	13.9	-0.9 (-0.39)	12.6	-6.5 (-3.10)	19.2	-3.4 (-0.65)	18.4	-2.1 (-1.33)	9.2	-0.7 (-0.24)	10.0
Own NF enterprise	0.0 (-0.02)	1.1	-1.5 (-1.62)	1.7	<u>0.5</u> (1.66)	0.5	-0.2 (-0.30)	1.1	-0.4 (-0.60)	1.6	<u>-2.5</u> (-1.70)	2.0
Own crop & livestock	-1.0 (-0.75)	7.8	4.0 (2.17)	7.9	-1.9 (-0.81)	12.3	2.1 (0.44)	14.1	-0.5 (-0.46)	3.9	3.6 (1.98)	5.2
Paid labour	-3.0 (-2.94)	5.0	-3.4 (-2.15)	3.0	-5.2 (-3.59)	6.3	-5.3 (-1.30)	3.2	-1.2 (-1.07)	3.8	-1.9 (-0.93)	2.9
N	5 762		1 236		2 699		398		3 063		838	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column.

Table 19 Impact of the CGP on child labour, overall and by gender

	Children		Boys		Girls	
	b/t	B	b/t	B	b/t	B
<i><u>Participation last 12 months (%)</u></i>						
Any labour activity	-0.020 (-0.53)	0.335	-0.016 (-0.34)	0.452	-0.012 (-0.23)	0.215
Own NF business	-0.002 (-0.16)	0.020	-0.003 (-0.24)	0.018	0.001 (0.02)	0.022
Own agricultural activities	-0.018 (-0.50)	0.314	-0.029 (-0.62)	0.437	0.008 (0.17)	0.190
Paid work outside HH	0.000 (0.03)	0.028	-0.011 (-0.76)	0.038	0.011 (0.92)	0.018
<i><u>Participation last week (%)</u></i>						
Any labour activity	<u>-0.056</u> (-1.80)	0.211	-0.029 (-0.66)	0.347	-0.045 (-1.22)	0.072
Own NF business	-0.002 (-0.26)	0.006	0.004 (0.74)	0.003	-0.007 (-0.83)	0.010
Own crop & livestock production	-0.059 (-2.04)	0.186	-0.037 (-0.86)	0.321	-0.042 (-1.31)	0.049
Paid work outside HH	-0.004 (-0.39)	0.026	-0.014 (-0.96)	0.036	0.007 (0.69)	0.017
<i><u>Hours worked last week</u></i>						
Any labour	-2.2 (-2.24)	6.8	<u>-3.0</u> (-1.67)	12.2	-0.1 (-0.15)	1.3
Own NF enterprise	0.0 (0.31)	0.1	0.1 (1.09)	0.0	0.0 (-0.23)	0.1
Own crop & livestock	-2.2 (-2.28)	6.0	-2.7 (-1.52)	11.1	-0.4 (-0.85)	0.8
Paid labour	0.0 (-0.04)	0.7	-0.4 (-0.65)	1.0	0.4 (1.50)	0.4
N	5 435		2 764		2 671	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust t-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 20 Impact of the CGP on child labour, by age and gender

	boys (6-13)		boys (14-17)		girls (6-13)		girls (14-17)	
	b/t	B	b/t	B	b/t	B	b/t	B
<u>Participation last 12 months (%)</u>								
Any labour activity	-0.01 (-0.20)	0.38	-0.05 (-0.70)	0.61	-0.01 (-0.25)	0.15	-0.01 (-0.16)	0.38
Own NF business	-0.01 (-0.66)	0.01	0.00 (-0.12)	0.03	0.00 (-0.02)	0.01	0.00 (-0.02)	0.05
Own agricultural activities	-0.03 (-0.48)	0.37	-0.06 (-0.81)	0.58	0.00 (0.01)	0.13	0.02 (0.18)	0.32
Paid work outside HH	0.01 (1.05)	0.01	-0.06 (-1.36)	0.09	-0.01 (-0.80)	0.00	0.04 (1.24)	0.05
<u>Participation last week (%)</u>								
Any labour activity	0.00 (0.05)	0.29	-0.12 (-1.70)	0.46	-0.03 (-0.85)	0.05	-0.05 (-0.75)	0.13
Own NF business	0.00 (-0.48)	0.00	0.01 (0.89)	0.01	0.00 (0.01)	0.01	-0.02 (-1.26)	0.02
Own crop & livestock production	-0.01 (-0.20)	0.28	-0.12 (-1.68)	0.41	-0.03 (-0.80)	0.04	-0.05 (-0.86)	0.08
Paid work outside HH	0.01 (1.05)	0.01	-0.06 (-1.58)	0.08	-0.01 (-1.10)	0.00	0.04 (1.18)	0.05
<u>Hours worked last week</u>								
Any labour	-2.40 (-1.04)	10.40	-5.40 (-1.45)	15.90	0.10 (0.12)	0.80	-0.30 (-0.21)	2.40
Own NF enterprise	0.00 (-0.32)	0.00	0.20 (1.62)	0.10	0.00 (0.32)	0.10	-0.30 (-0.85)	0.20
Own crop & livestock	-2.60 (-1.07)	9.90	-4.10 (-1.25)	13.80	0.10 (0.19)	0.70	-1.20 (-1.43)	1.00
Paid labour	0.20 (0.44)	0.50	-1.50 (-0.88)	2.00	-0.10 (-1.10)	0.00	1.20 (1.23)	1.20
N	1 849		915		1 814		857	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust t-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 21 Impact of the CGP on non-eligibles: remittances, social networks, savings and borrowing

	all		all	
	b/t	B	b/t	B
Remittances				
	<u>Private transfers received</u>		<u>Private transfers given</u>	
Total (%)	-0.013 [-0.20]	0.426	-0.011 [-0.27]	0.125
Total, LSL	278.953 [0.42]	3,389.83	81.437 [0.57]	162.149
Non-resident members (%)	-0.032 [-0.71]	0.304	-0.014 [-0.77]	0.043
Family members in community (%)	0.028 [0.63]	0.116	0.001 [0.06]	0.064
Non-family members (%)	0.044 [1.51]	0.064	0.017 [0.86]	0.028
Social networks				
	<u>% HH receiving help</u>		<u>% HH providing help:</u>	
food	0.165 [2.95]	0.689	0.172 [2.83]	0.596
labour/time	-0.036 [-0.78]	0.151	-0.056 [-1.17]	0.195
ag inputs	0.07 [1.18]	0.38	0.051 [0.94]	0.287
Savings				
	<u>% HH</u>		<u>Amount, LSL</u>	
Total	-0.131 [-2.49]	0.65	-146.9 [-1.02]	240.913
Stockvel	0.024 [0.60]	0.093	-38.488 [-0.93]	32.194
Burial plan/society	-0.154 [-2.89]	0.552	-5.393 [-0.71]	29.029
Borrowing				
	<u>% HH</u>			
Total	0.033 [0.61]	0.68		
Bank	-0.021 [-1.25]	0.021		
Relative/friend	0.046 [0.68]	0.54		
Community group	0.064 [2.02]	0.082		
N	1 590		1 590	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 22 Impact of the CGP on non-eligibles: agricultural assets, inputs and production

	all		all	
	b/t	B	b/t	B
Agricultural assets				
	<u>Ownership (%)</u>		<u>Use (%)</u>	
Hoes	0.038 [0.57]	0.509	0.042 [0.67]	0.577
Ploughs	<u>0.074</u> [1.66]	0.225	0.049 [0.82]	0.377
Tractors	-0.002 [-0.09]	0.032	-0.02 [-0.50]	0.191
Cultivators	0.121 [3.33]	0.175	<u>0.086</u> [1.72]	0.336
Scotch-carts	0.089 [2.47]	0.181	0.034 [0.57]	0.339
Crop inputs				
	<u>Purchase (%)</u>		<u>Expenses (LSL)</u>	
Seed	-0.054 [-0.86]	0.359	<u>-29.935</u> [-1.82]	60.46
Pesticides	0.059 [1.31]	0.126	10.091 [2.09]	9.64
Organic fertilizer	-0.01 [-0.37]	0.049	-7.664 [-0.72]	16.815
Inorganic fertilizer	0.069 [1.65]	0.136	62.614 [2.02]	59.217
Crop production				
	<u>% HH</u>		<u>Harvest (kg)</u>	
Maize	0.037 [0.69]	0.555	23.555 [1.16]	55.048
Sorghum	0.031 [0.76]	0.163	13.112 [1.47]	8.383
Wheat	-0.007 [-0.61]	0.009	2.726 [2.26]	0.513
Livestock				
	<u>Owms (%)</u>		<u>Owms (#)</u>	
Donkeys	-0.048 [-1.18]	0.213	-0.063 [-0.76]	0.34
Chickens	<u>-0.105</u> [-1.95]	0.333	-1.448 [-2.65]	2.214
Pigs	-0.003 [-0.08]	0.171	0.126 [1.11]	0.326
Cattle	-0.064 [-1.62]	0.429	-0.067 [-0.30]	1.731
N	1,590		1,590	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.

Table 23 Impact of the CGP on non-eligible (labour supply)

	Adult men		Adult women		Elderly men		Elderly women	
	b/t	B	b/t	B	b/t	B	b/t	B
<i><u>Participation last 12 months (%)</u></i>								
Any labour activity	-0.125	0.622	-0.018	0.582	0.122	0.731	<u>-0.14</u>	0.602
	[-2.32]		[-0.39]		[1.08]		[-1.71]	
Own NF business	0.018	0.041	-0.029	0.086	0.051	0.067	0.058	0.085
	[0.67]		[-0.84]		[0.68]		[0.91]	
Own agricultural activities	-0.08	0.528	0.058	0.455	0.009	0.702	-0.099	0.572
	[-1.34]		[1.07]		[0.08]		[-1.18]	
Paid work outside HH	-0.156	0.29	-0.047	0.237	0.052	0.183	0.019	0.155
	[-2.77]		[-0.95]		[0.51]		[0.29]	
<i><u>Participation last week (%)</u></i>								
Any labour activity	-0.19	0.514	-0.143	0.391	0.105	0.607	0.019	0.396
	[-3.11]		[-2.42]		[0.84]		[0.17]	
Own NF business	0.029	0.03	-0.042	0.048	-0.002	0.033	-0.013	0.057
	[1.37]		[-1.19]		[-0.04]		[-0.27]	
Own agricultural activities	<u>-0.106</u>	0.332	0.005	0.167	-0.075	0.473	-0.012	0.294
	[-1.78]		[0.09]		[-0.57]		[-0.13]	
Paid work outside HH	-0.105	0.281	-0.078	0.234	0.058	0.17	0.03	0.155
	[-2.02]		[-1.39]		[0.60]		[0.43]	
<i><u>Hours worked last week</u></i>								
Any labour	-7.569	18.474	-3.55	8.962	-4.529	18.249	2.695	9.081
	[-2.74]		[-1.56]		[-0.78]		[0.69]	
Own agricultural activities	-4.037	12.324	0.567	3.241	-5.093	14.077	1.448	5.815
	[-1.62]		[0.45]		[-0.92]		[0.62]	
Paid labour	-4.437	5.576	-2.905	3.972	1.662	3.304	0.563	1.382
	[-2.21]		[-1.65]		[0.62]		[0.35]	
N	1,805		1,734		352		540	

Note: Estimations use difference-in-difference modelling among individuals in panel households. Robust *t*-statistics clustered at the community level are in parentheses. Bold indicates that they are significant at $p < .05$, underlined at $p < .1$. All estimations control for age, sex, household demographic composition, head of household characteristics, district dummies and vectors of prices, wages and shock variables. B refers to baseline mean value of indicator shown in the preceding column. N refers to number of observations.