



# EVALUATING TANZANIA'S PRODUCTIVE SOCIAL SAFETY NET

## Findings from the Midline Survey

September 2019



**TANZANIA'S PRODUCTIVE  
SOCIAL SAFETY NET PROGRAM  
MIDLINE IMPACT EVALUATION SURVEY**

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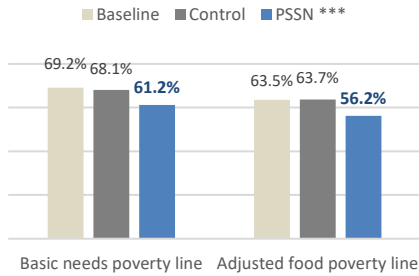
Photo Credits cover page and main report: Samantha Zaldivar Chimal

## *Abbreviations*

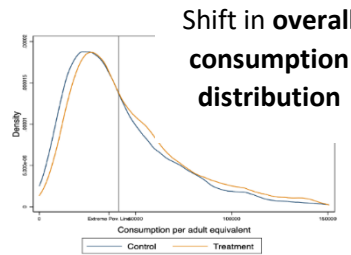
CAPI	Computer Assisted Personal Interviewing
CB-CCT	Community-Based Conditional Cash Transfers
CCT	Conditional cash transfers
CSI	Coping Strategy Index
DFID	Department for International Development
DHS	Demographic and Health Surveys
HBS	Tanzania Household Budget Survey
HE	Household Enterprise
HH	Household
IE	Impact Evaluation
NBS	National Bureau of Statistics
NPS	National Panel Survey
OCGS	Office of Chief Government Statistician
PAA	Project Area Authorities
PMT	Proxy Means Test
PSSN	Tanzania's Productive Social Safety Net
PW	Public Works
RCT	Randomized Control Trial
SACCOS	Savings and Credit Co-operative Societies
SDI	Service Delivery Indicators
SIDA	Swedish International Development Cooperation Agency
TASAF	Tanzania Social Action Fund
TZS	Tanzanian Shillings
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	United States Dollar
WB	World Bank
WFP	World Food Programme

Two years on the PSSN is achieving its objectives:

## By reducing poverty and increasing household consumption



Average monthly consumption  
▲ + 19.5 %



Low Dietary Diversity  
▼ - 6.2 p.p.

... and Low Food Consumption Score  
▼ - 4.4 p.p.

HH budget on non-food expenditures increased

No impact on temptation goods

Household enterprises shifting into more productive sectors

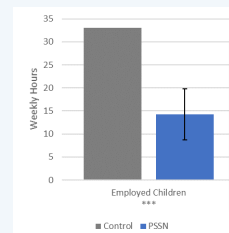


Beneficiaries shifting away from casual work **into self-employment**. Males more likely to work on farm activities, while females on non-farm activities, which could be linked to higher earnings.

Increased ownership of productive assets and livestock (own or raise) ▲ +18.6%



## By improving the productive potential



...while reducing child work

## By enhancing and protecting human capital of the children and the entire household, towards a more productive workforce in the future



Increased enrollment for children without increasing educational expenditure



Successfully relieving liquidity constraints to seek health services...

3x increase in health insurance registration

▲ + 5.6 p.p.  
Enrolment

Children ages 5 to 19

▲ + 6.0 p.p.  
Literacy

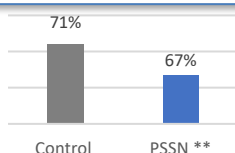
Primary school children

■ No impacts on secondary school

...but Impacts have not yet translated into health and nutrition outcomes

## By building households' resilience and ability to cope with shocks.

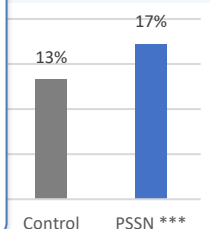
Reduced likelihood of losing assets or income due to Shocks



PSSN is improving housing and living conditions among beneficiaries – using better roofing materials and drinking water sources, as well as solar fuel for lightning



PSSN incentivizes households to create a consumption buffer





# PSSN: Looking forward

## Education



Greater efforts are needed to encourage progression to higher education levels.

*Revisit benefit scheme and co-responsibilities to:*

- i) Adopt targeted compliance monitoring to focus on key transition points;*
- ii) Recalibrate transfer amount accounting for secondary school opportunity cost;*
- iii) Explore bonuses for primary completion and secondary enrolment.*

## Health

Impacts on health and nutritional outcomes will require longer exposure to program and further efforts to improve cross-sectorial linkages and accompanying measures – some of which are already considered under PSSN II.

*Examples include:*

- i) Revising co-responsibilities to incentivize ante- and post-natal visits;*
- ii) Introducing public work waivers for pregnant and lactating mothers;*
- iii) Improving community sessions with focus on nutrition, early childhood development;*
- iv) Using social registry to link beneficiaries to relevant services.*



## Livelihoods



Though not explicitly intended by the CCT, PSSN has shown important labor-related impacts by shifting the households' primary productive activity away from casual labor to non-farm self-employment potentially linked to higher earnings.

*New livelihoods component under PSSN II will use social registry to link beneficiaries to existing skills training or other livelihood interventions, providing coaching and grants to improve their main economic activities.*

## Poverty

Although the PSSN considerably improved consumption, food security, and reduced poverty, exit in the short term may risk the sustainability of these impacts. At this stage, complete certification is not considered necessary nor advisable. Instead PSSN may consider:

- i) Longer term commitment and well-coordinated cross-sectorial interventions are required;*
- ii) Hold on to full recertification process, focusing on pockets with greater concentration of greater beneficiaries further from the poverty line;*
- iii) Gradually transform the PSSN registry into a national social registry, to support the prioritization of policies and programs.*



## Who were PSSN Beneficiaries at baseline?

Low school enrollment after age 14 mainly due to cost (39%) and distance (11%)

High illiteracy among 15 and older (42%)

High repetition rates among those 5 to 19 enrolled in school (18%)

Routine checks rare among under 5s, with only 23% visiting a health provider

31% of households suffered a shock, most causing income or asset losses

73% of households had low diet diversity

Most households relied on agricultural activities (69%)



PSSN beneficiaries (2016)

## II. Introduction

**To reduce extreme poverty and break its intergenerational transmission, the Government of Tanzania created the Productive Social Safety Net (PSSN).** The PSSN is based on integrated interventions targeted to the poorest households: a labor-intensive public works (PW) program and conditional cash transfers (CCTs). The specific objective of the PSSN, which is implemented by the Tanzania Social Action Fund (TASAF), is to increase income and consumption and improve the ability to cope with shocks among vulnerable populations, while enhancing and protecting the human capital of their children. In 2013, the Government of Tanzania decided to scale up the PSSN to cover all households in extreme poverty<sup>1</sup> and by 2015 the program was delivering cash transfers to over 1 million households across the country. To demonstrate that the PSSN is generating the intended impacts, a randomized impact evaluation (IE) was built in to the scale up design.



**This impact evaluation aims to contribute to the body of evidence on the effectiveness of CCTs, particularly in the sub-Saharan Africa context.** CCTs, which are at the core of PSSN, have been among the most evaluated social programs globally. The majority of these studies show that well designed and implemented cash transfer programs have proven to be effective in terms of: (i) reaching the poorest and most vulnerable; (ii) increasing household consumption, particularly of food and proteins; (iii) increasing enrollment, attendance and completion rates in primary and secondary schools while reducing dropping out and repetition; and (iv) improving health outcomes (e.g., morbidity, chronic malnutrition) through increased usage of health services. Existing evidence from sub-Saharan Africa validates these results, showing impacts on household production (e.g. crops), consumption and productive investments (e.g. basic needs, livestock, agricultural assets and inputs, and savings) , labor outcomes and risk-coping strategies (World Bank, 2018).

**The IE design examines the impacts of a large-scale Government program using an experimental design.** PSSN rapidly expanded from covering 0.4 to 10 percent of Tanzania’s population between 2013 and 2016 (World Bank, 2018).<sup>2</sup> Due to the Government’s strong emphasis on rigorous evaluation, the PSSN impact evaluation follows a randomized control trial (RCT) design. This provides a valuable opportunity to evaluate a large-scale program through an experimental design, which is typically difficult given the technical and operational challenges associated with implementing an RCT at scale. In addition, the IE design intended to compare the relative impacts of receiving only cash transfers versus a package of cash transfers plus public works. While both cash transfers and public works are widely implemented and there is substantial discussion about the tradeoffs between these interventions, the evidence around their

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<sup>1</sup> At the time of the scale up, the PSSN target was defined as the 9.7% of the population below the food poverty line plus an additional 5% who were transient poor.

<sup>2</sup> The rapidly increase in number of beneficiaries (almost 1.1 million individuals) was accompanied with an increase in PSSN spending, from 0.03 percent to 0.3 percent of GDP (World Bank, 2018).

relative effectiveness is limited. However, due to a lag in the implementation of the PW program, a meaningful comparison between the two treatment arms could not be carried out at midline and should be tested in the next follow up.

**While the baseline report of this impact evaluation (World Bank, 2017) assessed the PSSN’s targeting performance, the targeting aspects of this report focus on understanding whether recertification is appropriate at this stage.** The baseline report provided evidence on how successful the three-stage targeting system – combining geographical, community-based, and a proxy means test – was at identifying the poorest households in Tanzania (World Bank, 2015): at baseline, PSSN households were poorer than non-targeted households within targeted communities and the majority (more than 64%) of beneficiaries were in the bottom two quintiles of consumption. This was an important contribution to the literature in the sub-Saharan African context where PMT has been proliferating due to a perception of weaker performance of community-based methods. This report goes a step further and attempts to contribute to decision-making around the timing and extent of recertification in the context of a fixed budget that cannot reach all the poor and where the consumption distribution is flat.

**Although the focus of the report is presenting the findings of the midline survey, it also aims to identify key implementation factors driving the PSSN’s success and areas where the program can evolve further.** The report is divided into six sections. [Section III](#) describes the context in which the evaluation is conducted. [Section IV](#) presents the evaluation’s objectives, study design, and methodological issues related to the design. [Section V](#) presents in-depth the PSSN impacts on household beneficiaries using the midline data. Graphs in this section contain positive impact results of the program, while negative or not statistically significant impacts are mentioned within the text and presented in [Annex B](#). [Section VI](#) examines key program implementation aspects, such as the current performance of the targeting and payment systems and transfer adequacy, to identify whether the appropriate amounts are being delivered to the intended beneficiaries on time. [Section VI](#) concludes.

### III. Context and Program Overview

#### A. PSSN Rationale and Scale Up

**Despite solid economic growth over the last decade, about a fourth of Tanzania’s population remains poor and highly vulnerable.** While economic growth in the country averaged 6.7 percent per year between 2007 and 2017, progress in reducing poverty has been substantially slower. Poverty incidence is still very high with about 26.4 percent of the population living below the national poverty line, and about 8 percent living under the food poverty line (World Bank, 2019).<sup>3,4</sup> Moreover, households’ income and consumption, particularly those of rural ones, are highly cyclical and sensitive to climate shocks (World Bank, 2015). Each year Tanzanian households reduce consumption during a period of four to five months on average (Kaminski, Christiansen, & Gilbert, 2014).

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<sup>3</sup> Individuals living under the national poverty line are those who were not able meet their basic consumption needs, while those who lived under the food poverty line are those who were not able to afford enough food to meet the minimum nutritional requirements of 2,200 kilocalories (Kcal) per adult per day.

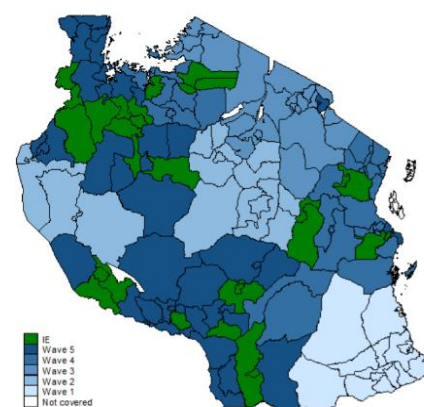
<sup>4</sup> 49 percent of the population, in 2018, was living below the US\$1.9 per day international poverty line (World Bank, 2019).

**Poor and vulnerable households also exhibit inadequate levels of human capital development.** More than 42 percent of children under five are stunted, which means that close to half of children will likely have lower capacity to learn and be productive as adults. Furthermore, despite relatively higher levels of primary completion, less than half of children enter secondary education. According to the last household survey, the main reason children ages 7 to 17 declared to be out of school was lack of family interest (20 percent) and affordability (10 percent). Similarly, more than half (61 percent) of individuals needing healthcare reported not visiting a provider because it was too expensive (World Bank, 2017). All these factors increase households' probability of being poor, perpetuating the intergenerational transmission of poverty.

**To address these issues, in 2010 the Government launched the first strictly CCT pilot in Africa, and then building on lessons learned, designed and introduced the PSSN.** Building on the experience from the successful pilot (Evans et al., 2014) and following international best practices, the PSSN was designed and began implementation in 2012.<sup>5</sup> The TASAF Management Unit is the main implementing agency and works in close collaboration with the Local Government Authorities as well as Unguja and Pemba islands in Zanzibar, which for program purposes are jointly referred to as Project Area Authorities (PAA).

**In 2013, the government massively scaled up PSSN to reach the poorest one million households.** This represented 9.8 percent of the population living under the food poverty line, plus an additional 5 percent of the population in transient poverty. TASAF conducted the rollout in five waves (Figure 1). By 2015, the target was exceeded with a total of 1,113,137 households enrolled<sup>6</sup> in 9,960 communities, covering all 161 PAAs on the Mainland and all PAAs in Zanzibar. Currently, PSSN is mainly financed by the Government of Tanzania, the World Bank Group (through the International Development Association), and the United Kingdom Department for International Development.<sup>7</sup>

Figure 1. PSSN scale up geographical rollout



## B. PSSN Key Design Elements

**PSSN's objective is to increase income and consumption and improve household's ability to cope with shocks while enhancing and protecting the human capital of their children.** To achieve these objectives, PSSN delivers a package of integrated conditional cash transfers to extremely poor households, with up to three types of transfers provided depending on household composition (Table 1):

- i. A basic (fixed) transfer of TZS 10,000 per month (USD 4.3) to increase household income and consumption on a regular basis throughout the year.

<sup>5</sup> The pilot, implemented in 2010, covered 80 villages (40 treatment and 40 control) in three poor districts (Bagamoyo, Chamwino, and Kibaha); a total of 1,764 households (6,918 individuals) received the program (Evans et al., 2014).

<sup>6</sup> By 2019, when this report was written the program had reached almost 1,119,000 enrolled beneficiaries.

<sup>7</sup> Other Development Partners such the Swedish International Development Cooperation Agency - SIDA, USAID, UN Agencies, amongst others have also provided financing.

- ii. Fixed and variable transfers to incentivize households to invest in the human capital of their children. Households with children are provided a fixed child benefit of TZS 4,000 per month (USD 1.7) plus additional variable transfers up to TZS 12,000 per month (USD 16.3) linked to schooling and health co-responsibilities.<sup>8</sup> Transfer amounts are differentiated by age to account for differences in opportunity costs.
- iii. A seasonal transfer for households with able-bodied adults linked to participation in labor-intensive public works to smooth consumption during lean seasons and avoid negative coping strategies. The public works program guarantees fifteen days of paid work per month to one person per households at a daily rate of TZS 2,500 (USD 1.1), over a four-month period during the annual lean season.

The program’s elements seek long-term impacts and are complemented with technical assistance and savings promotion. Taken as a package, the interventions can therefore provide households a maximum annual benefit of TZS 606,000 (approximately USD 260.3), with a maximum annual benefit of TZS 456,000 (about USD 195.9) and TZS 150,000 (about USD 64.4) for the CCT and public works interventions, respectively.<sup>9</sup>

Table 1. PSSN Benefit Scheme

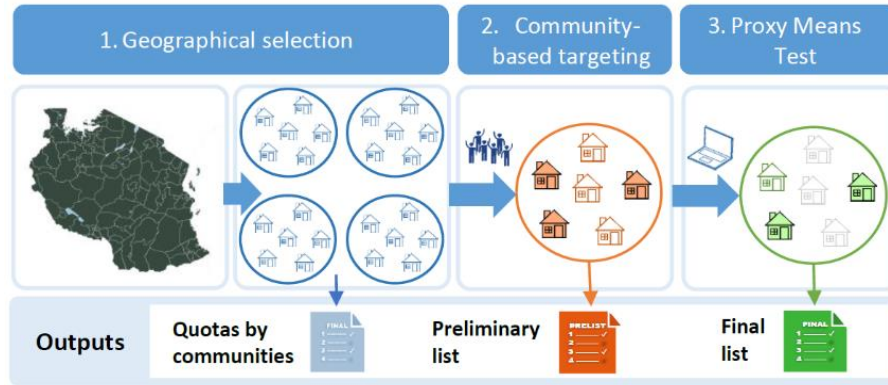
PSSN component	Transfer type	Transfer name	Co-responsibility	Benefit (TZS)	Monthly cap (TZS)	Annual max (TZS)
CCT	Fixed	Basic transfer	Extreme poverty	10,000	10,000	120,000
	Fixed	Household child benefit	HH with children under 18	4,000	4,000	48,000
	Variable	Infant benefit	Infants 0-5 health compliance	4,000	4,000	48,000
	Variable	Individual primary benefit	Child in primary education compliance	2,000	8,000	96,000
	Variable	Individual lower secondary benefit	Child in lower secondary education compliance	4,000	12,000	144,000
	Variable	Individual upper secondary benefit	Child in upper secondary education compliance	6,000		
PW	Variable	Public works benefit	Extreme poverty + older than 18 able to work	2,500	37,500	150,000

**Eligibility of poor and vulnerable households for both the CCT and PW components was determined through a three-stage targeting system.** First, a geographical mechanism was used to identify and select the poorest districts, wards, and communities (i.e., villages, mitaa, or shehia). Second, within the selected communities, a community-based targeting approach was used to prepare a preliminary list of extremely poor and vulnerable households. Finally, a PMT was applied to households on the preliminary list to verify their eligibility (see Figure 2). The applied targeting system ensured that PSSN reached only the poorest communities, minimizing inclusion and exclusion errors.

<sup>8</sup> Children ages five and older who are enrolled in school and attend at least 80 percent of school days are considered as having complied with education co-responsibilities. Health compliance is only required for children five and under, requiring monthly health visits to children under 24 months and once every six months for older children.

<sup>9</sup> Calculated assuming an exchange rate of TZS 1,640 per USD 1 at the time the revised CCT benefit structure for the scale up was defined in September 2014.

Figure 2. PSSN Three-Stage Targeting Mechanism



**The CCT benefits are delivered on a bi-monthly basis and transfers are linked to compliance with co-responsibilities.** Payments are made every two months following a structured bi-monthly cycle to ensure regular and predictable payments. Beneficiaries are sensitized to start compliance immediately after enrolment, but penalties are applied only on the third bi-monthly period onwards, that is, compliance starts to count after two periods<sup>10</sup>. As per the design, (i) compliance is waived for households where there is no school or health center within the established distance; and (ii) penalties are attached to specific children in the household to ensure accountability and alignment of incentives.

**Following Tanzania’s decentralized approach, most field-level and recurring PSSN activities are delegated to the PAA Offices and rely heavily on local level structures.** Through the different delivery stages – from targeting and enrollment to compliance monitoring and payments – Community Management Committees (CMCs) act as the main implementers, while TASAF technical staff based at the PAA Offices are responsible for guiding and monitoring the field activities. CMCs are selected by the community and comply with minimum characteristics (e.g. literacy, no political position held, not PSSN beneficiaries). CMCs are comprised of several members, each with a specific responsibility: payments, compliance, grievances, and data updates. To verify compliance, health workers and teachers assigned by District Authorities to support PSSN, are responsible to record compliance data using standardized compliance forms. CMCs are then responsible for following up with health workers and teachers on completing the compliance forms properly and on time, and ensure forms are submitted to TASAF local offices for data processing. Payment delivery on specific days is organized by CMCs, who are also accountable for payment delivery and submitting reconciliation sheets to the PAA office. During payments, CMCs also conduct other activities including community sensitization sessions, collection of grievances, and updates of beneficiary information.

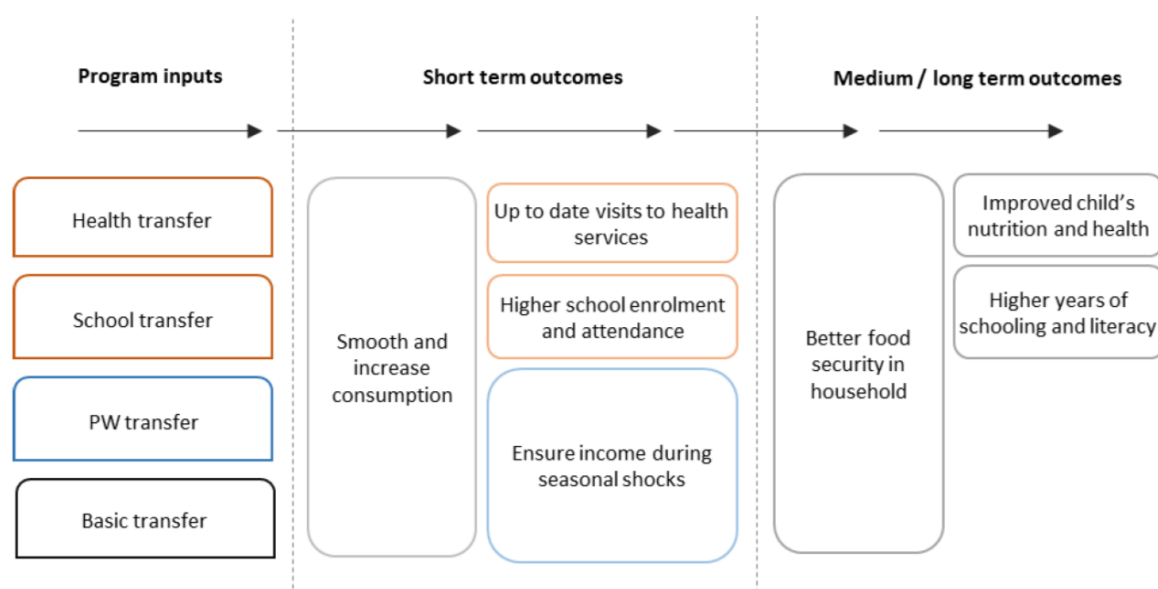
<sup>10</sup> During the first ever bi-monthly period, beneficiaries receive the first payment based solely on enrollment (no compliance), but they are expected to be already complying with co-responsibilities. At the end of the second period compliance verification takes place for the two first compliance periods. Finally, penalties, if any, are deducted from the third bi-monthly period onwards.

## IV. Impact Evaluation Objectives and Methodology

### A. Impact Evaluation Research Objectives <sup>11</sup>

**The primary objective of PSSN is to reduce inter-generational transmission of poverty through human capital accumulation.** The logic behind the program is that: (i) the cash transfers offered to beneficiary households will increase and smooth current consumption thus improving children’s nutrition and households’ food security; and (ii) that the health and schooling co-responsibility will translate into more years of schooling and better health status among beneficiaries, thereby improving productivity. Ultimately, these impacts are expected to translate into greater poverty reduction in the long term, reducing the inter-generational transmission of poverty (Figure 3).

Figure 3. PSSN program logic



**The impact evaluation design and research questions follow the logic of the PSSN program.** To establish whether PSSN is accomplishing its objective of smoothing and increasing consumption, the evaluation analyzes impacts on households’ expenditures (food and non-food), poverty, coping strategies, and investments in basic living standards. To capture PSSN’s effects on human capital investments, the evaluation measures both short-term health and education outcomes (i.e., utilization of health and education services) and longer-term outcomes such as nutrition and learning, although these impacts are not expected to materialize in the short-run. The evaluation also examines the effects of PSSN on other outcomes that are not necessarily linked to program goals but were of interest to key stakeholders, including on productive activities (employment, agriculture, and non-farm household enterprises) and intrahousehold behaviors (bargaining and violence).

<sup>11</sup> This section is a summary from the baseline report (World Bank, 2017).

## B. Impact Evaluation Methodology <sup>12</sup>

**The impact evaluation relies on a stratified two-staged cluster randomization.** The sample includes the two PAAs in Zanzibar and a subset of 16 PAAs in Mainland. The mainland PAA were randomly selected from Wave 4 and 5, the largest waves of PSSN scale up program, which covered about 60 percent of districts in the country, and are therefore broadly considered to representative nationally. Within selected PAAs, IE communities were randomly selected proportional to PAA size.<sup>13</sup> The total number of communities to be sampled was based on ex-ante power calculations, with a total of 330, that is 240 Mainland communities and 90 in Zanzibar, with Zanzibar oversampled to ensure enough power to disaggregate results. The first stage of the cluster randomization consisted in randomly assigning PSSN communities into three study arms: Group A to receive CCTs only; Group B to receive CCTs plus public works; and Group C, the control group, not to receive any treatment (Figure 4).

**The second stage of the cluster randomization mirrored the study’s two main objectives: (i) to rigorously evaluate the impact of PSSN on beneficiary households; and (ii) to assess PSSN’s targeting performance.** To achieve the first goal, within treatment and control communities a subset of households were sampled from those identified as eligible through selection by the community and verification by passing the PMT. In other words, the sampling frame was the universe of eligible households within the social registry in those communities. To achieve the latter goal, two subsets of ineligible households were sampled: (i) households who were prelisted by the community but did not pass the PMT, sampled based on the program preliminary lists (administrative data); and (ii) households who were not prelisted by the community, sampled through a listing and in-field sampling process.<sup>14</sup> These samples enabled an analysis comparing the performance of different stages of targeting and another analyzing the program’s poverty incidence.<sup>15</sup> In each cluster 16 households were sampled for purposes of examining the program’s impacts and an additional 10 ineligible households per cluster, 5 from each subset, were sampled only in the



<sup>12</sup> See Annex A for more details on sampling, attrition, and weights.

<sup>13</sup> “PSSN communities” refer to villages, mitaa, or shehia identified as eligible for PSSN through geographical targeting. A minimum distance of 5 kilometers was imposed between study arms to prevent contamination.

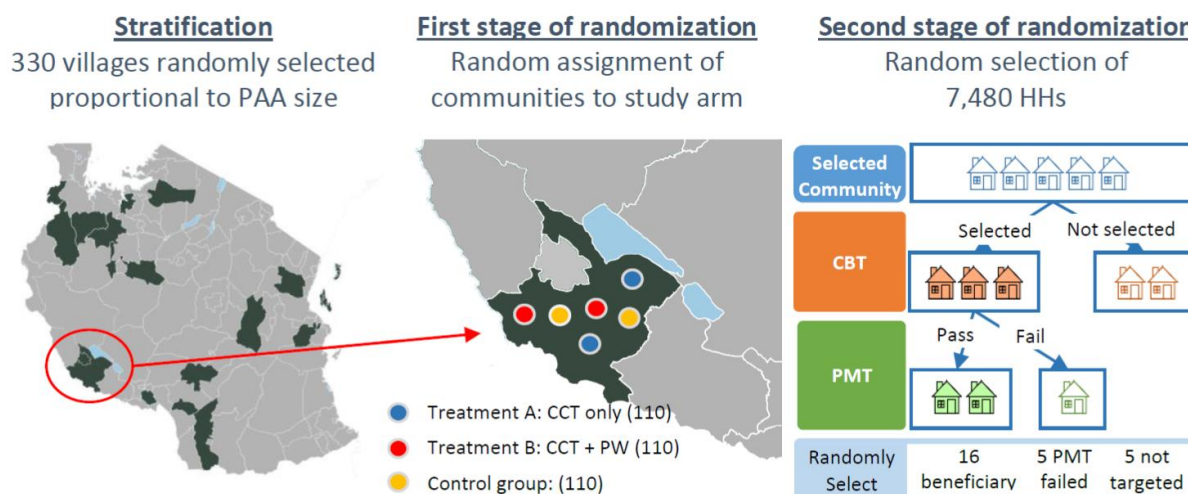
<sup>14</sup> To accommodate variation in the size of the PSSN communities, one enumeration area within each IE community was selected for listing and sampling of households not selected by the community. Households identified as selected by the community were replaced randomly during the listing process.

<sup>15</sup> See baseline report Section VI (World Bank, 2017). The incidence analysis relies only on data from PSSN eligible households.



treated communities (treatment groups A and B). The total sample selected for interviews was 7,480 households (Figure 4).

Figure 4. PSSN randomized design



**The randomization was successful, based on tests of statistical balance between control and treatment groups.** To confirm the randomization process resulted in a credible counterfactual to the treatment, the impact evaluation included a series of statistical tests to test whether that the randomization assignment yielded balance on observable characteristics at baseline. Only three out of 33 variables were statistically different between the control and treatment groups (see Annex B: Table B1). The variables exhibiting differences are related to the proportion of males versus females.

**The midline survey was conducted in August-September 2017, after two years of implementation, and following the baseline survey in June-July 2015, showing low attrition between rounds.** Nearly 7,319 households were successfully interviewed at baseline, including 5,414 households pre-listed in the community-based targeting and passing the PMT, with an overall response rate of 98 percent. The overall attrition rate between baseline and midline was relatively low (6 percent). There were no statistical difference in attrition between the two treatment arms (CCT and CCT+PW), with rates at around 5.5 percent each.<sup>16</sup>

**To estimate the effects of the PSSN, an intention-to-treat (ITT) analysis is applied and likely represents a lower bound of the program impacts on PSSN households.** Under the ITT approach, all households assigned to receive PSSN program, regardless of whether they actually received benefits or not, are included in the analysis (see Annex A for methodological details). This approach is most appropriate for programs such as PSSN where non-compliance with initial random assignment is expected to a certain degree, and the interest is in evaluating the impact of the program and not only the treatment itself. Non-

<sup>16</sup> The control group exhibited a slightly higher attrition rate of 7.1 percent, and the difference in attrition rates relative to the treatment groups is statistically significant. Older, sicker, and smaller households were more likely to have attrited at midline, while non-attriters tended to be slightly more educated and have a lower fraction of female household members. To account for these differences, in estimating impacts the inverse probability weights were applied, which yielded similar results as when using the standard sampling weights. The impacts presented are those using the inverse probability weights since those estimates are more conservative.

compliance with randomization is about 7 percent among treatment households (i.e., households assigned to treatment that did not receive any benefit) and 12 percent among control households (i.e., did receive benefit). Given this pattern of non-compliance, it is likely that the impact estimates represent the lower bound of the effects of the PSSN program overall; in other words, any positive or negative effects are likely to be larger than the current estimates. The non-compliance with randomization was also triangulated using self-reported midline survey data on payments received by households and matched with administrative data on payments delivered by TASAF, see more details in [Section VI.B](#)).

**Due to delays in the implementation of the PW program, the results presented in this report combine both treatment arms.** Since the PW program was rolled out later than expected and did not achieve the expected coverage in IE communities by the time the midline survey was fielded, the program’s impact was not expected to be captured. Despite this lag, the evaluation tested the program’s relative effectiveness compared to the CCT only group to confirm; no significant differences were found between households assigned to receive only the CCT versus those assigned to receive the PW in addition to CCT benefits. However, the PW additional impact should be tested at endline if sufficient time has elapsed.

## V. Midline Findings – Impact Evaluation

This section summarizes the findings of the impact evaluation, focusing on outcomes related to consumption and food security, education, health-seeking behaviors, coping strategies, household investments in living conditions and assets, labor and productive activities, and intra-household dynamics.<sup>17</sup>

### A. Consumption and Food Security

**The PSSN is achieving its goal of increasing consumption and reducing poverty.** Households in the treatment group increased their monthly consumption by TZS 8,028 (roughly US\$3.4), measured in adult equivalent units (AEQ) (Figure 5).<sup>18</sup> This represents an approximately 19.5 percent increase relative to the control group’s monthly consumption of TZS 41,088 (US\$17.6). In addition, despite only two years having passed since baseline, PSSN reduced the prevalence of poverty by 6.9 percentage points when using the national basic needs poverty line as the threshold (Figure 6).<sup>19</sup> While 68.0 percent of households in the control group live under this line, 61.1 percent do so in the treatment group, representing a poverty reduction of



<sup>17</sup> All US\$ amounts are calculated assuming the exchange rate on March 28<sup>th</sup>, 2019 of TZS 2,324 per US\$1.

<sup>18</sup> The analysis of per adult equivalent consumption was constructed following the 2012/13 National Panel Survey (NPS) methodology. The NPS approach to measuring consumption was used instead of the HBS as it requires a data collection process that is less complex and shorter in duration. The 2012/13 NPS methodology for adult equivalency scales by gender and age was applied to account for differences in consumption needs.

<sup>19</sup> The basic needs poverty line adjusted for 2017 food prices was TZS 46,529.

10.1 percent in relative terms.<sup>20</sup> Beyond the average effects, the PSSN impacts can be seen on the distribution of consumption, with treated households significantly increasing their consumption compared to control households (Figure 7).

Figure 5. Total consumption expenditure per AEQ

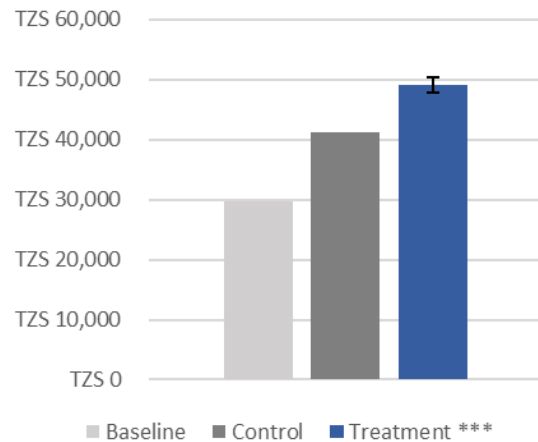
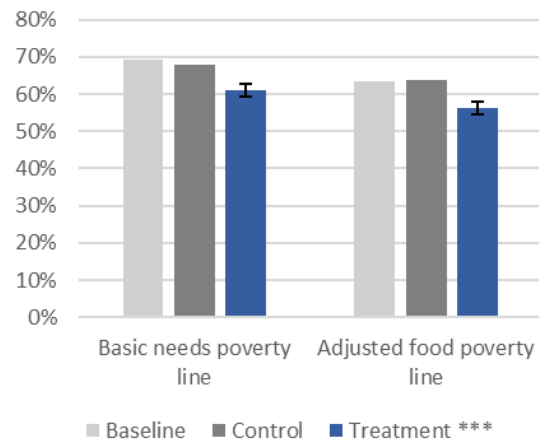
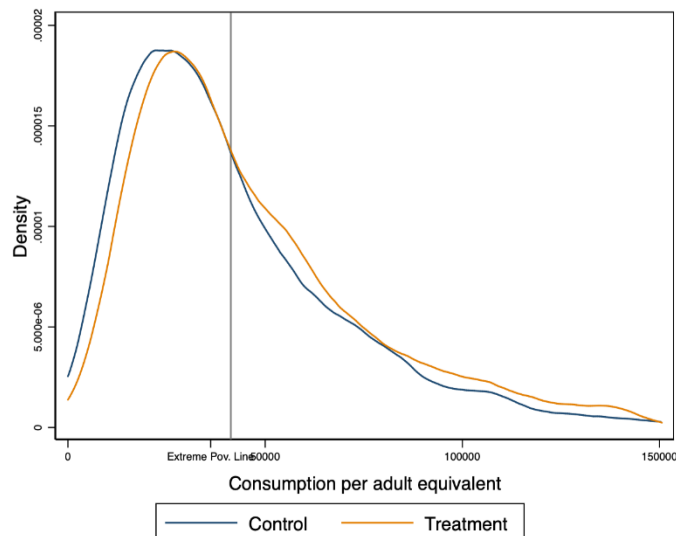


Figure 6. Percentage of households living under poverty lines



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All expenditures are monthly. AEQ stands for adult equivalence units. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

Figure 7. Consumption distribution of households in the treatment and control groups



Note: The poverty line shown in the figure is adjusted poverty line estimated based on NPS 2012, adjusted to 2017 value. Consumption per adult equivalent is the total consumption, annual, nominal (excluding food out, health and education) per 28 days adult equivalent.

**Most of the gain in consumption was spent on food, leading improved food security.** The PSSN increased food expenditure per AEQ by TZS 6,252 (US\$2.7) (Figure 8), which represents more than three-quarters

<sup>20</sup> The effect is almost the same when using the adjusted food poverty line, resulting in a 12 percent poverty reduction relative to the control group – see Annex 2. Table B7. This line is of TZS 42,113 monthly per capita consumption, representing the bottom 14.7 percent of the weighted NPS 2013 sample adjusted for 2017 food prices.

of the total effect on household expenditures. This result was expected considering that the PSSN targets the poorest households in the country and that food is the largest expenditure category (84.3 percent of the monthly budget). Consistent with a boost in food consumption, treated households improved their food security as measured by the Food Consumption Score (FCS). The score measures overall food security, taking into account households' dietary diversity, the frequency of consumption, and nutrient composition (WFP, 2008). Households in the treatment group reduced their likelihood of having a poor FCS by 4.1 percentage points compared to the control mean of 54.1 percent (Figure 9).<sup>21</sup>

Figure 8. Total food expenditure per AEQ

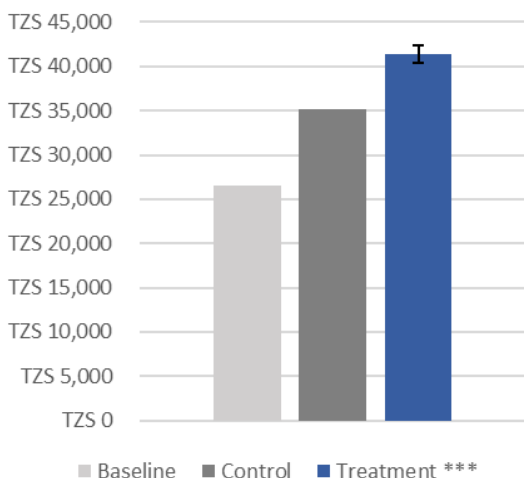
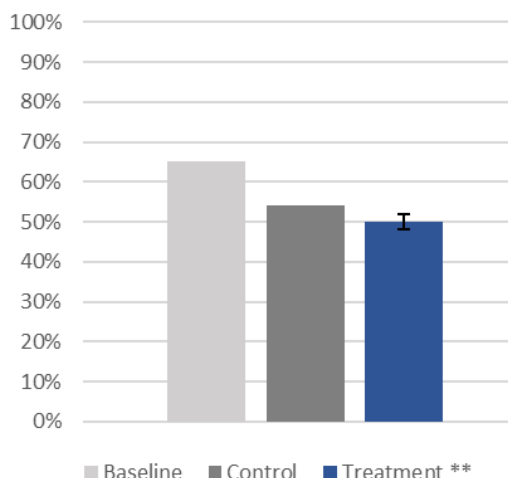


Figure 9. Poor Food Consumption Score (FCS)



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All expenditures are monthly. AEQ stands for adult equivalent units. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

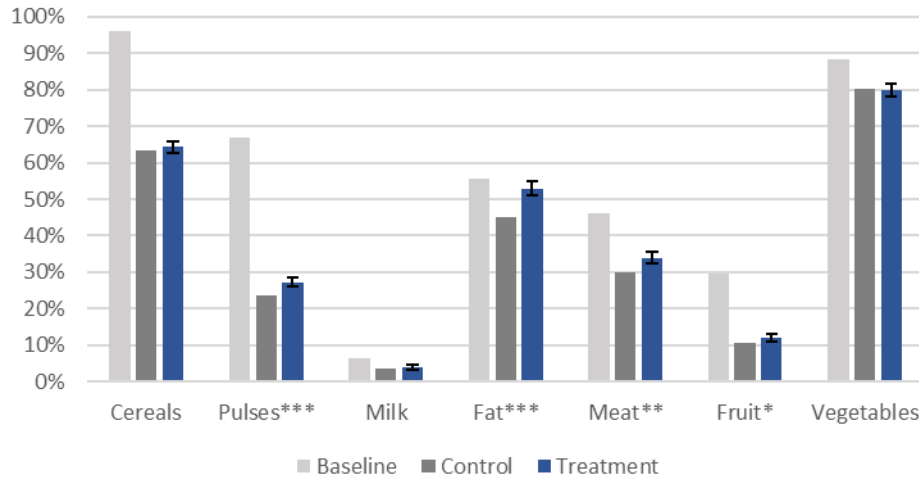
**In addition to improved food security, the boost in consumption enabled greater dietary diversity.** PSSN households ate a more diverse diet when looking at the number of food groups consumed within the past seven days of being surveyed. One commonly used measure of low dietary diversity is consumption of four or fewer of seven main food groups.<sup>22</sup> Under this approach, PSSN households decreased their likelihood of having a poor diet by 6.2 percentage points when compared to the control mean of 75.8 percent. Figure 10 shows the percentage of PSSN households consuming each of the seven food categories. The program helped increase food intake of groups that had moderate likelihood of consumption. For example, PSSN households consumed more oils and fats (7.9 p.p.), meats, fishes and eggs (3.8 p.p.), pulses and legumes (3.6 p.p.), and fruits (1.5 p.p.) than the control group.<sup>23</sup>

<sup>21</sup> Households in the treatment group improved their FCS by 1.12 points of the score, compared to the control mean of 22.4 and setting 21 as threshold for poor FCS.

<sup>22</sup> Main seven food categories include: 1) cereals, roots and tubers; 2) pulses and legumes; 3) dairy products; 4) oils and fats; 5) meat, fish, eggs; 6) fruit; and 7) vegetables (WFP, 2013).

<sup>23</sup> The two most commonly consumed categories were vegetables (80 percent) and cereals (64 percent), with more than three-quarters of households consuming these. Milk (4 percent) and, to a lesser extent, fruits (12 percent) were relatively uncommon foods.

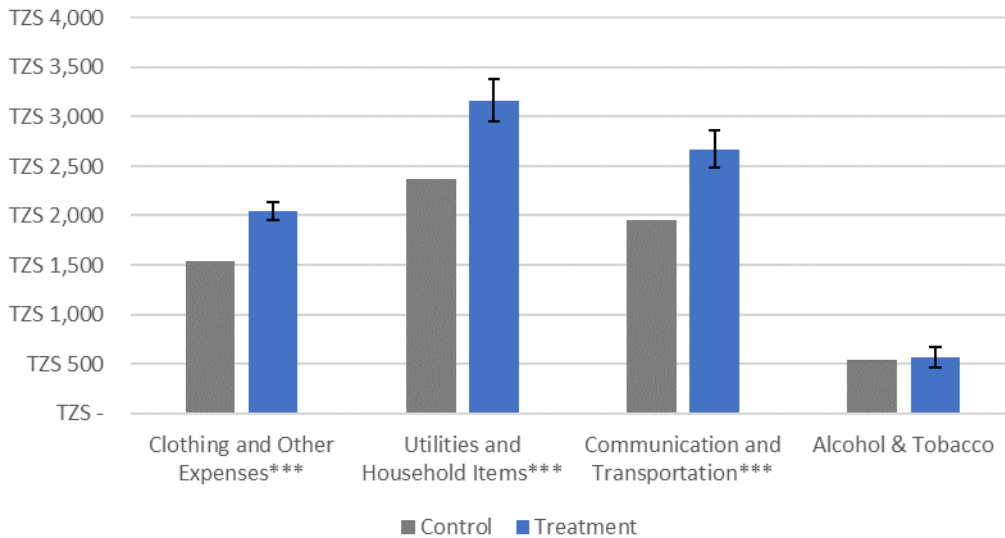
Figure 10. Food consumption: specific food groups



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Finally, the PSSN also led to a small rise in household spending on non-food items but did not increase consumption of temptation goods.** The treated households spent an additional TZS 1,784 (USD 0.8) compared to the control group. This was a result of higher spending in the treatment group relative to the control group on clothing and other expenses (32.9 percent increase); utilities and household items (33.8 percent increase); and communication and transportation (36.9 percent increase). These categories represented the largest share of household non-food budget among both treatment and control households (Figure 11). Finally, the IE did not find evidence of any impact of PSSN either on the amount or on the share of temptation goods (i.e., alcohol and tobacco).

Figure 11. Non-food consumption

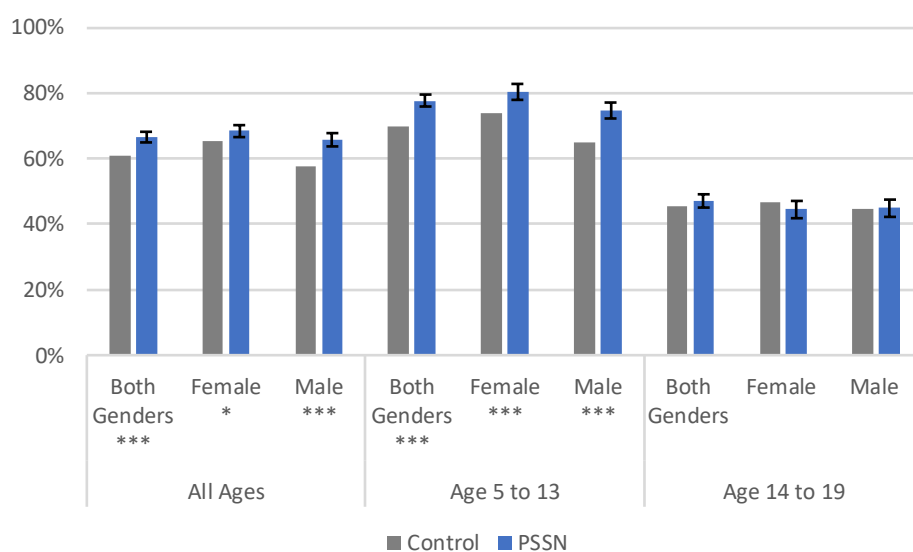


Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

## B. Education

**The PSSN encouraged households to enroll their children in school, particularly those of primary school age, while not increasing educational expenditure.**<sup>24</sup> Almost one-third of control group children who should be in school were not enrolled at midline, a low rate considering that school in Tanzania is compulsory between the ages of 7 and 13. However, PSSN improved current enrollment significantly: in treated households the proportion of children ages 5 to 19 in school was 5.6 percentage points higher compared to the control group mean of 61.6 percent (Figure 12). The impact was most pronounced among primary school age children (ages 5 to 13), with a 7.9 percentage point jump in enrollment compared to the control group mean of 69.8 percent. Both girls and boys of this age group benefitted, although boys, whose enrollment level is lower, saw the largest rise (9.7 percentage points up from 64.9 percent). The program did not increase total household expenditure in education. These impacts suggest the transfers and related co-responsibilities were successful in inducing demand and relaxing households' financial constraints, which were reported at baseline as the main reason why children were not sent to school (World Bank, 2017). However, the IE did not find impacts on enrollment rates for adolescents (ages 14 to 19), despite the fact that the transfer is differentiated by age. Although this suggests further efforts may be needed to encourage progression to and retention in secondary school, progression to secondary school may also depend on supply factors – such as primary school quality and secondary school availability – as well as other competing life events faced by youth such as early marriage.

Figure 12. Proportion of children currently enrolled in school, by age group



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for baseline outcomes. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

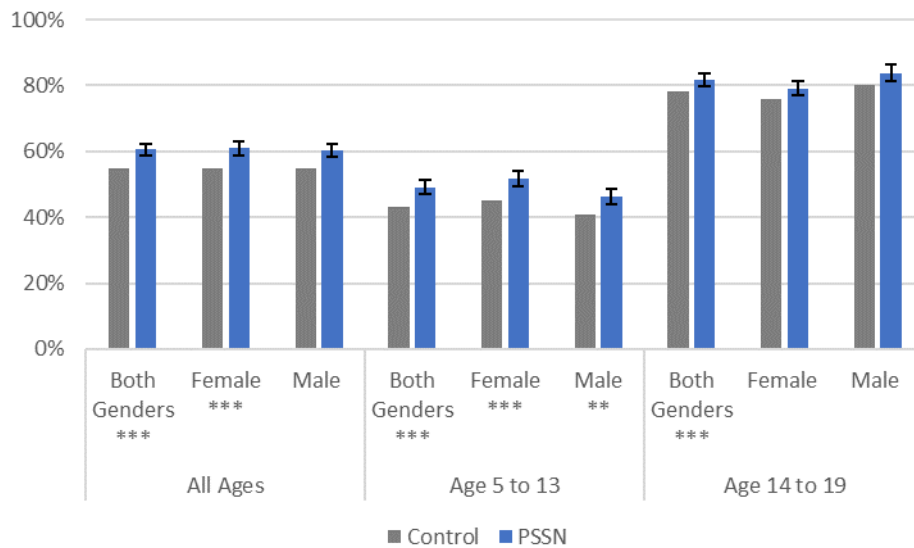
<sup>24</sup> Enrollment rates are calculated as the share of children currently enrolled in school for a given age.

**The higher school enrollment rate helped improve girls’ self-reported literacy rates, although learning assessment levels remain unchanged.**

Literacy levels are quite low among the PSSN target population: at baseline 42 percent of beneficiaries ages 15 and above could not read a simple text in any language. In particular, women and girls were less likely to be literate than men, with an illiteracy rate of 48 percent versus 32 percent among men (World Bank, 2017). With this context in mind, to the extent children learn in school, the PSSN program can help improve children’s literacy rates through entry into the schooling system. Although improved literacy is a medium to long term outcome, the program has already started to show some positive effects in self-reported literacy rate (Figure 13). Primary school age children (age 5 to 13) in treated households had a higher self-reported literacy rate (by 6.0 p.p.), a 13.9 percent increase relative to control group mean of 43.2 percent. The effect was statistically significant for both genders. The results for primary school children are consistent with the impacts on enrollment. A smaller impact is observed for adolescents (3.7 p.p.), who have much higher levels of literacy (control group mean of 78.1 percent). However, the IE does not yet find any impact of PSSN on literacy or numeracy as measured by the Uwezo competency assessments.<sup>25</sup> It may be that the program is increasing beneficiaries’ confidence in their abilities, but this is not yet reflected in an actual objective measure. On the other hand, given the surge in demand for schooling created by the PSSN, it is encouraging that these outcomes have not been negatively impacted, since the program is drawing in children that might be at a disadvantage.



Figure 13. Self-reported literacy rates, by age group



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for baseline outcomes. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

<sup>25</sup> Uwezo, which means ‘capability’ in Kiswahili, is a five-year initiative that aims to improve competencies in literacy and numeracy among children ages 6-16 in Kenya, Tanzania and Uganda. See <http://www.uwezo.net>.

**The PSSN enables retention and progression for children with slightly better economic conditions while the surge in demand for schooling comes with some repetition among some of the less advantaged.**

Grade repetition among all school age children in treated households showed a 1.3 percentage point increase compared to the control group mean of 16.5 percent but this masks heterogeneity by poverty and gender. Among boys there were no impacts on repetition, but there were heterogeneous effects on girls depending on their age group and poverty level (Figure 14).<sup>26</sup> Among younger girls (ages 5 to 13), for whom there was also an increase in enrollment, grade repetition increased by 4.1 percentage points for poorer girls – a 28.5 percent increase relative to the control mean of 14.4 percent; there was no impact on less poor girls.<sup>27</sup> For older girls (ages 14-19), for whom there was no observed impact on enrollment, repetition decreased substantially among the less poor (by 10.3 percentage points from 20.8 percent), while there was no effect on poorer adolescents. Although there is no overall impact on dropout rates, when looking at heterogeneity by poverty level, a similar relationship is found, with PSSN reducing dropout only for less poor children by 3.2 percentage points compared to 14.8 percent in the control group, Figure 15.<sup>28</sup>

**There are various hypotheses that could explain the higher grade repetition rate and unchanged dropout for the poorest.**

One possibility is that by increasing enrollment rates, PSSN brought more children into the school system who are likely more disadvantaged, and thus may have lower learning abilities that make them more likely to repeat. An alternative hypothesis is that poorer children, especially girls, even though they face additional constraints that prevent them from progressing to secondary school, the program incentivizes them to remain in school longer instead of dropping out. It is also possible that the results reflect some combination of these two factors. Since learning outcomes at baseline were not available (Uwezo), additional tests to disentangle this were not carried out, but other proxies could be explored in the future if the results persist over time. The results also indicate that PSSN already plays an important role in incentivizing families to keep children in school and allowing them to progress when they have slightly better economic conditions and reach a certain age or education level. However, the benefit structure may require revisions to enhance incentives at the most difficult transition points (i.e., primary completion and entry to secondary when opportunity costs are increasing).



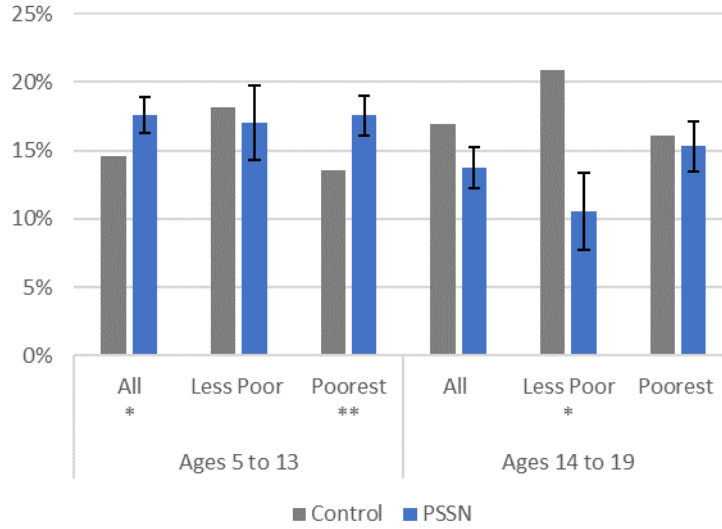
<sup>26</sup> The poverty level was measured using the basic needs poverty line. For robustness checks, the same analysis was done using the adjusted poverty line and the food poverty line, with almost identical results.

<sup>27</sup> Less poor is defined here as above the food poverty line.

<sup>28</sup> The dropout rate is defined for individuals aged 5-19 who reported to be enrolled in school at baseline and not at midline. Thus, it was calculated only for those who were interviewed at both instances, new members were not included. Estimates had the same directions when using the adjusted food poverty line and the basic needs one, but none were statistically significant. For the analysis on dropout rates, further disaggregation by both poverty level and gender was not possible given the low number of observations.

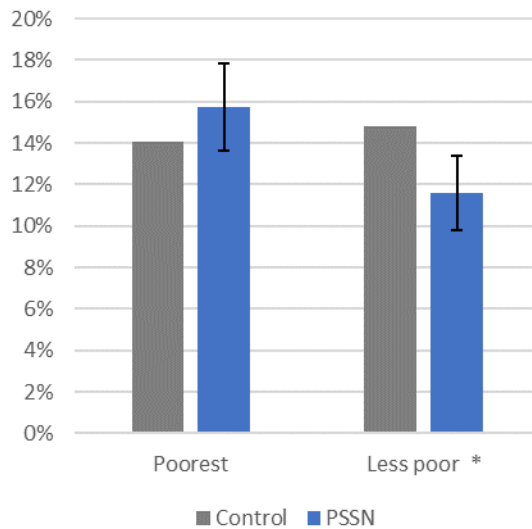


Figure 14. The PSSN effect on females' grade repetition, by age group and poverty level



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for baseline outcomes. Poor is a binary variable indicating whether individual is below the basic needs poverty line. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

Figure 15. The PSSN effect on dropout rates, ages 5 to 14, poorest vs less poor.



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for baseline outcomes. Poor is a binary variable indicating whether individual is below the food poverty line. \* Significant at the 10 percent level.

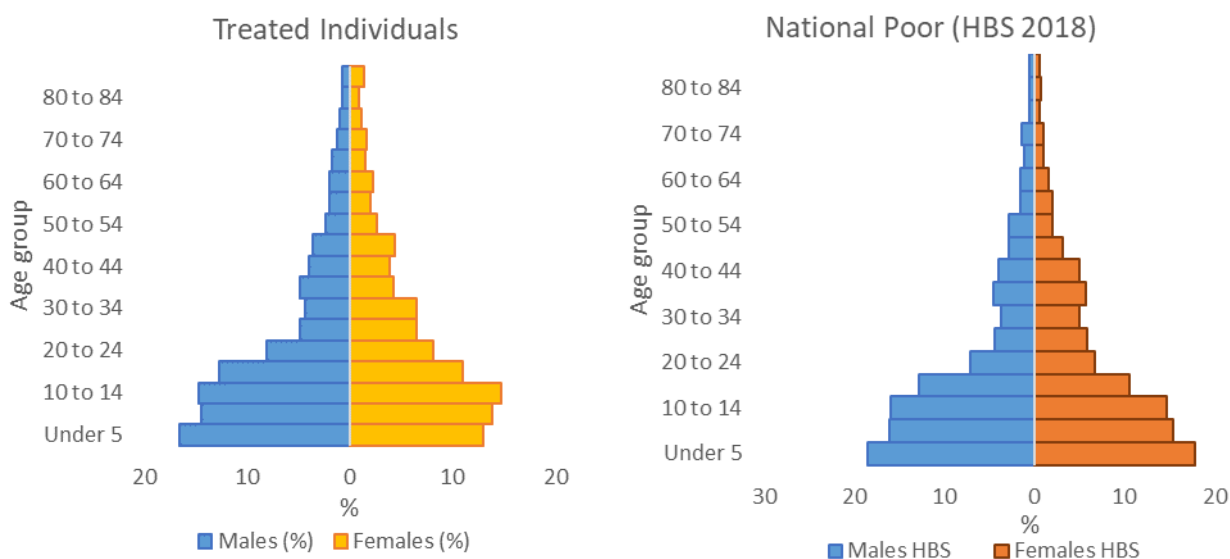
**Finally, there is little evidence on the effect of the PSSN on school attendance, possibly due to the high baseline rates.** At baseline, school attendance was already high for children who were enrolled in school: about 80 percent of children had not missed a day of school and those who did miss at least one day of

school attended most school days – 93 percent.<sup>29</sup> Considering this initially high level of attendance, it is not surprising that the PSSN did not cause significant effects on the rate: on average PSSN children missed fewer days of school than those in the control group but the difference was only statistically significant for male children – a slight change from 1.5 to 1.1 days missed a month. Taken together with other impacts on schooling, these results indicate that PSSN might want to consider further revisions to the co-responsibilities and compliance monitoring given that there appear to be more challenging areas than attendance such as to progression to secondary and retention.

### C. Health and Health-Seeking Behaviors

**The under-reporting of children under five among households interviewed at baseline was corrected at midline for boys but not for girls.** As highlighted in the baseline report (2017), at baseline there were indications of under-reporting of children under five. The proportion of individuals in PSSN households under the age of five (14 percent) was significantly lower than that of the national poor (18 percent) and as compared to the next oldest age group (5 to 10 years) in the population pyramid. This could lead to incorrect estimates of program effects on health outcomes. More importantly, if there is similar misreporting in the administrative data, this could lead to lower transfer amounts. At midline, the under-reporting inaccuracies under the age of five were fixed for males but not for females (Figure 16), suggesting that further efforts are needed to encourage respondents to fully report all children in the household at follow-up phases of the evaluation. Moreover, TASAF should corroborate using administrative data whether under-reporting is also an issue in the program implementation since further efforts may be needed to enroll these children and link them to health and education centers.

Figure 16. Population pyramid, comparison to the national poor

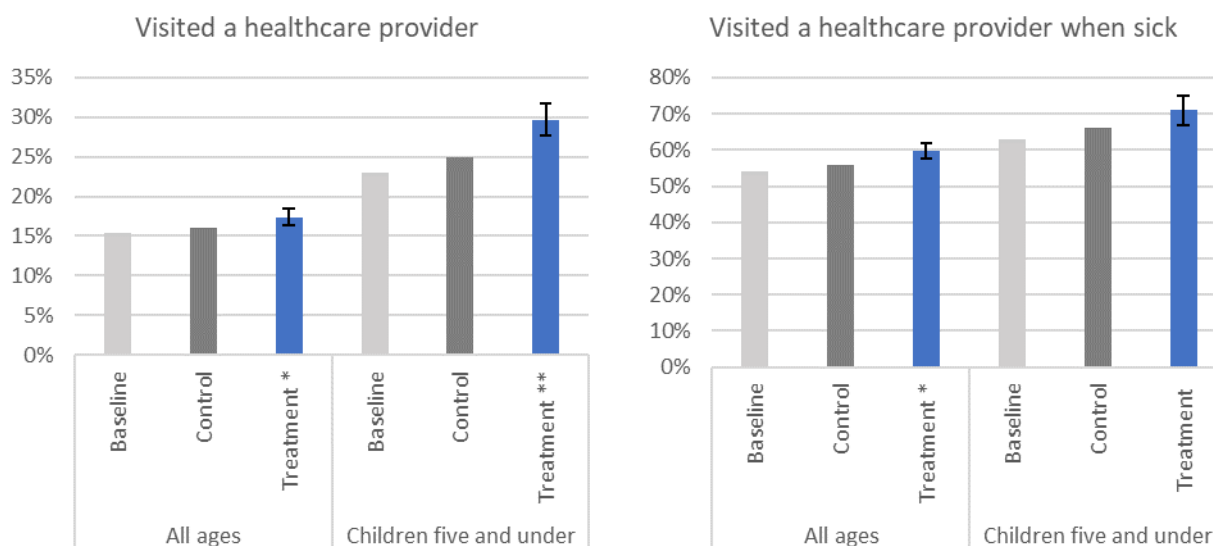


**The PSSN increased visits to a healthcare provider, especially for regular checkups for children age five and under.** One of the PSSN’s goals is to increase human capital accumulation in the medium to long term

<sup>29</sup> Those missing school days missed on average 0.7 days of school every two weeks, which equals 1.4 days every month. Considering that a month has 20 days of school days, the average attendance rate is 93 percent (1-(1.4/20)).

by inducing higher take up of health services, which is low among the target population (World Bank, 2017). Individuals in the treatment group were 1.4 percentage points more likely to visit a healthcare provider than the control group mean and 3.8 percentage points more likely to do so when sick (Figure 17). The impact of the PSSN on health-seeking behavior was even greater for treated children ages five and under, who were 4.7 percentage points more likely to be taken to a health checkup, an 18.4 percent increase relative to their control counterparts (mean of 25.5 percent). The overall impact indicates the program was successful in relieving households' liquidity constraints, which were highlighted as the main reason for not visiting a doctor at baseline (World Bank, 2017). The higher impact on younger children is also consistent with the fact that the PSSN health co-responsibilities focus on regular health checkups for this age group. Despite these positive effects, no impact was found on the total number of visits nor on checkups among sick children, although this is consistent with preventive care being cited as suffering from higher under-utilization at baseline.

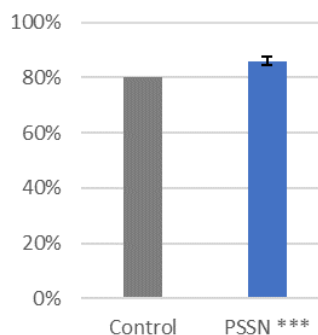
Figure 17. Percentage of individuals visiting a healthcare provider within last 4 weeks



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Although the PSSN improved health-seeking behaviors, there was no accompanying decrease in the prevalence of the most common illnesses among children.** At baseline, fever, malaria and diarrhea were the three most common illnesses among children under five. Thus far, there is no evidence that PSSN had an effect on the likelihood children ages 0 to 5 had these illnesses, or on feeling ill, or on average days sick. However, the PSSN did increase household ownership of a mosquito net by 5.8 percentage points (up from 80.2) (Figure 18), which has been shown to be cost-effective in preventing malaria (Goodman, et al., 2001). It is important to note that impacts on health outcomes may take longer to materialize and should be tested

Figure 18. The PSSN effect on mosquito net ownership

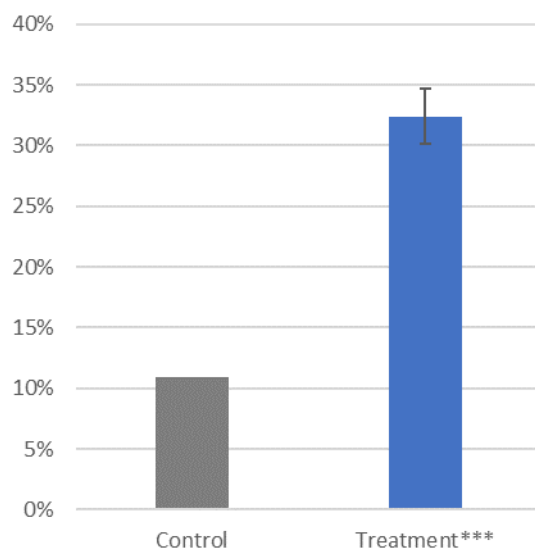


Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level.

again over a longer period. However, visiting a healthcare provider will not necessarily translate into better health outcomes if the quality of healthcare is insufficient and thus, a coordinated supply side response is required.

**The PSSN also generated a substantial increase in health insurance registration.** Households in the treatment group were 21.5 percentage points more likely to have a health insurance. This is approximately a threefold increase relative to the control group mean of 10.9 percent (Figure 18). The program did not have any impact on health-related expenses, perhaps due to the increased protection beneficiaries had from the health insurance. Evans, Holtemeyer, & Kosec (2017) found the pilot CB-CCT program led to large increases in household spending on health insurance, which later covered health visits when ill. Like the pilot CB-CCT program, the PSSN design did not include messaging or other approaches to promote take up of health insurance. However, anecdotal evidence suggests that in practice the PSSN includes messages actively encouraging beneficiaries to enroll in the Community Health Fund (CHF) during TASAF community sessions, a practice that likely carried forward from the pilot (Evans, Hausladen, & Kosec, 2014). Households enroll voluntarily in this government-run fund and pay an annual membership which entitles them to access basic medical care and medicine without paying additional co-payments<sup>30</sup>. The impact on insurance take up is also consistent with beneficiaries being cash constrained: at baseline, more than half of sick adults and children were not taken to the doctor due to healthcare costs (World Bank, 2017).

Figure 19. Healthcare insurance take-up



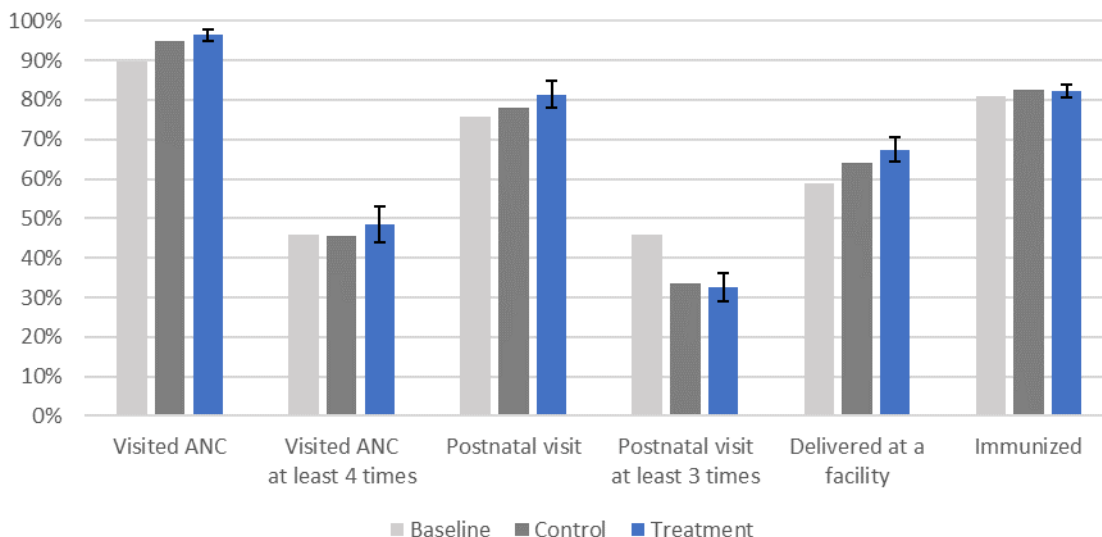
Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The PSSN does not appear to have significantly impacted maternal health outcomes.** For most outcomes related to maternal health, there is an overall positive trend among both control and treatment groups

<sup>30</sup> As of 2018 it covered 167 out of 184 councils operating under LGA through the National Health Insurance Fund coordinators.

including utilization of antenatal (ANC), postnatal care and institutional delivery since the baseline (Figure 20). However, there are no significant differences between the treatment and the control group for these outcomes, including no impact on delivery assisted by a skilled birth attendant or immunization of children age two and under.<sup>31</sup> The lack of impact on ANC could be due to the high baseline incidence of attending an ANC (95 percent), of attending postnatal visits (78 percent), and of immunizing children age two and under (83 percent). The lack of specific co-responsibilities linked to regular maternal checkups could also have played a role. The PSSN could consider incentives to increase the number of ANC (only 45.5 percent attended at least 4 ANC visits), post-natal care (only 33.6 percent had at least 3 post-natal visits), as well as delivery assisted by SBA (69.6 percent) or institutional delivery (69 percent). However, this change has both financial and operational implications. Operationally, TASAF may want to ensure the current processes of compliance monitoring are sufficiently stable before adding maternal care co-responsibilities given the operational complexity of monitoring its compliance (e.g., due to the continuously changing individuals that would need to be tracked). Financially, TASAF has a range of tradeoffs such as the generosity of benefits versus coverage that will affect this decision.

Figure 20. Maternal and reproductive health outcomes



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017.

**Although the PSSN improved both dietary diversity and increased utilization of health services, as expected, impacts on child nutrition outcomes have not yet been observed.**<sup>32</sup> No impacts were found on the following measures: stunting rate, underweight rate, wasting rate, weight-for-age, height-for-age, Body Mass Index for age and arm circumference for age. However, these outcomes may take more time to materialize and should be tested in follow up rounds. In addition, despite improvements since baseline, some quality issues persisted in the midline anthropometric data and further efforts will be required in follow ups for the impacts on nutrition outcomes to be measured accurately.

<sup>31</sup> A positive impact on attending any post-natal care visits was found only for younger women (9.5 percentage points), although the number of observations was fairly small (~330).

<sup>32</sup> Breastfeeding practices was not correctly measured at midline and will be adjusted in the next follow-up.

## D. Coping Strategies and Economic Security

**The PSSN improved poor households' ability to cope with shocks and reduced the likelihood that a negative shock caused an income or an asset loss.** On average, over one-third (34.6 percent) of households who were eligible for PSSN experienced a shock within the last year, with dwelling damages, drought or floods, and death of a family member outside the household being the most common. The PSSN was designed to build resilience to shocks and reduce reliance on negative coping strategies, which are prevalent among its target population (World Bank, 2017).<sup>33</sup> The treatment group reduced its likelihood of employing negative coping strategies as measured by the Coping Strategy Index by 1.25 percentage points compared to the control groups mean of 7.8 (Figure 21). The PSSN also protected households from income and asset losses following negative shocks. While 70.9 percent of households in the control group lost income or assets due to shocks, 66.6 percent of treated households did so, a 4.3 percentage point reduction (Figure 22). The most commonly used mechanisms among treatment households to withstand shocks included savings (24.4 percent) and relying on relatives and friends (18.6 percent).<sup>34</sup>

Figure 21. Coping Strategy Index

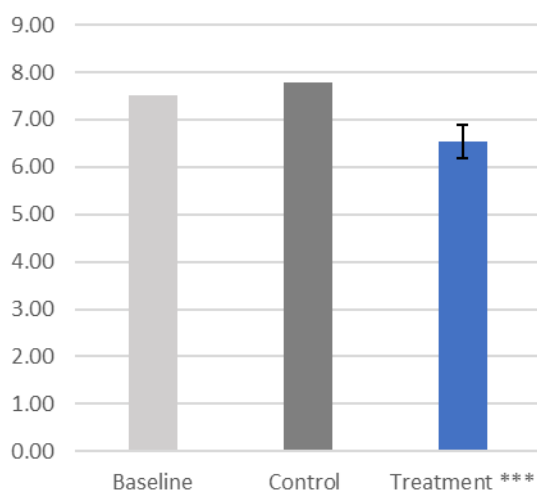
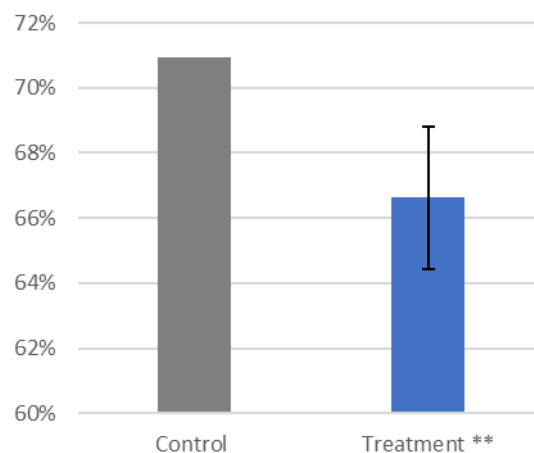


Figure 22. Percentage of households that lost assets or income due to shocks



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The PSSN substantially increased the proportion of households saving money.** In general, a very low percentage of households save, only 13.3 percent of control households (Figure 23). Although there is room for improvement, increasing this proportion is quite difficult considering that 85.5 percent of households' expenditures go into critical consumption (i.e., food) and that the total amount of money saved among those who save is only around one week of food consumption (TZS 9,660 per AEQ or USD

<sup>33</sup> The CSI was used to measure the risk of employing a negative strategy in response to food shortages. The index gives lower weight to coping strategies that are more reversible (e.g. eating less preferred foods) and higher weight to more severe responses that indicate prolonged food shortages. Thus, the higher the index, the more deleterious the strategies used. See WFP (2013) and Maxwell and Caldwell (2008) for methodological details.

<sup>34</sup> A non-negligible proportion (39 percent) of households reported not doing anything at all.

4.2). Despite this difficulty, the PSSN was able to increase the proportion of households that saved money by 3.9 percentage points, representing a substantial increase (29.3 percent) relative to the control group mean of 13.3 percent. The average amount of money saved is not significantly different between the two groups, meaning that those who started saving money due to PSSN saved about the same amount that those who were already saving. The impact on savings may be driven by TASAF promoting savings and formation of savings groups during PSSN sensitization sessions prior to quarterly payment delivery.

**The expansion in savings resulted in increased use of informal mechanisms, with use of formal mechanisms remaining unchanged.**<sup>35</sup> Among households saving money, the most frequently used instrument to save money was mobile money (23.7 percent used it), followed by SACCOS (4.5 percent), banks (7.0 percent) and family (3.1 percent) - Figure 24. The PSSN increased the percentage of households saving money through informal mechanisms by 3.0 percentage points (up from 8.8), while it did not change the proportion of households using formal ones – just 4.8 percent use formal mechanisms.

Figure 23. Percentage of households saving money

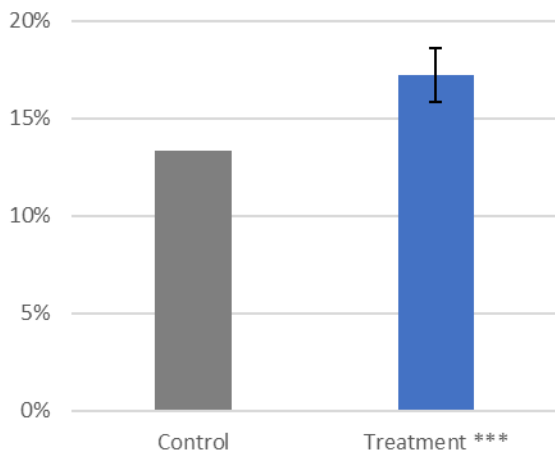
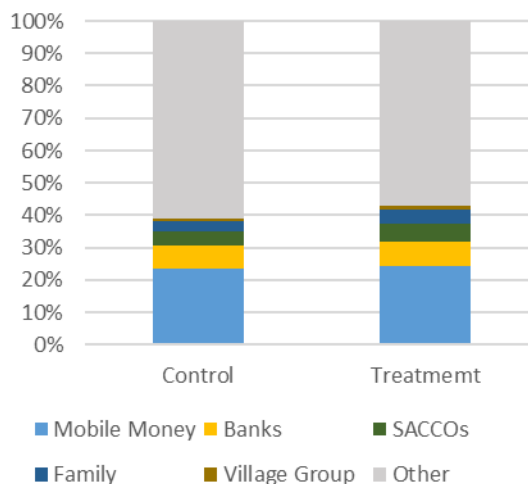


Figure 24. Savings mechanisms used



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The impact of the PSSN on health insurance take up can also be interpreted as a positive risk coping strategy.** As mentioned above (see [Section V.C](#)), 32.5 percent of treated households were enrolled in a health insurance plan compared to just 10.9 percent in the control group, a threefold increase. This is an important coping strategy since health expenditures tend to be quite high. Evans, Holtemeyer, & Kosec (2017) found that participating in the government-run health insurance program (CHF) significantly reduced out-of-pocket expenditures on health by 27 percent. In the case of the PSSN, the IE found an increase in visits to health care providers but did not find an effect on total health expenditures; which can be explained with the increase in CHF enrollment.

<sup>35</sup> Formal saving mechanisms include banks, mobile money, and SACCOS, while informal saving mechanisms include villages, family and other methods. “Other” is a compilation of various other mechanisms not enumerated on the survey.

## E. Housing Conditions and Assets

**Households in the PSSN improved their housing and living conditions by utilizing better roof materials and drinking water sources.** Households in the treatment group were 2.9 percentage points more likely to use higher quality building materials for the roofs of their houses (i.e. iron sheets) than the control group mean of 64.3 percent, while reducing use of lower quality materials (i.e. grass, leaves, mud, asbestos) by almost the same magnitude – from 35.7 to 32.7 percent (Figure 25).<sup>36</sup> There was no conclusive evidence related to improvements in floor and wall materials. Treated households were also 4.4 percentage points less likely to use unimproved sources of drinking water – such as unprotected dug wells and springs and surface water. While 37.5 percent of households in the control group used these water sources, just one third of the treatment group did so (Figure 26).<sup>37</sup> There was some evidence of a reduction in the share of households without toilet facilities, but the effect was not robust when controlling for baseline outcomes.<sup>38</sup>

Figure 25. Housing conditions: roof materials

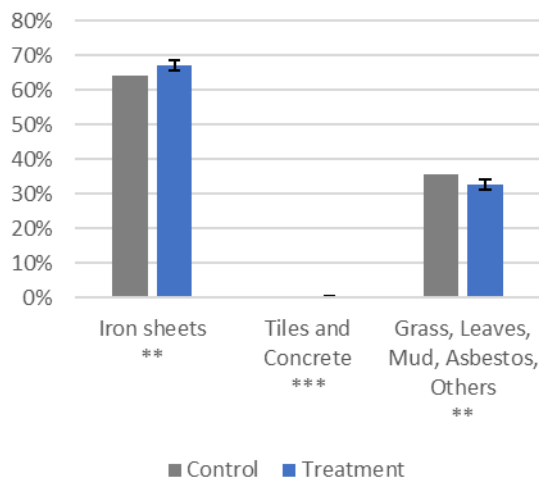
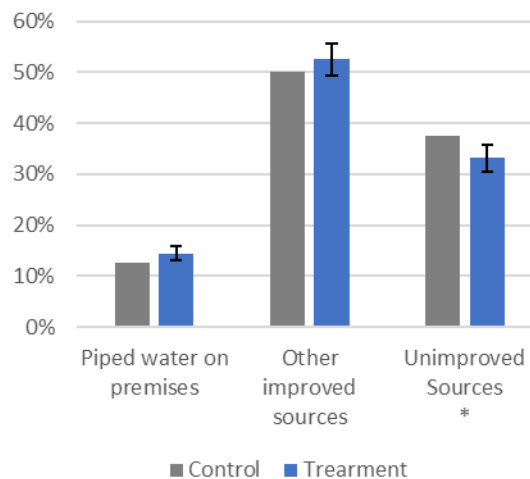


Figure 26. Living conditions: drinking water sources



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The PSSN changed households fuel usage.** Households in the treatment group were 3.9 percentage points more likely to use solar fuel for lighting purposes, a 33.9 percent increase when compared to the control group mean of 11.5 percent. For cooking purposes, the effect was not as substantial, the PSSN slightly decreased solid fuel by 0.3 percentage points compared to the control group mean of 99.9 percent.

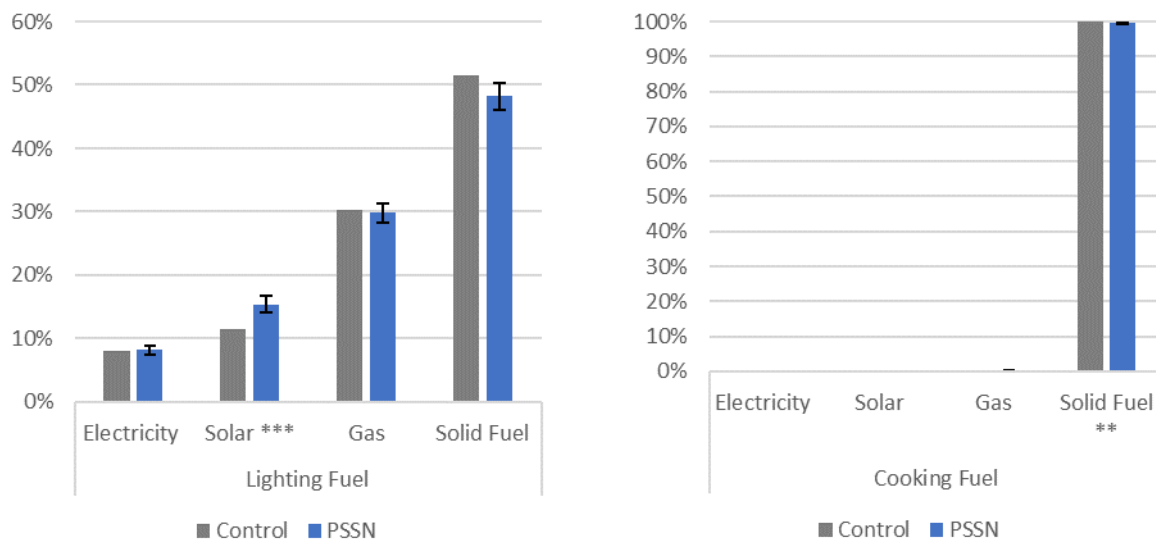
<sup>36</sup> Grouping for housing materials were constructed based on the National Panel Survey 2014-2015 (National Bureau of Statistics, 2016).

<sup>37</sup> Grouping for drinking water sources were constructed based on World Health Organization water monitoring report: [https://www.who.int/water\\_sanitation\\_health/monitoring/water.pdf](https://www.who.int/water_sanitation_health/monitoring/water.pdf)

<sup>38</sup> Although no impact was found on improved toilet facilities when controlling for baseline outcomes, households in the treatment group were 3 percentage point less likely to not have a facility when not controlling for baseline outcomes (compared to the control group mean of 18 percent).



Figure 27. The PSSN effect on fuel usage



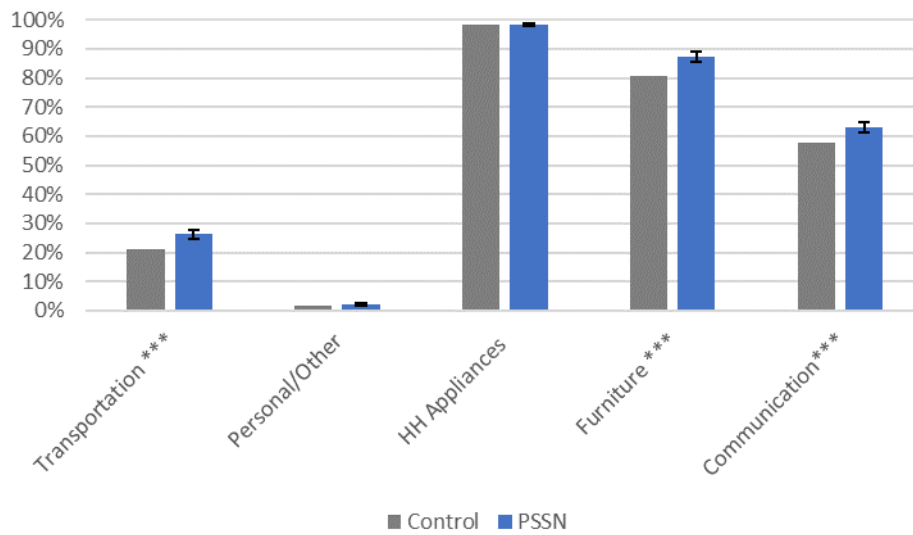
Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The PSSN also led to higher ownership of durable assets.** Treatment households were 5.2 percentage points more likely to own transportation assets, representing a 24 percent increase relative to the control group mean of 21.1 percent (Figure 28).<sup>39</sup> The PSSN also increased the proportion of households owning pieces of furniture (such as beds, chairs, and tables) by 6.4 percentage points and the proportion of households owning communication assets (i.e. mobile phones and radios) by 5.1 percentage points. In particular, the impact on the ownership of mobile phones (an increase of 3.6 p.p.) indicating that wider use of mobiles improves the opportunity for PSSN to successfully implement e-payment using mobile money in the near future.



<sup>39</sup> Transportation assets is a category combining bicycles, motorcycles and vehicles. When disaggregating further, only the impact on bicycles is significant.

Figure 28. The PSSN effect on percentage of households owning assets, by type of asset



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

## F. Labor and Productive Activities

**The PSSN changed the nature of workers' primary productive activities, moving individuals away from casual labor to self-employment, with some differential effects by gender.** <sup>40</sup> The program decreased the likelihood that an employed individual worked in a casual job and it increased, by almost the same magnitude, the likelihood that an individual was self-employed. The type of self-employment to which individuals shifted into varied by gender (Figure 29). Males were 6.5 percentage points more likely to work on farm activities than other males in the control group. On the other hand, females were 7.6 percentage points more likely to work on non-farm activities than other females in the control group. This shift observed for women could be linked to higher earnings. <sup>41</sup> Some males also shifted into apprenticeships with a 4.4 percentage point increase. <sup>42</sup> The effects are similar for all age groups, although the magnitude of the change is largest for younger females (Figure 30). Female youth and adolescents in treated households saw a 16.0 and 23.2 percentage points reduction in casual work and an increase of 17.8 and 26.0 percentage points in non-farm self-employment, respectively. In addition, the program seems to have increased unpaid work for females by 2.6 percentage points,



<sup>40</sup> See [Annex B Table B12](#) for employment definitions in this section.

<sup>41</sup> Evidence from Tanzania shows (Kweka & Fox, 2011) that non-farm self-employment (household enterprises) could be a good choice in terms of income, at least for the poorer population that would not have the required qualifications for high skilled jobs. Especially for women, they find that median hourly earnings are higher than those in a wage job in the private sector. Also, for men and women non-farm self-employment income is higher than agricultural wage earnings.

<sup>42</sup> While the effect was statistically significant on apprenticeships amongst adolescents, it is important to note that the sample size for this type of job was quite low (19 unweighted observations were apprentices); thus, caution must be taken when interpreting this result.

compared to the control mean of 15.9 percent, and female unemployment rate by 4.3 percentage points, compared to the control mean of 11.1 percent. This could be explained with a non-statistically significant increase in the female labor force participation rate. Otherwise, the program did not have a significant effect on the remaining traditional labor outcomes.<sup>43</sup>

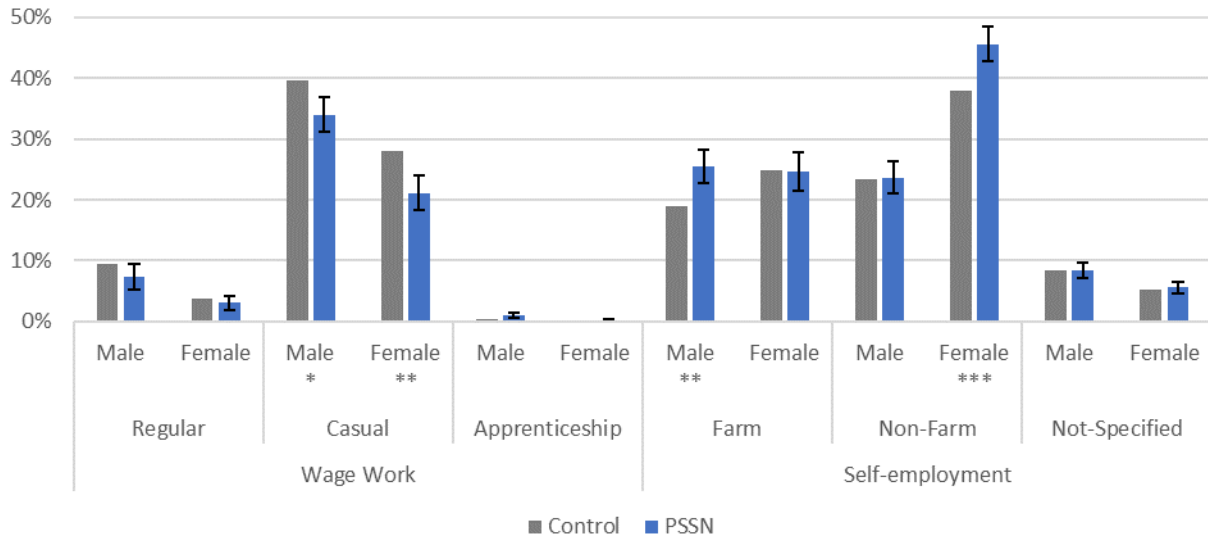


*PSSN Beneficiaries (2016-2018)*

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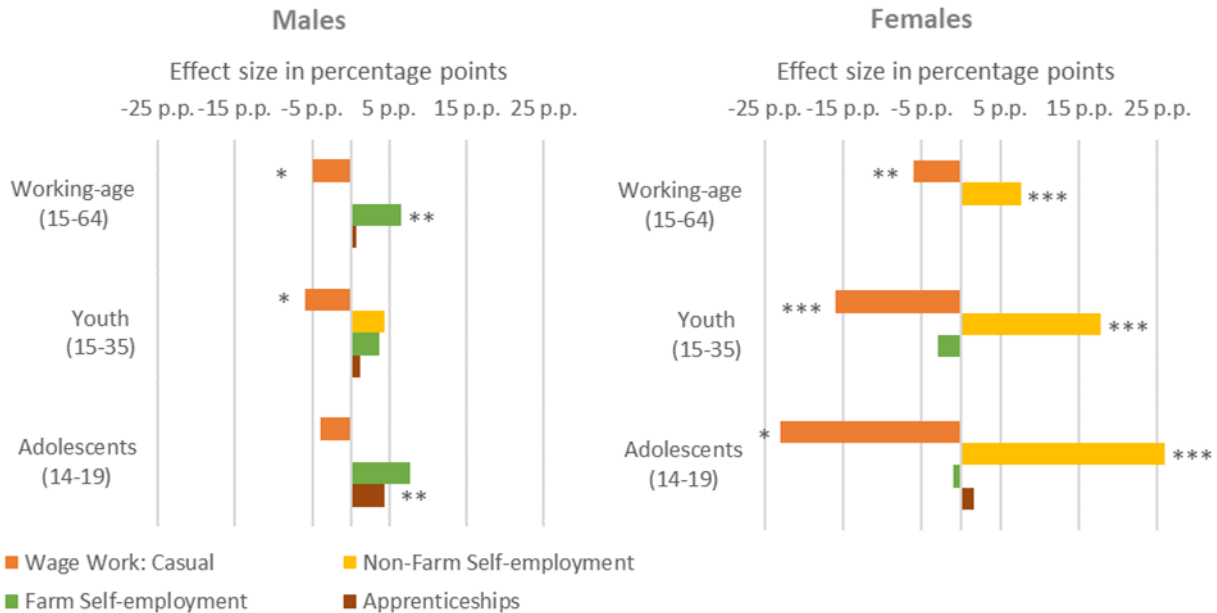
<sup>43</sup> Not specified self-employed individuals include workers who declared they were self-employed but were temporarily absent from work and, due to survey design, it was not possible to determine whether this was farm or non-farm work. Attempts to correct this survey design issue should be considered in follow-up phases of the IE.

Figure 29. Percentage of workers, by gender and type of work



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

Figure 30. The PSSN effect on productive activities of employed individuals, by gender and age group



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**The shift in beneficiaries' type of work translated into a reduction in the total hours beneficiaries worked a week (by 2.2 hours).**<sup>44</sup> This result can be explained when taking into consideration that casual workers tend to work more hours a week than non-farm self-employed. While casual workers in the

<sup>44</sup> The PSSN effect on hours work is not statistically significant when hours worked is unconditional of employment status.

control group worked 40.5 hours a week, non-farm self-employed workers in the control group worked 35.7 hours (this difference is statistically significant at 5 percent level).

**The PSSN shifted non-farm household enterprises (HEs) to more profitable sectors, moving from production to trade.**<sup>45</sup> Since baseline, the proportion of households owning or running a non-farm household enterprise significantly increased from one-in-five to one-in-three households. This change cannot be attributed to the PSSN, but possibly related to a trend in Tanzania due to the excess of labor supply and households' need to diversify and increase income (Kweka & Fox, 2011). However, the program did produce a change in the sectors in which these HEs operate. The PSSN increased the likelihood that a household had a non-farm HE in the trade sector by 3.8 percentage points (up from 17.0 percent), while it decreased the proportion of HEs in the production sector by 5.5 percentage points (down from 29.8 percent) (Figure 31). This effect is important since HEs owned by households in both the treatment and control group in the trade sector tend to require more start-up capital and tend to be more successful than those in the producer sector (Figure 32). At midline, HEs in the trade sector owned by treated households had a higher average start-up capital (TZS 15,919 more), higher monthly revenues (TZS 100,000 more) and, most importantly, higher profits (TZS 147,000 more). Similarly, Kweka & Fox (2011) also found that HEs in the trade sector had higher earnings than those in the manufacturing one and that the only sectors in which HEs were more profitable (than those in the trade sector) were those in mining and construction and hotels and restaurants.

Figure 31. Non-farm household enterprises, by sector

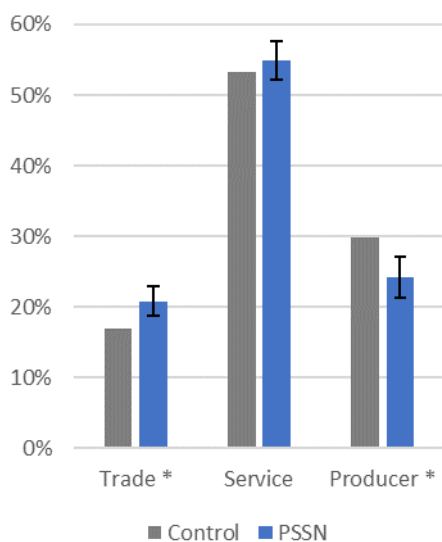
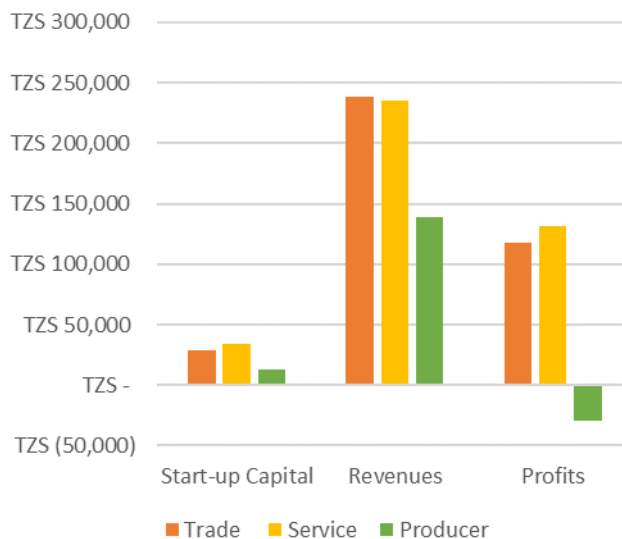


Figure 32. PSSN Non-farm household enterprises start-up capital, revenues and profits, by sector



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

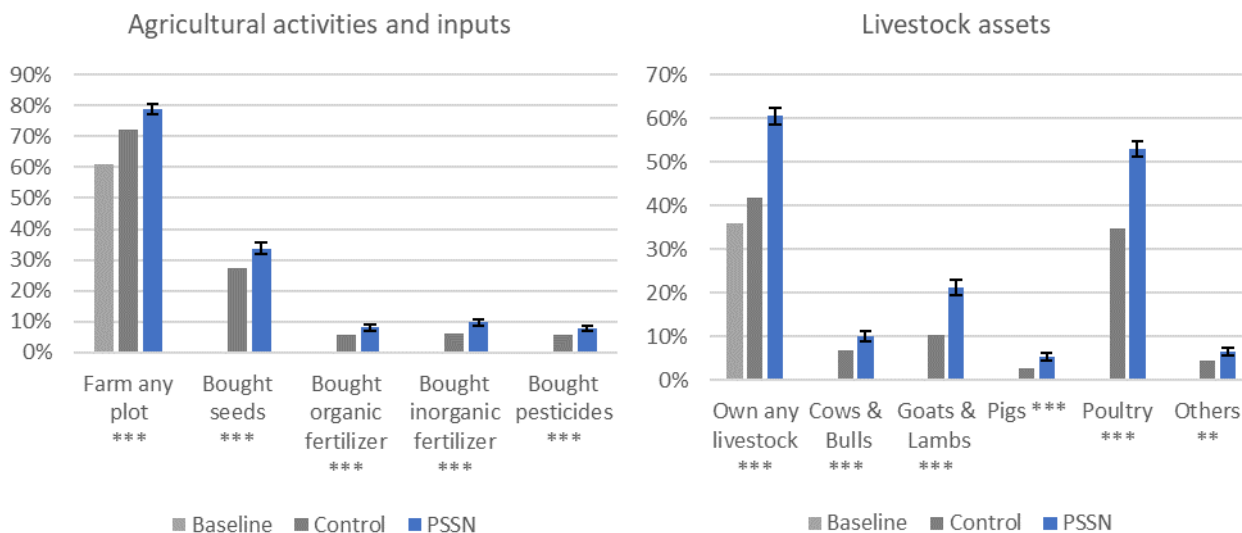
**The PSSN also intensified households' farming activities and the utilization of agricultural inputs that are linked to improved agricultural productivity.** Despite no effect on self-employment in farm activities

<sup>45</sup> The definition used in the survey of household enterprises comprise run or owned non-agricultural income generating enterprises that produce goods and services (including shop or trading businesses) and that it is either operated by one person in the household or by multiple household members or together with other people outside the household.

at individual level, the PSSN did increase the proportion of households cultivating farm plots by 6.6 percentage points compared to a control group mean of 72.2 percent (Figure 33). The PSSN also increased total agricultural expenditures (by TZS 340 or USD 0.15) and the proportion of households buying seeds (by 6.3 p.p.), organic and inorganic fertilizers (by 2.6 and 3.7 percentage points, respectively) and pesticides (by 2.2 percentage points). These impacts are consistent with international evidence that shows that cash transfers can increase investments in agricultural inputs and livestock assets – Bastagli et al., 2016. No impacts were found on agricultural asset ownership.

**The PSSN also increased ownership of productive assets and activities in the form of livestock.** Similar to agricultural activities, the proportion of households owning or raising livestock increased from baseline to midline – from 36 to 41.9 percent (Figure 34). In addition, treated households were 18.6 percentage points more likely to own or raise livestock. The largest gains were in proportion of households owning or raising small and medium-size livestock such as poultry (18.1 p.p.) and goats and lambs (10.9 p.p.), although there were positive effects for all types of livestock measured. There was also a positive impact on the amount of livestock owned for medium-size livestock that tend to be less commonly owned or raised by PSSN’s target population: on average, treated households owned 1.9 more poultry and 0.06 more pigs than control households – who owned about 8 poultry and 0.1 pigs.

Figure 33. The PSSN effect on agricultural activities and inputs      Figure 34. The PSSN effect on livestock assets

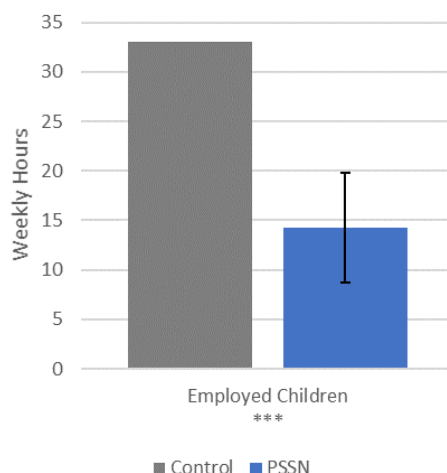


Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Finally, the PSSN significantly decreased the total hours children worked a week.** On average, the midline data indicates about 1.2 percent of children (ages 5 to 14) in the control group were paid workers and an additional 0.5 percent were unpaid workers. Although this is low relative to national estimates of child work, which is closer to 25 percent (for ages 5-13) for economic activities not including household chores (ILO, 2018), it is somewhat expected since the IE labor modules were not focused on capturing detailed data on child work but rather on measurement of productive activities among adults. The program reduced the total hours children worked by 18.78 hours a week irrespective of whether they were in school or not: working children in the control group worked an average of 33 hours a week, while

those in the treatment group worked 14 hours (Figure 35).<sup>46</sup> This result may be driven in part by the PSSN effect on primary school enrollment since the proportion of children enrolled in school increased from 69.8 to 78.7 percent due to the program.

Figure 35. PSSN effect on weekly hours children work



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

## G. Intra-household Bargaining and Decision-Making

**For some key decisions related to receipt of cash transfers, the PSSN had an impact on intra-household dynamics for women who had a partner.** Women were asked their role in the decision-making process regarding decisions affecting themselves directly – own earnings, health and use of contraception – as well as those affecting their households – children’s health and schooling and household purchases.<sup>47</sup> For women overall, the PSSN did not affect the proportion having a say in the decision-making process nor the proportion of those who are the primary decision-maker (Figure 36 shows control group means). However, the PSSN did empower women who had a partner, who were much less likely at baseline to be the primary or sole decision-makers.<sup>48</sup> The impacts were found in areas that are expected to be influenced through the receipt of cash transfers by women and co-responsibilities for children (Figure 37). For treated women with partners, there were effects on decision-making in three areas: having a say in the use of their own earnings (a 4.6 p.p. increase) and primary decision-making regarding children’s health and education (rose by 6.6 p.p.) and household purchases (a 4.8 p.p. increase). Irrespective of having a partner,

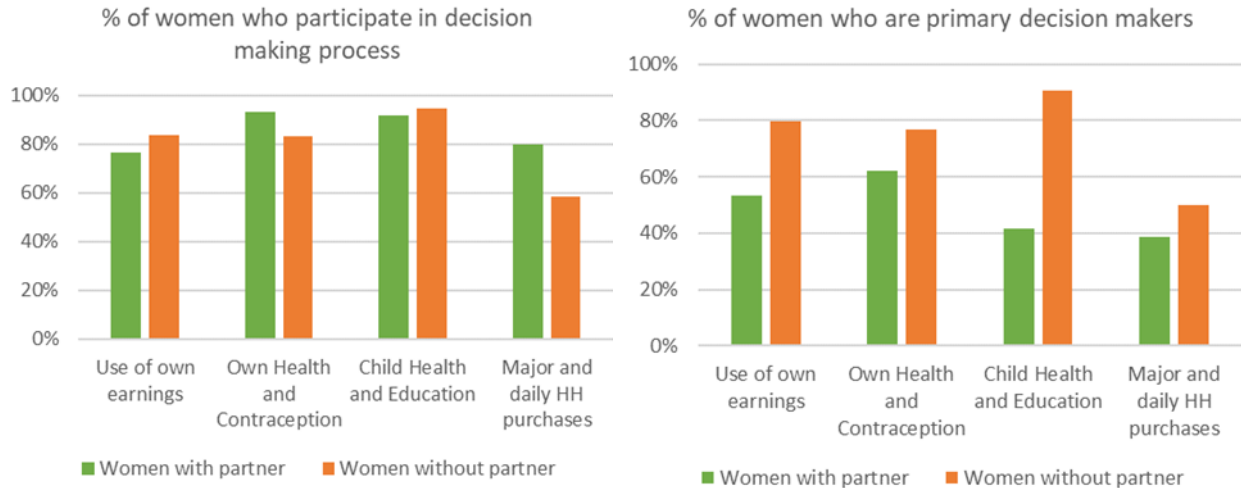
<sup>46</sup> The effect is statistically significant when hours worked is unconditional of employment status. Based on the unconditional estimate the PSSN reduced the total hours children worked by 0.27 hours a week.

<sup>47</sup> For analysis purposes, decisions were grouped considering the main areas in which the program could have an impact on (i.e. education, health, consumption).

<sup>48</sup> Women with partner includes those who are married or living with a partner and excludes those who are single, separated, divorced or widowers.

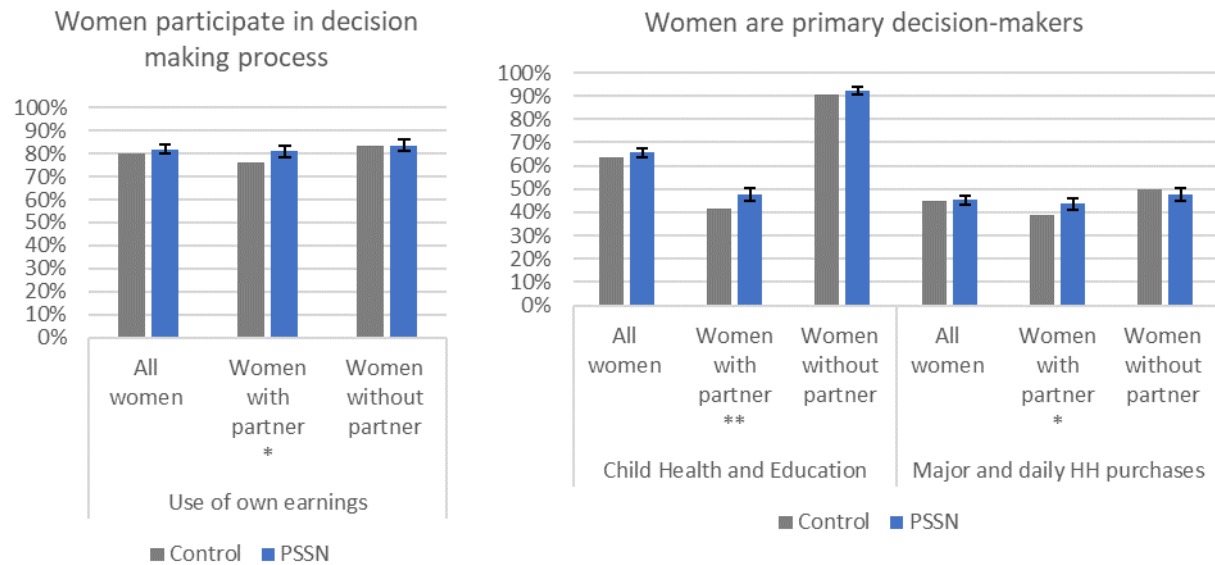
the PSSN did not affect the percentage of female who are primary decision makers for decisions around women’s own health and contraception.<sup>49</sup>

Figure 36. Women's power on household decision-making



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Control group means.

Figure 37. PSSN effect on intra-household dynamics



Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. PSSN impacts. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

<sup>49</sup> However, the PSSN decreased the percentage of females with partners having a say on decisions regarding own health and contraception (from 93 to 90 percent) and child health and education (from 92 to 88 percent).

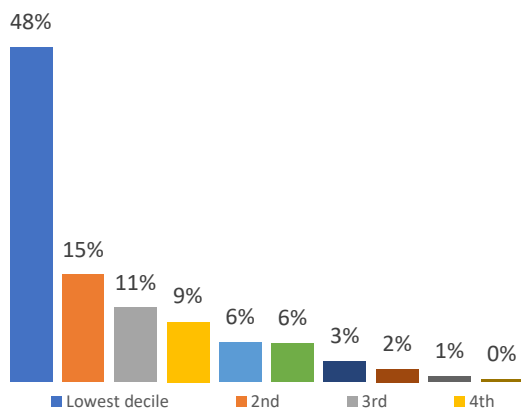


## VI. Program Implementation

### A. Targeting Performance and Community Perception

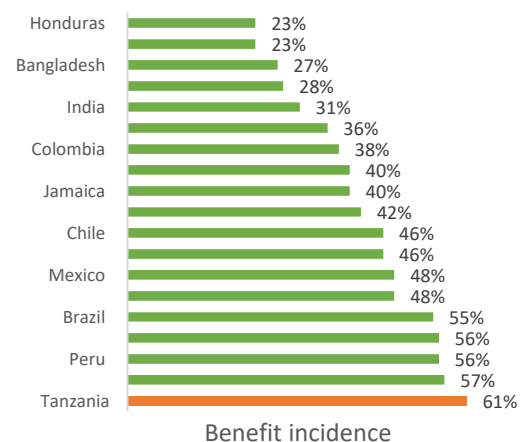
The baseline report (2017) highlighted PSSN’s success at identifying the poorest households in Tanzania, showing it outperformed many other cash transfer programs globally. All countries, particularly developing countries, face resource constraints that limit coverage, leading to a focus on choosing wisely who will benefit and how to identify them efficiently. The PSSN’s targeting approach combined three mechanisms aimed at reaching the poorest: identifying the poorest geographical areas, using community knowledge to identify the poorest households within these areas, and maintaining an objective verification of eligibility (through the PMT).<sup>50</sup> There were two key findings at baseline related to targeting performance. First, combining the CBT and PMT was more effective than using only one of these methods due to their complementarities, including the ability of community to capture shocks and of the PMT to bring objective verification to the community process. Second, during the scale up, the PSSN had strong targeting performance, reaching a higher share of beneficiaries in the bottom quintiles of consumption compared to other similar CCT programs worldwide, Figure 38 and Figure 39.

Figure 38 PSSN Distribution of beneficiaries by consumption deciles.



(World Bank, 2017)

Figure 39 Benefit incidence to lowest quintile, similar CCT programs in other countries



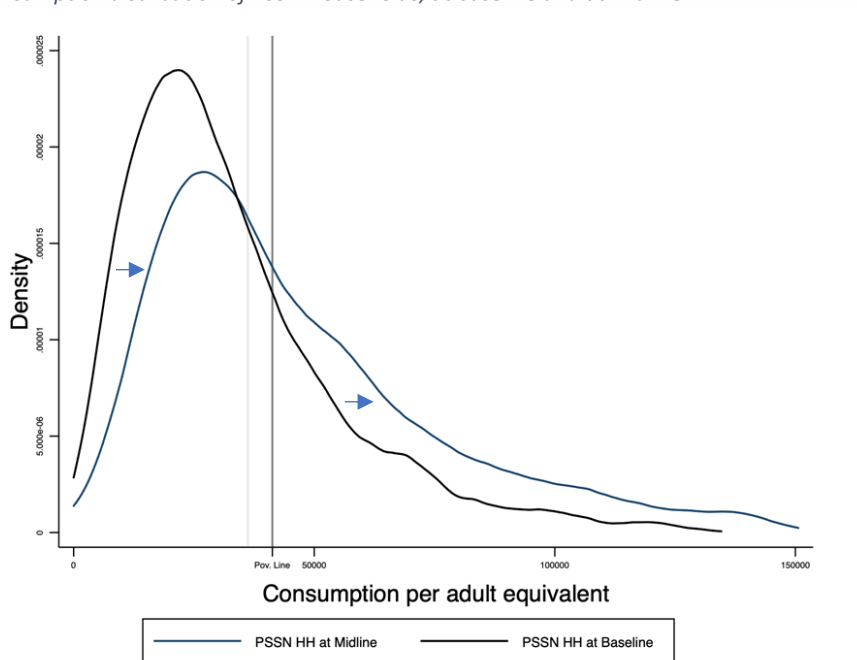
(World Bank, 2017)

The midline data indicates that despite the PSSN’s positive impacts on a range of outcomes, it is too early for a complete recertification process. Since PSSN began delivering payments in 2015 (in IE communities) household welfare among beneficiaries has improved substantially. However, it may be too soon for a full recertification process. There has been a large decline in poverty incidence among treated households since baseline – by 9 percentage points from 63.5 percent when using the adjusted food poverty line – and a considerable shift in the consumption distribution (see Figure 40). But the distribution

<sup>50</sup> The use of proxy means testing has been proliferating in the sub-Saharan African context in recent years, in part due to the perception that heavy reliance on community-based targeting or self-targeting has resulted in weak performance (World Bank, 2015).

among treated households has not shifted far enough to surpass that of households who failed the PMT (see Figure 41).<sup>51,52</sup> And more than half (55 percent) of treated households remain under the adjusted food poverty line compared to 40 percent of those who failed the PMT in treated communities.<sup>53</sup> Since 60 percent of PSSN households still live in basic needs poverty and 71.2 percent are in the bottom two quintiles, the impacts may not be sustained if households are exited from the program at this stage. Recertification exercises are costly both in monetary and social terms and need to be assessed carefully. International evidence shows that receiving transfers for short periods may not have sustainable impacts beyond program participation as poverty is affected only after prolonged exposure (Bastagli et al., 2016). Instead of a full recertification, it may be advisable to identify pockets with greater concentration of beneficiaries further from the poverty line. One approach TASAF has been exploring is using poverty maps to identify small (sub-district) geographical areas with the highest over-coverage and focus recertification in those areas, combined with expansion to poor locations not covered during the scale up. However, further analysis will be needed to better understand the profile of beneficiaries that are more likely to maintain impacts if exited from the program and develop a cost-effective strategy to identify areas where a recertification exercise would be most appropriate.

Figure 40. Consumption distribution of PSSN Households, at baseline and at midline



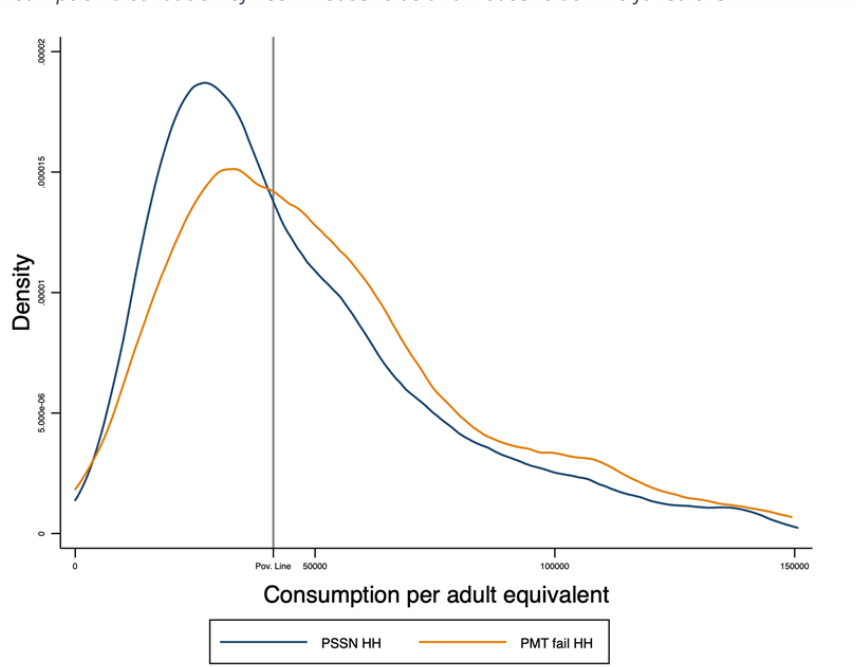
Note: The light gray line is the adjusted poverty line from NPS 2012, inflated to 2015 value. The darker gray line is the same poverty line inflated to 2017 value. Consumption per adult equivalent is the total consumption, annual, nominal (excluding food out, health and education) per 28 days adult equivalent.

<sup>51</sup> Households who failed the PMT are those that were identified by the community but were not included in the PSSN because they failed the PMT.

<sup>52</sup> Statistical difference was tested using Kolmogorov-Smirnov test.

<sup>53</sup> The proportion of poor households is also higher for PSSN households than PMT fail households when using the food poverty line (48 vs 30 percent) and the basic poverty line (60 vs 47 percent).

Figure 41. Consumption distribution of PSSN Households and Households who failed the PMT



Note: The poverty line shown in the figure is the adjusted poverty line estimated based on NPS 2012, adjusted to 2017 value. Consumption per adult equivalent is the total consumption, annual, nominal (excluding food out, health and education) per 28 days adult equivalent.

**Despite the effectiveness of the targeting system, households were not fully satisfied with the selection process around the PMT, indicating better communication is needed in future rounds.** At both baseline and midline households were asked about their perception of fairness and transparency regarding the process to identify potential beneficiaries in their communities. Due to the timing of data collection, it is inappropriate to measure the change in perceptions since respondents may be interpreting the questions differently.<sup>54</sup> Still, some conclusions can be drawn. Households at baseline had a high satisfaction and perceptions of fairness and transparency with the selection process at baseline, after the CBT process and PMT data collection had been carried out but before knowing whether they had been selected (World Bank, 2017). However, at midline, after PSSN beneficiaries had been selected, there was less general satisfaction of the targeting process (72 percent at baseline compared to 38 percent at midline) as well as perception of its fairness and transparency was lower (about 90 percent at baseline compared to half at midline) among households that were not deemed eligible – i.e. those who failed the PMT after being prelisted by the community. While this is expected, the lower level of satisfaction post-selection may also indicate that future rounds PSSN should strengthen communication efforts around how eligibility is determined, and how budgetary limitations that limit coverage of poor households. In addition, any exit of specific households due to concerns about ineligibility outside broader recertification should rely on

<sup>54</sup> Thus, baseline responses may reflect households’ perception of the identification process at the community level and PMT data collection, while at midline may reflect perceptions of final selection outcomes. Since this is likely the case, the comparison between the two rounds cannot be made since respondents are answering different questions.

clear protocols that replicate as much of the original selection process as possible (e.g., community and PMT verification).

## B. Payments and Co-responsibilities

**The PSSN is delivering timely and correct payment amounts based on household compliance with co-responsibilities.** The midline data indicate the program is delivering payments in a timely manner – the great majority of treated households (88 percent) reported receiving payments every two months and just 13 percent reported a cancelled or postponed payment – and without inappropriate fees – 1 percent of households reported having to pay a fee in order to receive the payment.<sup>55</sup> The difference between the amount that treated households were entitled to receive and the amount they reported receiving was also minimal (Figure 42). According to midline data on household composition and compliance with co-responsibilities, on average PSSN households should have received TZS 17,809 a month, equivalent to about USD 7.7 (A in Figure 42).<sup>56,57</sup> This is a very similar amount to what households reported receiving at midline based on the last payment cycle (2 month prior to being surveyed)– an average of TZS 16,612 a month or about USD 7.1 (B in Figure 42). It is also consistent with what they received according to the PSSN’s payment system administrative data of TZS 16,539 a month or about USD 7.1 (C in Figure 42). These results indicate PSSN has strong capacity to monitor households’ compliance with co-responsibilities and deliver payments accordingly.<sup>58</sup>



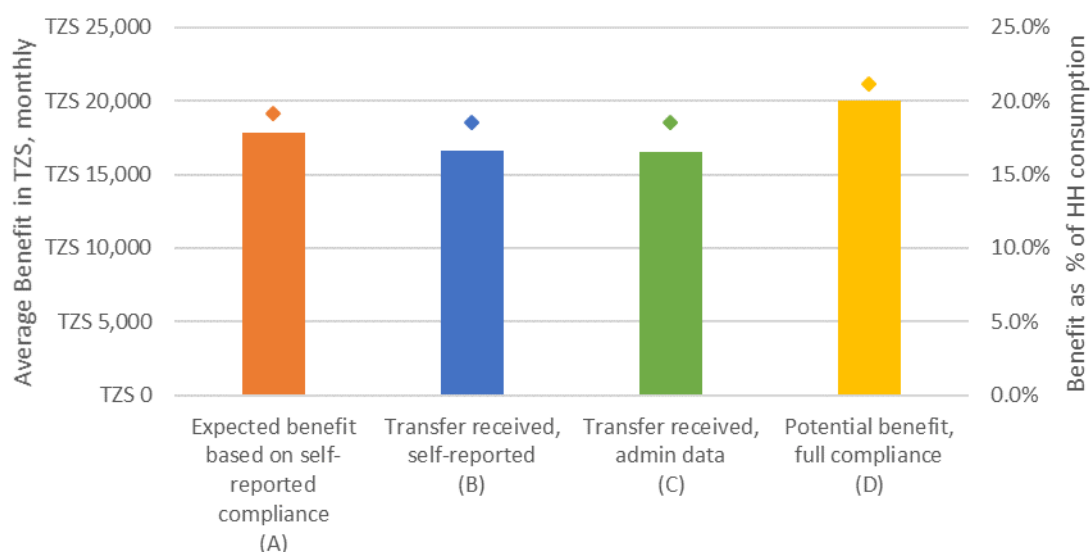
<sup>55</sup> These results are consistent with program spot checks between baseline and midline using administrative data.

<sup>56</sup> The expected (column A) and potential (column D) amount of the transfer depends on both the household composition and the household compliance with co-responsibilities. Some assumptions were made due to availability of information. For health check-ups: i) children ages 2 to 5, all children fulfilled the requirement to have a health check-up every 6 months; ii) children 0 to 24 months, no assumption was made since information was available. For school enrollment, the attendance rate was calculated taking as average the last two weeks from interview date. The average rates were 78 percent for primary school, 74 percent for lower secondary school, and 100 percent for upper secondary school.

<sup>57</sup> Note that compliance with co-responsibilities as reported by TASAF may differ from actual enrolment and thus with estimations in column A. TASAF measures compliance as share of children that are registered in MIS as “enrolled” in school and comply with at least 80 percent of monthly attendance. However, this does not include the children that are not registered as “enrolled” in the MIS.

<sup>58</sup> As per the design the PSSN is meant to (i) waive compliance for households where there is no school or health center within the established distance; and (ii) attached penalties to specific children in the household, up to the maximum number of children allowed by the benefit scheme. This is to ensure accountability and alignment of incentives. However, according to a compliance spot checks exercise conducted in June 2017, in practice implementation has slightly deviated from this design. Penalties are estimated based on compliance from all eligible

Figure 42. The PSSN benefit transfer, average and as a % of HH consumption



Notes: (A) Expected Benefit refers to the total transfer households should receive based on self-reported household composition and compliance with program co-responsibilities. (B) Transfer Received (self-reported) is the average transfer received according to households in the IE survey. (C) Transfer Received (admin data) is the average transfer received according to program’s payments administrative data. (D) Potential Benefit refers to the amount the household should receive if all the children fully complied with the health and education co-responsibilities.

**There are additional benefits households could reap if they fully complied with co-responsibilities.** The difference between what treated households receive based on self-reported amounts and administrative data (B and C in Figure 42) and what they could potentially receive if they fully complied with all co-responsibilities (column D) is TZS 3,474 a month – or USD 1.5. This difference represents about 3.89 percent of their household consumption. This may be due to various reasons, including household opportunity cost of complying that is higher than the benefit (e.g., transportation costs to reach school or to the clinic exceed CCT benefits) or household misunderstanding on co-responsibilities or how benefits are calculated (see below). Non-compliant households tend to be larger and poorer. As recommended above, TASAF may need to consider revisions to PSSN’s benefit structure to further incentivize compliance. It could also consider further analysis to understand reasons for non-compliance and targeted efforts to follow up on households that are not achieving full compliance to identify and address the reasons.

**Triangulating midline data with administrative data suggests most payments reach the intended beneficiaries, but there are some exceptions.** About 7 percent of treated households report they have never received the transfer, although based on administrative data this figure is 2 percent.<sup>59</sup> The IE analysis could not identify any observable patterns that could explain why this occurred. Treated

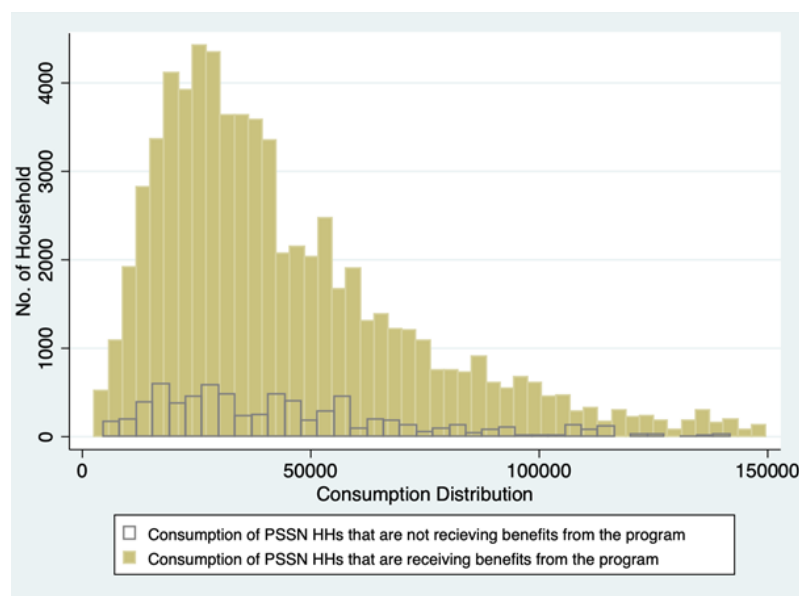
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children, such that if any children fail to comply the overall transfer would be proportionately affected. Not tying compliance to specific individuals may be affecting ability of the program to achieve stronger impacts due to diluted incentives.

<sup>59</sup> Furthermore, according to administrative data, none of the households that either failed the PMT or were not-targeted received the transfer.

households that did not receive benefits were spread out across different geographical areas (regions, PAAs, urban/rural) and clusters. A comparison of the consumption distribution between households who received the benefit and those who did not does indicate that poverty was a factor in whether households received the transfers (Figure 43). In addition, there were 14.9 percent of households that were assigned to the control group who reported receiving the benefit at midline, although this was slightly lower (12 percent) in the administrative data.<sup>60</sup> Since all of those in the control group were in fact poor, this is mostly an analytical issue for the IE rather than a concern with leakage. The implication of the non-compliance in the treatment and control groups is that the PSSN effects are likely to be higher for beneficiary households than the current estimates. Due to the extent and speed of the scale up, some non-compliance was expected, but understanding the causes of these discrepancies is important for the PSSN's credibility and evolution over time. Thus, TASAF is investigating possible causes such as households moving outside of covered areas and possible enrollment of control communities due to communication issues regarding IE randomization.

Figure 43. Consumption distribution of PSSN households, by recipient status



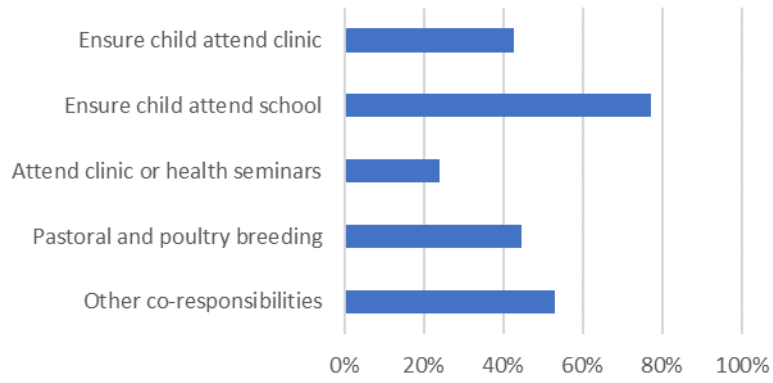
Note: The estimates only include households in the treatment group.

**Treated households appear to be aware of program co-responsibilities related to schooling but to a lesser extent for health.** As described in [Section III.A](#), PSSN households must comply with two main co-responsibilities to receive the full cash transfer benefits. The first one is related to educational attainment: school-age children must be enrolled and regularly attend school – at least 80 percent of school days. The second co-responsibility is related to health checkups for children five and under: children two and under must visit a healthcare provider once a month while older children must visit once every six months. Most households (71 percent) reported knowing what the co-responsibilities were, but not all had strong awareness of the different types of co-responsibilities (Figure 44). While the majority of households with children (77.3 percent) are aware of the school attendance requirement, less than half (42.6 percent) of households with children age 0 to 5 were aware of the child health visit co-responsibility. Moreover, some

<sup>60</sup> In the control group this represented a total of 182 households receiving payments.

households had a more expansive notion of their co-responsibilities. The largest co-responsibility incorrectly perceived as being part of the program was pastoral and poultry breeding, reported by close to half of treated households (44.5 percent).

Figure 44. PSSN households' knowledge of program's co-responsibilities



## VI. Conclusions and Recommendations

**The Government of Tanzania created and scaled up the PSSN to reduce extreme poverty and break the intergenerational transmission of poverty.** The objective of the PSSN is to increase income and consumption and improve the ability to cope with shocks among targeted vulnerable populations while enhancing and protecting the human capital of their children. In 2013, the Government of Tanzania engaged in a massive scale up of the PSSN to cover all households in or at risk of falling into extreme poverty and by 2015 the program was delivering cash transfers to over one million households across the country. To demonstrate that the scaled up PSSN is generating the intended impact at the household level, a randomized IE was built into the scale up design. This report presents the main results of the midline impact evaluation showing the program has achieved outstanding results.

**Even after a short implementation period (2015-2017), the PSSN is achieving its objectives by reducing poverty, increasing consumption and food security and enabling investments in better living conditions.** Although Tanzania experienced an overall economic improvement during the study period; by ensuring a reliable cash transfer, the PSSN generated an additional reduction in poverty. In line with international evidence on similar programs, the program also increased household expenditure, especially for food and improved food diversity amongst beneficiaries, but without affecting spending on temptation goods. It also improved households' ability to cope with shocks and promoted investments in improving quality of housing, including reduced use of unimproved water sources, which can impact nutrition down the line.

**The PSSN is increasing school enrollment, especially for primary school age children, however greater efforts are needed to encourage progression to higher levels.** Despite high baseline levels, the program further increased enrolment for primary school age children, moreover, it also improved self-reported literacy for both younger girls and boys. Despite the intentional design of the PSSN benefit to place more weight on secondary schooling, there is no evidence the program impacted enrolment of older children. While this is an area where the program has greatest impact potential given the existing low rates, it is also challenging given the higher opportunity costs of schooling versus labor. International evidence shows timely payments and ensuring program co-responsibilities and financial incentives are carefully aligned to behavioral determinants of schooling, is critical to achieving the expected education performance outcomes (Bastagli, Hagen-Zanker, Harman, Barca, & Sturge, 2016) and (Dubois, 2012). In Mexico, the national CCT program achieved an improvement in grade progression when lump sum transfers were including as "prizes" for grade progression or graduation (Dubois, 2012). PSSN performance would benefit from revising the benefit scheme and co-responsibilities to further address the key barriers children face. Specifically, this may include (i) adopting targeted compliance monitoring to focus on key transition points, such as primary completion, transition to secondary, and secondary enrollment and attendance, while reducing or eliminating monitoring of primary attendance which is already high; (ii) recalibrating the transfer amounts tied to secondary school to account for opportunity and other costs (e.g., transport, school fees); and (iii) explore the possibility of bonuses for primary completion and secondary enrollment.

**PSSN incentivized take up of health services and preventive practices but requires more time and effort on the demand and supply sides to induce other health and nutrition impacts that have not yet materialized.** The PSSN increased utilization of health services, especially among young children and particularly for preventive services, which were especially low at baseline. It also led to more ownership of mosquito nets that can help prevent malaria, one of the most common illnesses among young children. And it substantially increased enrollment in health insurance, which can help households manage future



health risks. However, child illness and nutritional outcomes remained unchanged in the short-term, as did maternal care take up. International evidence shows some of these outcomes require longer exposure to the programs, as well as improving cross-sectoral linkages and accompanying measures (Bastagli, Hagen-Zanker, Harman, Barca, & Sturge, 2016). Global evidence also shows the first 1,000 days of life (from pregnancy to child's second birthday) is the most crucial period to meet children's nutritional requirements and when stunting can be prevented and addressed most effectively.<sup>61</sup> PSSN is well-positioned to enhance its impacts. For instance, it could revise co-responsibilities to incentivize more antenatal and postnatal visits. The design of the next generation of PSSN already considers features in this direction such as waivers under PW for pregnant and lactating mothers, use of the social registry to link PSSN beneficiaries to existing nutrition and early childhood development (ECD) services, and improving community sessions to have a stronger focus on health, nutrition and ECD.

**The PSSN is demonstrating some impacts on productive activities and assets through the CCT intervention alone.** The program has shown important labor related impacts even though these are not explicitly intended by the CCT. The program is shifting the nature of households' primary productive activity, moving away from casual labor (highly unstable) to non-farm self-employment – that could be linked to higher earnings. Similarly, the program shifted household enterprises to more productive sectors (from production to trade) and increased the number of households that are engaged in agricultural activities such as cultivating land and owning and raising livestock. It also promoted investment in agricultural inputs that tend to have low use but are productivity-enhancing. The endline will continue to track these aspects to better inform program implementation, especially around a new livelihoods component under the future generation of the PSSN. This component is expected to focus on linking PSSN beneficiaries to existing skills training, agricultural, and other livelihoods interventions using the social registry or developing additional training, coaching, and grants to support the main economic activities carried out by the PSSN population.

**Despite PSSN's positive impacts on a range of outcomes, in reducing poverty, the midline findings indicate it is too early to conduct a full recertification process.** At its start, PSSN demonstrated strong targeting that outperforms similar programs globally, reaching households that were poorer than non-targeted households within the same communities and with most beneficiaries in the bottom two consumption quintiles. Although the midline found a considerable shift in the consumption distribution, it has not yet shifted enough to surpass the distribution of those that failed the PMT initially. Thus, there is a considerable risk that impacts would not be sustained and that upon removing many PSSN households from the program they are likely fall back into poverty shortly after. Instead of a complete recertification, findings support an approach focusing on pockets with greater concentration of beneficiaries further from the poverty line. TASAF is already using poverty maps to identify areas with greater concentration of less poor households, which should be prioritized in a future phased retargeting exercise.

**The overarching conclusion is that PSSN has excellent performance and the potential to achieve strong gains, but this requires a long-term commitment and well-coordinated complementary interventions.** Many PSSN beneficiaries continue to have consumption levels well below the poverty line, making it difficult for them to move out of poverty in the short term and in a sustained manner. This in line with international evidence indicates the need for more protracted support and requires sustained financing for PSSN and specifically for cash transfers for the poorest. In addition, some of the households that graduate out of PSSN may continue to require support from other government programs. Such access to

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<sup>61</sup> Tanzania remains amongst the top ten countries with highest stunting rates (UNICEF, 2013)

other interventions can help prevent households from strategically limiting their productive potential to maintain their eligibility for PSSN, and from falling back into poverty. Linking PSSN households to complementary activities to further improve human capital accumulation and livelihoods enhancement, while concurrently promoting the supply side of social service delivery will also be key to PSSN’s success. Finally, PSSN’s beneficiary registry has significant potential to support government in prioritizing other policies and programs, especially given the strong targeting performance. Therefore, there is a need to devise a strategy to gradually transform the PSSN beneficiary registry into a National Social Registry.



*PSSN Beneficiaries (2014-2018)*

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## VIII. Annexes

### Annex A: Methodology

This annex describes the study methodology. It includes details about randomization, attrition, weighting, and casual inference.

#### **A. Sampling, Randomization, and Data Collection**

Randomized assignment to study arm – control, CCT, or CCT+PW – provides the basis for causal inference in the impact evaluation. All 96 PAAs in the Mainland in Waves 4 and 5 of the PSSN scale-up were included in the randomization. Of these, 16 PAAs were randomly selected for the impact evaluation, as were all PAAs in Zanzibar. In the study PAAs, 330 villages were randomly selected proportional to PAA size.

Households were randomly selected using a two-stage, cluster-based design. In the first stage, each of the 330 study villages were randomly assigned to one of the three study arms: control, CCT, or CCT+PW. The resulting assignment yielded 110 villages in each study arm. In the second stage, households were randomly assigned to one of the three study arms. Thus, all eligible households in a village were exposed to the intervention (or they all were not exposed), minimizing concerns about spillovers and logistical difficulties of not offering the intervention to all eligible households. In addition, the randomization was “double-blind” in the sense that neither TASAF, PAAs, NBS, nor OCGS were aware of which villages would eventually be treated until after the baseline data collection was completed. Taken together, these approaches are expected to minimize potential contamination as well as any anticipation effects among communities at baseline.

An additional 10 ineligible households in each community were selected for the impact evaluation, partly in order to assess PSSN’s targeting performance. For the purposes of the Midline assessment, these ineligible households do not feature prominently in our causal inference analyses. We discuss our regression sample and other details about causal inference below.

The survey instrument was designed to be answered by several household members depending on the section. For instance, household level sections were answered by the head of household, while individual sections were answer by each household member, with the exception of household members 12 years or younger or that were not present, in which case a proxy respondent was used. However, for privacy reasons proxy respondents were not allowed for women’s sensitive sections (e.g. gender-based violence, decision making, etc).

The Midline survey was conducted in August-September 2017, following the Baseline survey in June-July 2015. Nearly 7,400 households (i.e., 7,319) were successfully interviewed at Baseline, including 5,414 households pre-listed in the community-based targeting and who passed the Proxy Means Test (PMT), with an overall response rate of 98%. We discuss the response rate to the Midline survey below.

#### **B. Randomization Balance Checks**

The impact evaluation design relies on randomized assignment to study arm. Although study arm assignment was randomized, this section examines whether the randomization was successful (i.e. “worked”). That is, we test whether study arm assignment is orthogonal to (i.e. uncorrelated with) observable characteristics at Baseline.

Table 1 presents the results of randomization balance checks as documented in National Bureau of Statistics and World Bank (2017). The first three sets of columns present sample means and standard deviations, disaggregated by study arm assignment. The last set of columns presents p-values from tests of equality of means by subgroup pairing. We find strong evidence that the randomization assignment yielded balance on observable characteristics at Baseline. Out of all of the comparison of means for all of the subgroup pairings, we find only three differences that are statistically significant at conventional levels. Thus, we conclude that study arm assignment is orthogonal to Baseline characteristics.

### C. Attrition Checks

Despite the best efforts of the survey teams, some of the households surveyed at Baseline may have been lost to follow-up at Midline due to factors such as migration or mortality. This sub-section assesses the extent of attrition and the implications for the impact evaluation.

We conduct three sets of attrition analyses. First, we measure overall attrition and attrition by study arm. Table 2 presents these numbers. As illustrated in Column (1), overall attrition in the study, 6.0%, is relatively low. Columns (2)-(3) reveal that attrition was similarly low in each of the treatment arms (i.e. CCT or CCTP+PW), around 5.5% plus or minus a few tenths of a percentage point. Column (4) indicates that attrition in the control group, 7.1%, was higher than any of the treatment arms.

Table 3 presents the results of t-tests of equality of means for attrition in each of the study arms. The difference between each of the sub-groups appears in the first row and the p-value for the associated t-test appears in the second row. Columns (1) and (2) present the results from testing the CCT study arm and the CCT+PW study arm, respectively, against the control group. Both sets of tests indicate that attrition was lower in the treatment arms and that these differences were statistically significant at (at least) the 10% level. The results in Column (3) indicate that there no statistically significant difference in attrition between the two CCT arms (i.e. CCT only and CCT+PW). Column (4) presents the results of a test of the two CCT arms pooled together (denoted "PSSN") compared to the control group. The point estimate indicates that household assigned to the CCT (or the CCT+PW) were 1.5 percentage points less likely to attrit at Midline (statistically significant at the 5% level).

Table 4 repeats the spirit of the analysis in Table 3 yet does so using a regression framework. Specifically, we use ordinary least squares (OLS) regression to test for differential attrition by study arm. We control for Baseline randomization strata (i.e. district of residence) and use the Baseline sampling weights. Column (1) presents the results from regressing an indicator variable for attrition on indicator variables for assignment to the CCT study arm and for assignment to the CCT+PW study arm. The results suggest that attrition may have been slightly lower in the CCT arm than in the control arm, yet the difference is not statistically significant at conventional levels. Attrition was 1.9 percentage points lower in the CCT+PW study arm compared to the control arm (statistically significant at the 10% level). In Column (2), we pool the two treatment arms together as "PSSN". The results indicate that attrition was 1.6 percentage points lower in the "PSSN" arm than in the control arm (statistically significant at the 10% level).

Second, we test for correlates of attrition. We regress an indicator variable for attrition on Baseline household characteristics, while controlling for randomization strata and using sample weights. Table 5 displays the results of this analysis. We find that mean household age is positively associated with attrition, and that the ratio of males to females and age of the household head are negatively associated with attrition (statistically significant at the 1%, 10%, and 1% levels, respectively). However, the

magnitude of the associations is not large relative to the sample variation. For example, the point estimate on mean age indicates that a 1-year increase in mean age in the household at Baseline is associated with a 0.3 percentage point increase in the probability of loss to follow-up.

Third, we test for differential attrition (on observable characteristics) by study arm. We take the sample of non-attriters at Midline and regress an indicator for assignment to either the CCT or the CCT+PW study arm (denoted “PSSN”) on Baseline household characteristics, while controlling for randomization strata and using sample weights. Table 6 presents these results. The regression results indicate that among non-attriters, “PSSN” households are households with a higher fraction of children missing school at Baseline (statistically significant at the 10% level). For the rest of the observable characteristics, there is no statistically significant evidence of differential attrition.

On the whole, these results indicate that overall attrition was relatively low, that the differences in attrition levels by study arm are relatively small, and that the degree of differential attrition (on observable characteristics) by study arm was relatively small. Nonetheless, we found evidence of statistically significant differences and we account for these differences in our impact evaluation as part of our regression weighting as described in the following section.

#### **D. Weights**

Researchers often employ weights in regression analyses, where the weights are the inverse probabilities of selection. Solon et al. (2015) identifies four conditions under each of which researchers should consider weighting regression analyses. These four conditions are: (i) calculating descriptive statistics for a representative population, (ii) correcting for heteroskedasticity, (iii) correcting for endogenous sampling, and (iv) identifying average partial effects.

Several of these conditions apply to our impact evaluation, so we construct regression weights that incorporate three sets of weighting elements. One goal of the PSSN impact evaluation is to provide nationally representative evidence on the effects of the PSSN. To achieve this goal, the first weighting element in our regression weights are the Baseline sampling (i.e. frequency) weights.

Possible differential attrition by study arm between Baseline and Midline means that endogenous sampling may be a concern in our setting. Thus, we construct inverse probability weights as follows. First, we regress an indicator variable for interviewed (yes=1, no=0) at follow-up on Baseline characteristics (including enumerator dummies if possible) using the probit estimator and calculate predicted probability of re-interview. Second, we construct attrition weights defined as the inverse of the probability of interview at follow-up. These attrition weights form the second weighting element in our regression weights.

The third weighting element in our regression weights are weights for split households. Between Baseline and Midline, some of the households at Baseline split into two or more households by the Midline survey. We construct split household weights to update the Baseline sampling weights. We do this as follows. First, we calculate the dynastic household size as sum of household sizes across all households at Midline

that were part of a single household at Baseline. Second, we divide the actual household size at Midline by the dynastic household size.<sup>62</sup>

We use these three weighting elements to construct our final regression weights. Our final Midline regression weights are:

$$midlineweight_i = baselineweight_i * splitweight_i * \frac{1}{interviewedhat_i}$$

where  $baselineweight_i$  is the Baseline sampling weight,  $splitweight_i$  is the split household weight, and  $interviewedhat_i$  is attrition weight.

## E. Causal Inference

Our regression sample is all households that were defined as eligible for the PSSN. That is, all households that were identified in the community-based targeting and passed the proxy means test. This includes eligible households in PSSN villages and eligible individuals in control villages.

To measure the direct effects of the PSSN, we use ordinary least squares (OLS) regression to estimate:

$$outcome_{ijt} = \beta_1 PSSN_{ijt} + X'_{ij}\theta + outcome_{ijt-1} + \varepsilon_{ijt}$$

where  $outcome_{ij}$  is the Midline outcome of interest for household  $i$  in community  $j$ ,

$PSSN_{ij}$  is an indicator variable for assignment to the CCT arm or to the CCT+PW arm,  $X'_{ij}$  is a vector of controls for randomization strata (i.e. district indicators),  $outcome_{ijt-1}$  is the Baseline outcome of interest for household  $i$  in community  $j$ , and  $\varepsilon_{ijt}$  is an idiosyncratic error term.<sup>63</sup> We cluster standard errors at the community level, the level at which the PSSN was randomized. There are over 300 communities in our sample, providing a sufficient number of clusters to avoid the “too few clusters problem” (Cameron et al. 2008).

## F. Intention-to-Treat

Our analysis is an intention to treat (ITT) analysis. Thus, households assigned to CCT arm are “CCT households” regardless of whether they comply with conditional requirements of CCT. We interpret  $\beta_1$  as the weighted average causal effects of assignment to receive CCTs and to receive CCTs+PW. One benefit of this approach is that it does not rely on compliance with study arm assignment.

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<sup>62</sup> Example 1: 4-person household at Baseline splits into two, 2-person households at Midline. Each Midline household receives a split household weight of 0.5. Example 2: A Baseline household does not split by Midline. The household receives a split household weight of 1.

<sup>63</sup> Our specification uses the ANCOVA approach instead of a basic difference-in-differences regression. In the basic difference-in-differences regression, the dependent variable is the post-pre change in the outcome of interest. In the ANCOVA approach, the dependent variable is the midline outcome (i.e. the “post” outcome), whereas the baseline outcome (i.e. the “pre” measurement) is included as a covariate.



Table B1: Randomization Balance Check at Midline

Variable	CCT only		CCT + PW		Control group		P-value for difference		
	Mean	Std Err.	Mean	Std Err.	Mean	Std Err.	T1 v. C	T2 v. C	T1 v. T2
<b>Demographics</b>									
Mean age	25.50	0.554	24.50	0.516	24.70	0.527	0.276	0.844	0.196
% of males in sample	0.46	0.015	0.47	0.014	0.44	0.015	0.020	0.009	0.824
<b>Education</b>									
Literacy	0.40	0.047	0.42	0.049	0.39	0.055	0.774	0.458	0.616
School enrolment rate	0.77	0.038	0.78	0.056	0.78	0.039	0.864	0.943	0.833
% of children missing school	0.12	0.080	0.13	0.073	0.11	0.082	0.580	0.303	0.644
No. of days child was absent	0.60	0.091	0.70	0.091	0.60	0.071	0.706	0.388	0.662
<b>Health</b>									
% of people sick	0.28	0.041	0.26	0.046	0.26	0.038	0.400	0.938	0.400
No. of visits to health facility (under5)	1.97	0.157	2.05	0.180	1.92	0.119	0.809	0.556	0.738
No. of visits to health facility (all)	1.97	0.157	2.05	0.180	1.92	0.119	0.809	0.556	0.738
Labor force participation rate	0.35	0.040	0.36	0.039	0.37	0.045	0.423	0.598	0.763
<b>Households characteristics</b>									
Size of household	4.85	0.137	4.94	0.161	4.97	0.145	0.533	0.870	0.675
Dependency ratio	138.10	4.292	132.70	3.489	138.90	4.755	0.899	0.288	0.324
Male to female ratio	1.04	0.035	1.06	0.030	0.96	0.031	0.095	0.030	0.731
No. children < 18 in HH	2.60	0.101	2.60	0.109	2.70	0.108	0.387	0.782	0.566
No. children < 5 in HH	0.60	0.036	0.70	0.048	0.70	0.044	0.280	0.606	0.115
No. children 5 to 18 in HH	2.10	0.080	2.10	0.078	2.20	0.081	0.534	0.514	0.983
No. females 18 to 60 in HH	1.00	0.032	1.10	0.040	1.00	0.039	0.511	0.667	0.263
No. able bodied adults in HH	1.40	0.050	1.50	0.060	1.50	0.055	0.419	0.918	0.510
Rural	0.80	0.199	0.90	0.160	0.90	0.166	0.848	0.700	0.587
<b>Household head characteristics</b>									
Age of head	56.80	0.779	55.10	0.739	56.20	0.686	0.580	0.275	0.119
Head of working age (15-64)	0.60	0.052	0.70	0.050	0.60	0.047	0.510	0.355	0.130
Head 65 or older	0.40	0.052	0.30	0.051	0.40	0.047	0.542	0.317	0.125
Male	0.50	0.051	0.50	0.037	0.50	0.051	0.591	0.396	0.143
Literate	0.50	0.064	0.50	0.050	0.40	0.069	0.406	0.052	0.285
Up to primary school	1.00	0.087	0.90	0.073	1.00	0.107	0.424	0.868	0.244
Working	0.50	0.052	0.50	0.048	0.50	0.056	0.477	0.486	0.966
<b>Food security</b>									
Food consumption score	18.90	0.775	19.60	0.661	19.50	0.728	0.565	0.952	0.510
Coping Strategies Index	7.30	0.349	7.50	0.371	7.70	0.416	0.556	0.758	0.771
Days skipping meals - Head	0.20	0.029	0.30	0.030	0.30	0.041	0.325	0.689	0.483

Notes: PSSN Baseline Impact Evaluation Data, NBS/OCGS 2017.

**Table B2: Overall Attrition and Attrition by Study Arm at Midline**

	Full sample (1)	Study arm			
		CCT (2)	CCT+PW (3)	PSSN (4)	Control (5)
Attrition rate at Midline	0.060 (0.238)	0.058 (0.234)	0.053 (0.225)	0.056 (0.229)	0.071 (0.257)
Observations	5,910	2,057	2,006	4,063	1,847

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Entries are (unweighted) sample means. "CCT" is the CCT-only study arm. "CCTPW" is the CCT+PW study arm. "PSSN" is the pooled sample of "CCT" and "CCTPW". Standard deviations appear in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B3: Comparison of Mean Differences in Attrition by Study Arm at Midline**

	CCT minus control (1)	CCTPW minus control (2)	CCT minus CCTPW (3)	PSSN minus control (4)
Difference in attrition rates at Midline	-0.013	-0.018	0.005	-0.015
P-value	0.096	0.024	0.531	0.022
Observations	3,904	3,853	4,063	5,910

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Entries are differences in (unweighted) sample means or are p-values from t-tests of equality of (unweighted) means. "CCT" is the CCT-only study arm. "control" is the control study arm. "CCTPW" is the CCT+PW study arm. "PSSN" is the pooled sample of "CCT" and "CCTPW". \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B4: Regression Results Testing for Differential Attrition by Study Arm**

Dependent variable:	Attrition (1)	Attrition (2)
CCT	-0.013 (0.011)	
CCT+PW	-0.019* (0.011)	
PSSN		-0.016* (0.010)
Control group mean:	0.071	0.071
Observations	5,910	5,910

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. "Attrition" is an indicator variable for loss to follow-up at Midline. "CCT" is an indicator variable for assignment to the CCT study arm. "CCT+PW" defined similarly. "PSSN" is an indicator variable for assignment to either the CCT study arm or the CCT+PW study arm. All specifications include controls for Baseline randomization strata (i.e. district of residence) and estimated using baseline sampling weights. Robust standard errors appear in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B5: Baseline Characteristics and Correlation with Attrition at Midline**

Dependent variable:	Attrition (1)
Mean age	0.003*** 0.000
% males	0.033 (0.025)
School enrollment rate	-0.014 (0.010)
% of children missing school	0.019 (0.022)
No. of days child was absent	-0.001 (0.001)
No. of visits to health facility (under 5)	0.002 (0.003)
Labor force participation rate	0.000 (0.010)
Household size	-0.003 (0.002)
Rate of males to females	-0.011* (0.006)
Age of head	-0.001*** 0.000
Food Consumption Score	0.000 0.000
Control group mean:	0.071
Observations	5,908

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. "Attrition" is an indicator variable for loss to follow-up at Midline. All covariates are Baseline household means, except for "Household size" and "Food Consumption Score" which are Baseline counts or scores. All specifications include controls for Baseline randomization strata (i.e. district of residence) and estimated using baseline sampling weights. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B6: Baseline Characteristics and Correlation with Study Arm among Non-Attriters  
Midline**

Dependent variable:	PSSN (1)
Mean age	0.000 (0.001)
% males	0.035 (0.040)
School enrollment rate	0.038 (0.030)
% of children missing school	0.090* (0.046)
No. of days child was absent	-0.005 (0.004)
No. of visits to health facility (under 5)	0.001 (0.006)
Labor force participation rate	-0.034 (0.027)
Household size	0.014 (0.009)
Rate of males to females	0.014 (0.009)
Age of head	0.000 (0.001)
Food Consumption Score	-0.001 (0.001)
F (11,327)	1.830
Prob > F (household characteristics jointly equal to zero)	0
Control group mean:	0.691
Observations	5,551

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. "PSSN" is an indicator variable for assignment to the CCT study arm or the CCT+PW study arm. All covariates are Baseline household means, except for "Household size" and "Food Consumption Score" with are Baseline counts or scores. All specifications include controls for Baseline randomization strata (i.e. district of residence) and estimated using baseline sampling weights. We report the F-statistic and associated p-value from testing whether the coefficient estimates for the observable characteristics listed in this table are jointly equal to zero. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B7: The PSSN effect on Households' Consumption at Midline**

**Panel A. General consumption outcomes**

Variable	Household expenditures			Poverty Lines		Food consumption Score (FCS)		
	Total expenditure (AEQ)	Log of total expenditure (AEQ)	Food expenditure (AEQ)	Basic needs poverty	Adjusted food poverty	FCS	Poor FCS	Low dietary diversity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment ITT	8028.942***	0.170***	6244.365***	-0.069***	-0.075***	1.125**	-0.041**	-0.062***
Std. Err.	(1213.990)	(0.025)	(1005.695)	(0.016)	(0.018)	(0.464)	(0.018)	(0.016)
Control mean	41,088	10.37	35,164	0.68	0.64	22.41	0.54	0.76
N	5,533	5,438	5,533	5,533	5,533	5,437	5,437	5,435

**Panel B. Food consumption outcomes**

Variable	Proportion of households consuming specific food group:						
	Cereals (1)	Pulses (2)	Milk (3)	Fat (4)	Meat (5)	Fruit (6)	Vegetables (7)
Treatment ITT	0.009	0.036***	0.003	0.079***	0.038**	0.015*	-0.003
Std. Err.	(0.016)	(0.013)	(0.007)	(0.020)	(0.016)	(0.009)	(0.018)
Control mean	0.63	0.24	0.03	0.45	0.30	0.11	0.80
N	5,433	5,436	5,437	5,437	5,437	5,436	5,437

**Panel C. Non-food consumption outcomes**

Variable	Non-food household expenditures (TZS):				
	Clothing and Other Expenses	Utilities and Household Items	Communication and Transportation	Alcohol & Tobacco	Alcohol & Tobacco Share
	(1)	(2)	(3)	(4)	(5)
Treatment ITT	508.205***	799.355***	721.293***	32.009	0.001
Std. Err.	(90.834)	(209.972)	(191.468)	(99.015)	(0.001)
Control mean	1,543.04	2,368.43	1,953.03	534.79	0.03
N	5,533	5,533	5,533	5,533	5,438

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. All expenditures are monthly measured in Tanzanian shillings per adult equivalent (AEQ). Poverty measures are indicator variables equal to 1 if the household falls below the respective poverty lines. Basic needs poverty line adjusted to 2017 food prices was of TZS 46,529, while Adjusted food poverty line was of TZS 42,113. "Poor FCS" is an indicator variable equal to 1 if the household FCS is less than or equal to twenty-one. "Low dietary diversity" is an indicator variable equal to 1 if the household consumed fewer than four of the seven World Food Programme food groups. Food group is an indicator variable equal to 1 if the household consumed food in that food group within the past 7 days. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B7: The PSSN effect on Households' Consumption at Midline**

**Table B7.B: The PSSN effect on Nutrition Outcomes at Midline**

Variable	Stunting Rate	Underweight Rate	Wasting rate	Weight-for-age Z-scores (used to calculate underweight rate)	Height/length-for-age Z-scores (used to calculate stunting rate)	Weight-for-height Z-scores (used to calculate wasting rate)	BMI for age	Arm Circumference for age
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment ITT	-0.025	-0.003	-0.006	0.011	0.061	-0.008	-0.026	-0.042
Std. Err.	(0.022)	(0.016)	(0.008)	(0.052)	(0.069)	(0.057)	(0.059)	(0.052)
Control mean	0.33	0.13	0.04	-0.87	-1.51	-0.02	0.13	-0.11
N	3,111	3,152	3,134	3,152	3,111	3,134	3,137	2,350

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for district but not for baseline outcomes. BMI was calculated for age 2-5 only. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B8. The PSSN effect on Educational Outcomes at Midline**

**Table B8.A. The PSSN effect on Educational Outcomes, females and males**

Variable	Ever enrolled	Currently enrolled	Years of schooling	Literate (self-reported)	Missed any school day	Days missed	Repeated grade	Dropout rate	Education expenditure
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Panel A: Age 5-19, females and males</b>									
Treatment ITT	0.065***	0.056***	0.198***	0.057***	-0.021	0.016	0.013	-0.001	239.683
Std. Err.	(0.013)	(0.016)	(0.051)	(0.017)	(0.016)	(0.092)	(0.013)	(0.016)	(170.189)
Control mean	0.771	0.616	3.657	0.549	0.192	0.699	0.165	0.144	1,100
N	10,360	10,359	10,359	10,359	6,953	6,953	8,652	4,775	5,533
<b>Panel B: Age 5-13, females and males</b>									
Treatment ITT	0.077***	0.079***	0.126***	0.060***	-0.024	0.026	0.025**	(0.011)	n/a
Std. Err.	(0.017)	(0.019)	(0.035)	(0.020)	(0.018)	(0.100)	(0.012)	(0.013)	
Control mean	0.725	0.698	2.027	0.432	0.193	0.694	0.132	0.051	
N	6,737	6,736	6,736	6,736	5,188	5,188	5,349	2,751	
<b>Panel C: Age 14-19, females and males</b>									
Treatment ITT	0.029**	0.016	0.253***	0.037**	-0.013	-0.022	-0.005	0.006	n/a
Std. Err.	(0.011)	(0.021)	(0.086)	(0.019)	(0.024)	(0.128)	(0.021)	(0.030)	
Control mean	0.861	0.456	6.877	0.781	0.188	0.715	0.219	0.276	
N	3,623	3,623	3,623	3,623	1,765	1,765	3,303	2,024	

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. "Years of schooling" and "Days missed" measured as count variables. All other outcomes are indicator variables. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.



**Table B8. The PSSN effect on Educational Outcomes at Midline**

**Table B8.B. The PSSN effect on Educational Outcomes, females**

Variable	Ever enrolled	Currently enrolled	Years of schooling	Literate (self-reported)	Missed any school day	Days missed	Repeated grade	Dropout rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: Age 5-19, females</b>								
Treatment ITT	0.058***	0.032*	0.237***	0.060***	-0.017	0.107	0.006	0.002
Std. Err.	(0.016)	(0.019)	(0.068)	(0.020)	(0.019)	(0.111)	(0.013)	(0.019)
Control mean	0.784	0.653	3.665	0.549	0.193	0.652	0.154	0.131
N	5,212	5,212	5,212	5,212	3,599	3,599	4,395	2,456
<b>Panel B: Age 5-13, females</b>								
Treatment ITT	0.058***	0.065***	0.111**	0.066***	-0.024	0.100	0.029*	-0.016
Std. Err.	(0.019)	(0.021)	(0.046)	(0.023)	(0.020)	(0.115)	(0.015)	(0.017)
Control mean	0.764	0.739	2.182	0.452	0.198	0.663	0.120	0.043
N	3,474	3,474	3,474	3,474	2,759	2,759	2,821	1,484
<b>Panel C: Age 14-19, females</b>								
Treatment ITT	0.044***	(0.023)	0.468***	0.032	-0.001	0.061	-0.032	0.022
Std. Err.	(0.016)	(0.027)	(0.127)	(0.021)	(0.035)	(0.184)	(0.024)	(0.041)
Control mean	0.828	0.467	6.853	0.760	0.175	0.615	0.223	0.281
N	1,738	1,738	1,738	1,738	840	840	1,574	972

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. "Years of schooling" and "Days missed" measured as count variables. All other outcomes are indicator variables. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B8. The PSSN effect on Educational Outcomes at Midline**

**Table B8.C. The PSSN effect on Educational Outcomes, males**

Variable	Ever enrolled	Currently enrolled	Years of schooling	Literate (self-reported)	Missed any school day	Days missed	Repeated grade	Dropout rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: Age 5-19, males</b>								
Treatment ITT	0.073***	0.080***	0.153**	0.055***	-0.024	-0.087	0.019	-0.007
Std. Err.	(0.017)	(0.019)	(0.063)	(0.020)	(0.020)	(0.099)	(0.019)	(0.021)
Control mean	0.756	0.577	3.648	0.548	0.190	0.758	0.177	0.159
N	5,148	5,147	5,147	5,147	3,354	3,354	4,257	2,319
<b>Panel B: Age 5-13, males</b>								
Treatment ITT	0.101***	0.097***	0.143***	0.055**	-0.022	-0.055	0.017	-0.006
Std. Err.	(0.022)	(0.023)	(0.049)	(0.023)	(0.023)	(0.115)	(0.019)	(0.020)
Control mean	0.681	0.650	1.848	0.409	0.185	0.736	0.149	0.063
N	3,263	3,262	3,262	3,262	2,429	2,429	2,528	1,267
<b>Panel C: Age 14-19, males</b>								
Treatment ITT	0.010	0.039	0.066	0.037	-0.032	-0.168	0.019	0.001
Std. Err.	(0.016)	(0.025)	(0.099)	(0.025)	(0.031)	(0.154)	(0.029)	(0.037)
Control mean	0.893	0.445	6.900	0.801	0.202	0.817	0.216	0.270
N	1,885	1,885	1,885	1,885	925	925	1,729	1,052

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. "Years of schooling" and "Days missed" measured as count variables. All other outcomes are indicator variables. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B8. The PSSN effect on Educational Outcomes at Midline**

**Table B8.D. The PSSN effect on Grade Repetition, heterogeneous effects Less Poor vs Poorest**

	All		Female		Male	
	Less Poor (1)	Poorest (2)	Less Poor (3)	Poorest (4)	Less Poor (5)	Poorest (6)
<b>Panel A: all ages</b>						
Treatment ITT	-0.034	0.028**	-0.047*	0.021	-0.009	0.031
Std. Err.	(0.026)	(0.013)	(0.027)	(0.015)	(0.039)	(0.020)
Control mean	0.180	0.149	0.184	0.144	0.176	0.155
N	2,017	6,604	1,027	3,351	990	3,253
<b>Panel B: ages 5 to 13</b>						
Treatment ITT	-0.022	0.041***	-0.012	0.040**	-0.029	0.031
Std. Err.	(0.025)	(0.015)	(0.028)	(0.018)	(0.037)	(0.022)
Control mean	0.175	0.144	0.182	0.136	0.165	0.155
N	1,305	4,024	670	2,140	635	1,884
<b>Panel C: ages 14 to 19</b>						
Treatment ITT	-0.062	0.011	-0.103**	-0.008	0.015	0.021
Std. Err.	(0.048)	(0.021)	(0.047)	(0.029)	(0.067)	(0.030)
Control mean	0.195	0.158	0.208	0.161	0.185	0.155
N	712	2,580	357	1,211	355	1,369

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Regressions control for district and baseline outcomes. Poorest is a binary variable indicating whether individual is below the basic needs poverty line. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level. Results are robust when using the adjusted poverty line and the food poverty line.

**Table B8.E. The PSSN effect on Dropout Rate, heterogeneous effects Less Poor vs Poorest**

	Food Poverty		Adjusted Food Poverty		Basic Needs Poverty	
	Less Poor (5)	Poorest (6)	Less Poor (3)	Poorest (4)	Less Poor (5)	Poorest (6)
<b>Panel A: all ages</b>						
Treatment ITT	-0.032*	0.017	-0.025	0.011	-0.035	0.009
Std. Err.	(0.018)	(0.021)	(0.022)	(0.019)	(0.024)	(0.018)
Control mean	0.148	0.141	0.156	0.139	0.162	0.139
N	1,830	2,939	1,400	3,369	1,150	3,619
P-value for Chi2 Test	0.000		0.031		0.084	
<b>Panel B: ages 5 to 13</b>						
Treatment ITT	-0.006	-0.014	-0.006	-0.011	-0.012	-0.011
Std. Err.	(0.014)	(0.018)	(0.017)	(0.016)	(0.021)	(0.015)
Control mean	0.036	0.059	0.042	0.054	0.051	0.052
N	1,074	1,676	820	1,930	667	2,083
P-value for Chi2 Test	0.102		0.066		0.007	
<b>Panel C: ages 14 to 19</b>						
Treatment ITT	-0.061	0.043	-0.06	0.029	-0.073	0.025
Std. Err.	(0.039)	(0.038)	(0.047)	(0.036)	(0.053)	(0.035)
Control mean	0.312	0.257	0.335	0.258	0.330	0.263
N	756	1,263	580	1,439	483	1,536
P-value for Chi2 Test	0.000		0.000		0.000	

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Drop out rate is defined as individual aged 5-19 who reported to be enrolled in school at baseline and not at midline. The reported P-values are the results of a chi2 test to compares the regression results for poorest vs less poor. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B9: The PSSN effect on Health and Health-seeking Behaviors at Midline**

**Table B9.A: The PSSN effect on Health-Seeking Behaviors**

Variable	Visited a healthcare provider				Number of visits	
	All ages (1)	Age 0-5 (inclusive) (2)	Age 0-2 (inclusive) (3)	Age >2-5 (inclusive) (4)	All ages (5)	Age 0-5 (inclusive) (6)
<b>Panel A: Overall (Those who are sick and those who are not)</b>						
Treatment ITT	0.014*	0.047**	0.039	0.048**	-0.010	0.054
Std. Err.	(0.007)	(0.019)	(0.031)	(0.019)	(0.020)	(0.040)
Control mean	0.158	0.255	0.396	0.148	0.290	0.280
N	24,400	3,854	1,714	2,140	19,230	1,852
<b>Panel B: Those that reported to feel sick or got injured within 4 weeks prior to the interview date</b>						
Treatment ITT	0.038*	0.053	0.032	0.071	-0.051	0.076
Std. Err.	(0.022)	(0.037)	(0.046)	(0.053)	(0.080)	(0.120)
Control mean	0.559	0.664	0.738	0.578	1.090	0.950
N	5,840	1,002	567	435	4,698	420
<b>Panel C: Those that were not sick or injured prior to the interview date</b>						
Treatment ITT	0.008*	0.033*	0.012	0.033**	0.000	0.010
Std. Err.	(0.004)	(0.017)	(0.030)	(0.016)	(0.010)	(0.030)
Control mean	0.030	0.114	0.234	0.037	0.030	0.080
N	18,560	2,852	1,147	1,705	14,523	1,432

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B9: The PSSN effect on Health and Health-seeking Behaviors at Midline****Table B9.B: The PSSN effect on Feeling Ill**

Variable:	Felt ill (age 0-5)	Avg. No. of days that the individual was sick (age 0-5)	Child Immunized (age 0-2)
	(1)	(2)	(3)
Treatment ITT	0.010	0.006	-0.001
Std. Err.	(0.017)	(0.187)	(0.016)
Control mean	0.256	1.342	0.826
N	3,870	3,449	3,856

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B9.C: The PSSN effect on Health Expenditures**

Variable:	Has Health Insurance	Health Expenditure
	(1)	(2)
Treatment ITT	0.215***	-1258.701
Std. Err.	(0.023)	(1323.129)
Control mean	0.109	10723.850
N	5,533	5,533

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. "Health expenditure" is monthly and measured in Tanzanian shillings. All regressions control for district. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B9: The PSSN effect on Health and Health-seeking Behaviors at Midline**

**Table B9.D: The PSSN effect on Maternal and Reproductive Health**

Variable:	Visited ANC	Visited ANC at least 4 times	Postnatal visit	Postnatal visit at least 3 times	Delivered at a facility	Delivered by Skilled Attendant
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: all females</b>						
Treatment ITT	0.014	0.030	0.033	-0.007	0.041	0.013
Std. Err.	(0.014)	(0.044)	(0.034)	(0.037)	(0.029)	(0.032)
Control mean	0.950	0.455	0.781	0.336	0.641	0.696
N	862	862	862	862	1,714	1,714
<b>Panel A: Female aged 12-25</b>						
Treatment ITT	0.034	0.082	0.095*	0.086	n/a	n/a
Std. Err.	(0.028)	(0.081)	(0.055)	(0.065)		
Control mean	0.936	0.446	0.748	0.295		
N	327	327	327	327		
<b>Panel A: Female aged 26-49</b>						
Treatment ITT	0.003	0.004	0.024	(0.054)	n/a	n/a
Std. Err.	(0.020)	(0.054)	(0.047)	(0.047)		
Control mean	0.958	0.460	0.799	0.358		
N	535	535	535	535		

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Skilled attendant is defined as doctors, clinical officers and their assistants, midwives or nurses (see [https://www.who.int/reproductivehealth/topics/mdgs/skilled\\_birth\\_attendant/en/](https://www.who.int/reproductivehealth/topics/mdgs/skilled_birth_attendant/en/) ). There is no controls for baseline for the "Delivered by skilled attendants" since the question was asked differently at baseline compared to midline. All other regressions control for district and baseline outcomes. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B10. The PSSN effect on Households Coping Strategies at Midline**

**Panel A. General coping strategies**

Variable	Coping strategies index (CSI) (1)	Income/asset loss associated with shock (2)
Treatment ITT	-1.251***	-0.043**
Std. Err.	(0.347)	(0.022)
Control mean	7.79	0.71
N	5,457	1,857

**Panel B. Savings and saving mechanisms**

Variable	Has any savings (1)	Savings amount (2)	Proportion of households using saving mechanisms:	
			Formal (3)	Informal (4)
Treatment ITT	0.039***	1940.389	0.011	0.030**
Std. Err.	(0.014)	(2372.847)	(0.009)	(0.012)
Control mean	0.13	9,659.96	0.05	0.09
N	5,553	5,553	5,553	5,553

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017.

"Income/asset loss associated with shock" is a indicator variable defined conditional on experiencing a shock.

"Any savings" is an indicator variable equal to 1 if the household has any savings. Savings amount is in Tanzanian shillings. Outcomes under "Mechanism" are indicator variables equal to one if the household reported using this saving mechanism. Formal saving mechanisms include banks, mobile and SACCOS. Informal saving mechanisms include villages, family and other methods. All specifications include the baseline value of the outcome variable and district as a control. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.



**Table B11: The PSSN effect on Housing Conditions and Assets at Midline**

**Panel A. Housing Conditions**

Variable	Roof Materials			Floor Materials			Wall Materials		
	Iron sheets	Tiles and Concrete	Grass / Leaves / Mud, Asbestos, Others	Cement, Tiles, Parquet	Vinyl, Wood planks, Bamboos	Earth, sand, dung, others	Stone and Cement bricks	Sundried brick and Baked bricks	Poles and mud, grass, others
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment ITT	0.029**	0.002***	-0.030**	0.017	0.000	-0.017	0.007	-0.005	-0.018
Std. Err.	(0.014)	(0.001)	(0.014)	(0.013)	(0.001)	(0.013)	(0.011)	(0.016)	(0.015)
Control mean	0.643	0.000	0.357	0.233	0.001	0.765	0.182	0.496	0.323
N	5,447	5,447	5,447	5,453	5,453	5,453	5,458	5,458	5,458

**Panel B. Living Conditions**

Variable	Drinking Water Sources			Toilet Facilities		
	Improved and piped	Other improved sources	Unimproved Sources	Improved	Unimproved	No facility
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment ITT	0.019	0.024	-0.044*	0.012	0.010	-0.019
Std. Err.	(0.014)	(0.031)	(0.026)	(0.011)	(0.017)	(0.014)
Control mean	0.125	0.501	0.375	0.071	0.750	0.179
N	5,455	5,455	5,455	5,027	5,027	5,027

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B11: The PSSN effect on Housing Conditions and Assets at Midline**

**Panel C. Fuel Used**

Variable	Lighting Fuel				Cooking Fuel			
	Electricity (1)	Solar (2)	Gas (3)	Solid Fuel (4)	Electricity (5)	Solar (6)	Gas (7)	Solid Fuel (8)
Treatment ITT	0.002	0.041***	-0.005	-0.034	0.000	0.000	0.002	-0.003**
Std. Err.	(0.007)	(0.012)	(0.016)	(0.021)	0.000	0.000	(0.001)	(0.001)
Control mean	0.080	0.101	0.303	0.516	0.000	0.000	0.001	0.999
N	5,432	5,432	5,432	5,432	5,429	5,429	5,439	5,439

**Panel D. Assets Owned**

Variable	Transportation Assets	Personal and other assets	HH Appliances	Furnitures	Communication Assets	Mobile Phones	Mosquito Nets
	(1)	(2)	(3)	(4)	(6)	(7)	(8)
Treatment ITT	0.052***	0.004	0.000	0.064***	0.051***	0.036**	0.058***
Std. Err.	(0.015)	(0.005)	(0.005)	(0.016)	(0.017)	(0.017)	(0.016)
Control mean	0.211	0.018	0.984	0.809	0.579	0.558	0.80
N	5,533	5,533	5,533	5,533	5,533	5,428	5,416

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All regressions control for district and baseline outcomes. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

Panel C: Lighting fuel grouping: electricity; solar (solar fuel sources and car battery); gas (biogas and parafin); solid fuel (candles, firewood, torch). Cooking fuel grouping: electricity; solar; gas (industrial gas and parafin); solid fuel (coal, charcoal, firewood, wood).

Panel D: Assets Owned grouping categories: Transportation (vehicle, motorcycle, bicycle); Personal and other (watch); Household appliances (electric or gas stove - including microwave -, charcoal stove/stove, firewood and coal stove, refrigerator, freezer or fridge-freezer, iron (electric), iron (charcoal), water heater, air conditioner, sewing machine, fan ,cooking pots, mosquito net); Furnitures (chairs, sofas, tables, beds, cupboards, lanterns); and, Communications (TV, mobile phone, radio).

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.A: Definitions for labor related outcomes**

<b>Concepts</b>	<b>Concept</b>	<b>Corresponding variables in database</b>
Labor Force Participation (LFP)	Employed and Unemployed	
Employment rate	(i) Worked in the past week, and (ii) Temporarily out of work	(i) Any hours worked in non-farm paid or wage work or farm for sale or paid apprentice. That is: non-farm business (E2a>0), or wage or casual work (E2b>0) or farm activities (E2c>0 & E2d=3,4,5) or apprenticeships (E2f=Yes) (ii) Main reason for being absent from job: Vacation, holidays (E4=1), Illness, injury, temporary disability (E4=2), Maternity, paternity leave (E4=3), or Bad weather (E4=5) <i>Note: individuals who were absent from their jobs for reasons above and who work helping without pay at own or household's farm or business are considered employed.</i>
Unemployed	Traditional definition: (i) Without employment (ii) available to work, and (iii) Seeking employment	(i) Has no economic activity to return to (E2= not working, E3=No); (ii) available to work (E5=YES); (iii) Took steps during the last four weeks to look for work (E6=Yes). Plus job seekers waiting for response or to start (E3=No & E6=No & E7=2,3)
Wage employment	Employed in wage activity, including regular or casual work, or paid apprenticeship	Employed regular or casual, paid apprenticeship (E10 =1,2,8)
Self-employed		Self-employed with or without regular employees and member of producer's cooperative (E10 =3-5 ) or those considered employed who helped without pay at own or household's farm or business (E10=6,7)
Farm/ Non-farm classification for self-employed		Farm: works at farm related activities (either agricultural and livestock activities) (E2c= YES or E10=5 Farm or E10=7) Non-farm: works at non-farm business (E2a = YES or E10=6) If not classified with above rules, then: Is Farm if 1-level ISCO=6 or 2-level ISCO=92 (codes corresponding to agricultural, forestry and fishery workers) Is non-farm if 1-level ISCO=2,5,7,8 or 2-level ISCO=91,93
Unpaid workers	Not employed but worked some hours	Worked some hours (E15>0) and are not employed <i>Note: unpaid workers are mostly individuals who according to E15 worked at least one hour within the last week but that according to E2 and E3 did not work due to other reasons not considered as "temporary out of work". Mainly these reasons include family responsibilities and off-season workers.</i>
Inactive	(i) Not employed, and (ii) Not unemployed	Not "employed" (see definition above) Not "unemployed" (see definition above)
Age groups following Baseline	Working age (15-64) Youth (15-35) Adolescent (14-19) Child (5-14)	

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.B: The PSSN effect on Labor Outcomes**

Variable	Over all sample								Conditional on employment		
	Labor Force Participation (LFP) (1)	Employment rate (2)	Unemployment rate (3)	Wage employment (4)	Self-employed (5)	Unpaid work (6)	Inactive (7)	Hours Worked (8)	Wage employment (9)	Self-employed (10)	Hours Worked (11)
<b>Panel A: Working Age (15-64)</b>											
Treatment ITT	0.007	0.000	0.017	0.000	0.024**	0.012	-0.007	-0.602	-0.068***	0.067***	-2.87**
Std. Err.	(0.014)	(0.014)	(0.016)	0.000	(0.011)	(0.011)	(0.014)	(0.669)	(0.023)	(0.023)	(1.402)
Control mean	0.367	0.313	0.147	0.000	0.185	0.160	0.633	11.490	0.408	0.591	36.738
N	11,517	11,517	4,323	10,784	11,517	11,517	11,517	11,516	3,590	3,590	1,286
<b>Panel B: Youth (15-35)</b>											
Treatment ITT	0.004	-0.004	0.016	0.000	0.025**	0.011	-0.004	0.160	-0.102***	0.103***	0.820
Std. Err.	(0.015)	(0.014)	(0.023)	0.000	(0.012)	(0.013)	(0.015)	(0.697)	(0.033)	(0.034)	(1.734)
Control mean	0.321	0.247	0.228	0.000	0.119	0.131	0.679	10.133	0.514	0.483	43.130
N	7,120	7,120	2,339	6,537	7,120	7,120	7,120	7,119	1,756	1,756	1,755
<b>Panel C: Adolescent (14-19)</b>											
Treatment ITT	-0.017	-0.014	0.042	0.000	0.015	0.011	0.017	-0.487	-0.139**	0.151***	-0.145
Std. Err.	(0.020)	(0.016)	(0.041)	0.000	(0.009)	(0.011)	(0.020)	(0.740)	(0.056)	(0.056)	(3.104)
Control mean	0.180	0.129	0.285	0.000	0.039	0.075	0.820	4.994	0.685	0.303	33.424
N	3,620	3,620	576	3,439	3,620	3,620	3,620	3,619	395	395	394

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. Specification on hours worked control for baseline outcomes. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.C: The PSSN effect on Type of Work**

Type of work	Wage work			Self-employment		
	Regular (1)	Casual (2)	Apprenticeship (3)	Farm (4)	Non-Farm (5)	Not-specified (6)
<b>Panel A: Working Age (15-64)</b>						
Treatment ITT	-0.016	-0.056**	0.003	0.028	0.043**	-0.002
Std. Err.	(0.014)	(0.025)	(0.002)	(0.027)	(0.019)	(0.009)
Control mean	0.067	0.338	0.003	0.223	0.298	0.071
N	3,589	3,589	3,589	3,589	3,589	3,589
<b>Panel B: Youth (15-35)</b>						
Treatment ITT	-0.015	-0.094***	0.007	0.002	0.097***	0.003
Std. Err.	(0.020)	(0.036)	(0.005)	(0.033)	(0.026)	(0.012)
Control mean	0.089	0.419	0.005	0.227	0.194	0.065
N	1,755	1,755	1,755	1,755	1,755	1,755
<b>Panel C: Adolescent (14-19)</b>						
Treatment ITT	-0.061	-0.111**	0.033**	0.048	0.098***	-0.007
Std. Err.	(0.041)	(0.055)	(0.013)	(0.055)	(0.034)	(0.016)
Control mean	0.118	0.567	0.000	0.208	0.059	0.048
N	394	394	394	394	394	394

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.D: The PSSN effect on Labor Outcomes, by Gender**

Variables	Over all sample											
	Labor Force Participation (LFP)		Employment rate		Unemployment rate		Wage employment		Self-employed		Unpaid work	
	Male (1)	Female (2)	Male (3)	Female (4)	Male (5)	Female (6)	Male (7)	Female (8)	Male (9)	Female (10)	Male (11)	Female (12)
<b>Panel A: Working Age (15-64)</b>												
Treatment ITT	0.000	0.010	0.004	-0.005	-0.005	0.043**	0.000	0.000	0.032**	0.019	-0.004	0.026**
Std. Err.	(0.021)	(0.016)	(0.019)	(0.016)	(0.020)	(0.021)	(0.000)	(0.000)	(0.014)	(0.014)	(0.016)	(0.012)
Control mean	0.445	0.307	0.365	0.273	0.180	0.111	0.000	0.000	0.184	0.186	0.160	0.159
N	5,223	6,294	5,223	6,294	2,379	1,944	4,795	5,989	5,223	6,294	5,223	6,294
<b>Panel B: Youth (15-35)</b>												
Treatment ITT	-0.002	0.010	0.012	-0.017	-0.037	0.077**	0.000	0.000	0.034**	0.018	-0.012	0.032**
Std. Err.	(0.024)	(0.018)	(0.021)	(0.017)	(0.030)	(0.035)	(0.000)	(0.000)	(0.014)	(0.015)	(0.018)	(0.013)
Control mean	0.406	0.243	0.299	0.201	0.265	0.173	0.000	0.000	0.128	0.112	0.133	0.129
N	3,543	3,577	3,543	3,577	1,487	852	3,180	3,357	3,543	3,577	3,543	3,577
<b>Panel C: Adolescent (14-19)</b>												
Treatment ITT	-0.031	0.005	-0.024	0.001	0.025	-0.003	0.000	0.000	0.010	0.020*	-0.002	0.024
Std. Err.	(0.031)	(0.021)	(0.024)	(0.017)	(0.048)	(0.070)	(0.000)	(0.000)	(0.013)	(0.012)	(0.015)	(0.015)
Control mean	0.248	0.110	0.174	0.082	0.298	0.255	0.000	0.000	0.046	0.032	0.076	0.074
N	1,883	1,737	1,883	1,737	389	187	1,764	1,675	1,883	1,737	1,883	1,737

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. Specification on hours worked control for baseline outcomes. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.D: The PSSN effect on Labor Outcomes, by Gender (cont.)**

Variables	Over all sample				Conditional on employment					
	Inactive		Hours Worked		Wage employment		Self-employed		Hours Worked	
	Male (13)	Female (14)	Male (15)	Female (16)	Male (17)	Female (18)	Male (19)	Female (20)	Male (21)	Female (22)
<b>Panel A: Working Age (15-64)</b>										
Treatment ITT	0.000	-0.010	-0.636	-0.706	-0.069**	-0.077**	0.069**	0.074**	-2.277*	-2.584
Std. Err.	(0.021)	(0.016)	(0.925)	(0.735)	(0.028)	(0.030)	(0.028)	(0.030)	(1.360)	(1.650)
Control mean	0.555	0.693	15.124	8.688	0.493	0.320	0.504	0.680	41.478	31.853
N	5,223	6,294	5,223	6,293	1,951	1,639	1,951	1,639	1,951	1,638
<b>Panel B: Youth (15-35)</b>										
Treatment ITT	0.002	-0.010	0.880	-0.644	-0.082**	-0.153***	0.085**	0.152***	0.423	-0.707
Std. Err.	(0.024)	(0.018)	(1.098)	(0.697)	(0.038)	(0.053)	(0.038)	(0.053)	(1.828)	(2.778)
Control mean	0.594	0.757	12.246	6.291	0.567	0.442	0.427	0.558	40.982	31.361
N	3,543	3,577	3,543	3,576	1,124	632	1,124	632	1,124	631
<b>Panel C: Adolescent (14-19)</b>										
Treatment ITT	0.031	-0.005	-0.912	0.003	-0.055	-0.283**	0.074	0.276**	-0.947	6.694
Std. Err.	(0.031)	(0.021)	(1.178)	(0.742)	(0.061)	(0.117)	(0.060)	(0.119)	(3.566)	(6.960)
Control mean	0.752	0.890	6.363	2.435	0.719	0.610	0.264	0.390	36.505	29.764
N	1,883	1,737	1,883	1,736	270	125	270	125	270	124

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. Specification on hours worked control for baseline outcomes. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.E: The PSSN effect on Type of Work, by Gender**

Type of work	Wage Work						Self-employment					
	Regular		Casual		Apprenticeship		Farm		Non-Farm		Not-Specified	
	Male (1)	Female (2)	Male (3)	Female (4)	Male (5)	Female (6)	Male (7)	Female (8)	Male (9)	Female (10)	Male (11)	Female (12)
<b>Panel A: Working Age (15-64)</b>												
Treatment ITT	-0.021	-0.008	-0.055*	-0.068**	0.007	-0.001	0.065**	-0.003	0.003	0.076***	0.001	0.004
Std. Err.	(0.022)	(0.011)	(0.029)	(0.029)	(0.004)	(0.002)	(0.027)	(0.032)	(0.026)	(0.028)	(0.013)	(0.009)
Control mean	0.094	0.038	0.395	0.279	0.004	0.002	0.190	0.249	0.233	0.380	0.083	0.052
N	1,951	1,638	1,951	1,638	1,951	1,638	1,951	1,638	1,951	1,638	1,951	1,638
<b>Panel B: Youth (15-35)</b>												
Treatment ITT	-0.028	0.007	-0.066*	-0.160***	0.012	0.000	0.037	-0.037	0.044	0.178***	0.001	0.012
Std. Err.	(0.032)	(0.021)	(0.036)	(0.052)	(0.008)	(0.005)	(0.035)	(0.050)	(0.029)	(0.045)	(0.014)	(0.016)
Control mean	0.122	0.045	0.438	0.394	0.007	0.003	0.199	0.249	0.159	0.257	0.076	0.051
N	1,124	631	1,124	631	1,124	631	1,124	631	1,124	631	1,124	631
<b>Panel C: Adolescent (14-19)</b>												
Treatment ITT	-0.054	-0.067	-0.044	-0.232*	0.044**	0.017	0.077	-0.015	-0.006	0.260***	-0.016	0.036
Std. Err.	(0.053)	(0.043)	(0.064)	(0.120)	(0.021)	(0.020)	(0.054)	(0.102)	(0.035)	(0.087)	(0.022)	(0.032)
Control mean	0.133	0.085	0.586	0.526	0.000	0.000	0.183	0.265	0.058	0.060	0.040	0.065
N	270	124	270	124	270	124	270	124	270	124	270	124

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.



**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.F: The PSSN effect on Labor Outcomes, Children (ages 5 to 14)**

Variable	Overall sample					Conditional on employment		
	Employment rate (1)	Wage employment (2)	Self-employed (3)	Unpaid work (4)	Hours Worked (5)	Hours Worked (6)	Wage employment (7)	Self-employed (8)
Treatment ITT	-0.002	0.000	-0.002	0.001	-0.273*	-18.781***	-0.111	0.111
Std. Err.	(0.004)	0.000	(0.003)	(0.002)	(0.142)	(5.584)	(0.120)	(0.120)
Control mean	0.015	0.000	0.008	0.005	0.480	33.052	0.469	0.531
N	6,735	6,730	6,735	6,735	6,735	69	69	69

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All specifications control for district. Specification on hours worked control for baseline outcomes. See Table B7.A for variable definitions. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

Variable	% of children enrolled in school and not working (1)	% of children enrolled in school and working (2)	% of children only working (3)
<b>Panel A: Children age 5-19</b>			
Treatment ITT	5.891***	0.717	(0.799)
Std. Err.	(1.986)	(0.483)	(0.719)
Control mean	59.889	1.749	5.950
N	10,407	10,407	10,407
<b>Panel B: Child aged 5-14</b>			
Treatment ITT	8.033***	0.541	-0.489
Std. Err.	(2.217)	(0.478)	(0.367)
Control mean	68.214	1.559	1.418
N	6,764	6,764	6,764

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Current enrollment in school if used to defined children currently in school. Numbers of work hours reported (in any sector including apprenticeship) is counted as working. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.G: The PSSN effect on Non-farm Household Enterprises**

**Panel A: General effects on non-farm household enterprises**

Variable	Overall sample					Conditional on having a HE		
	Has a HE	Total # of HEs	Is Employer	Total Individuals Engaged	Total Paid Employees	Is Employer	Total Individuals Engaged	Total Paid Employees
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment ITT	0.007	0.017	-0.006	0.029	0.009	-0.021	0.047	0.026
Std. Err.	(0.022)	(0.028)	(0.005)	(0.034)	(0.016)	(0.013)	(0.058)	(0.050)
Control mean	0.324	0.391	0.024	0.399	0.052	0.075	1.231	0.161
N	5,461	5,461	5,461	5,461	5,461	1,928	1,928	1,928
Controlling for baseline outcomes	YES	YES	YES	NO	NO	YES	NO	NO

**Panel B: Effects on non-farm household enterprises' expenses, revenues, start-up capital, and profits (Tanzanian shillings)**

Variable	Overall sample				Conditional on having a HE					
	Total Expenses	Revenues	Start-up Capital	Profit	Total Expenses	Log Total Expenses	Revenues	Log Revenues	Start-up Capital	Profit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment ITT	7,472	519	198	-7,682	21,480.91*	0	10,474	0	-668	-20,500
Std. Err.	(4791)	(20375)	(2534)	(19310)	(13018)	(0)	(46134)	(0)	(7208)	(42216)
Control mean	15,036	76,502	10,116	37,976	46,625	9	246,000	10	31,188	115,000
N	5,460	5,344	5,459	5,343	1,927	1,187	1,811	1,746	1,926	1,810

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Specifications do not control for baseline outcomes unless otherwise noted. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.G: The PSSN effect on Non-farm Household Enterprises**

**Panel C: Effects on non-farm household enterprise sector**

Sector of HE	Trade (1)	Services (2)	Producer (3)
Treatment ITT	0.038*	0.017	-0.055*
Std. Err.	(0.021)	(0.027)	(0.029)
Control mean	0.170	0.532	0.298
N	1,928	1,928	1,928

**Panel D: PSSN non-farm household enterprises average start-up capital, revenues and profits, by sector (Tanzanian shillings)**

Sectors	Start-up Capital		Revenues		Profits	
	TZS	USD	TZS	USD	TZS	USD
Trade	28,981	12	238,796	103	118,000	51
Service	33,782	15	234,796	101	131,000	56
Producer	13,062	6	138,796	60	(29,000)	(12)
PSSN Trade vs PSSN Producer Difference (Trade-Producer)	15,919***	7***	100,000***	43***	147,000***	63***
P-value	0.003		0.042		0.013	

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Specifications do not control for baseline outcomes unless otherwise noted. Calculated assuming an exchange rate of TZS 1,640 per USD 1. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.H: The PSSN effect on Non-farm Household Enterprises**

**Table 1: General effects on non-farm household enterprises**

Variable	Is Employer			Total Individuals Engaged			Total Paid Employees		
	All Sample (7)	Male (8)	Female (9)	All Sample (10)	Male (11)	Female (12)	All Sample (13)	Male (14)	Female (15)
<b>Panel A: Conditional on owning a HE</b>									
Treatment ITT	-0.021	-0.038*	-0.027	0.047	0.027	-0.008	0.026	0.026	-0.039
Std. Err.	(0.013)	(0.022)	(0.020)	(0.058)	(0.129)	(0.054)	(0.050)	(0.121)	(0.038)
Control mean	0.075	0.102	0.062	1.231	1.323	1.189	0.161	0.263	0.110
N	1,928	724	946	1,928	724	946	1,928	724	946
Controlling for baseline outcomes	YES	YES	YES	NO	NO	NO	NO	NO	NO

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Specifications do not control for baseline outcomes unless otherwise noted. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table 2: Effects on non-farm household enterprises' expenses, revenues, start-up capital, and profits (Tanzanian shillings)**

Variable	Total Expenses			Revenues			Start-up Capital			Profit		
	All Sample (1)	Male (2)	Female (3)	All Sample (4)	Male (5)	Female (6)	All Sample (7)	Male (8)	Female (9)	All Sample (10)	Male (11)	Female (12)
<b>Panel A: Conditional on owning a HE</b>												
Treatment ITT	21,480*	-948	38,735	10,474	-21,200	97,406*	-668	-11,000	3,158	-20,500	-16,400	37,278
Std. Err.	(13018)	(9683)	(24984)	(46134)	(53091)	(58381)	(7208)	(19170)	(3608)	(42216)	(49555)	(49131)
Control mean	46,625	34,611	53,829	246,000	231,061	167,683	31,188	51,846	19,937	115,000	192,642	114,960
N	1,927	724	945	1,811	677	901	1,926	723	946	1,810	677	900

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Specifications do not control for baseline outcomes unless otherwise noted. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table 3: Effects on non-farm household enterprise sector**

Sector of HE	Trade			Services			Producer		
	All Sample (1)	Male (2)	Female (3)	All Sample (4)	Male (5)	Female (6)	All Sample (7)	Male (8)	Female (9)
Treatment ITT	0.038*	-0.002	0.045	0.017	0.025	0.009	-0.055*	-0.024	-0.054
Std. Err.	(0.021)	(0.034)	(0.033)	(0.027)	(0.039)	(0.040)	(0.029)	(0.038)	(0.037)
Control mean	0.170	0.157	0.197	0.532	0.572	0.489	0.298	0.271	0.314
N	1,928	724	946	1,928	724	946	1,928	724	946

Note: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. Specifications do not control for baseline outcomes unless otherwise noted. Calculated assuming an exchange rate of TZS 1,640 per USD 1. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B12: The PSSN effect on Labor and Productive Activities at Midline**

**Table B12.E: The PSSN effect on Agricultural Practices and Livestock Ownership**

**Panel A: Effects on farming activities**

Variable	Farm any plot	Expenditure on agriculture	Agricultural Assets	Bought seeds	Bought organic fertilizer	Bought inorganic fertilizer	Bought pesticides
	(1)	(2)	(5)	(3)	(4)	(5)	(6)
Treatment ITT	0.066***	340.619**	0.006	0.063***	0.026***	0.037***	0.022***
Std. Err.	(0.017)	(141.880)	(0.004)	(0.018)	(0.010)	(0.010)	(0.007)
Control mean	0.722	969.304	0.022	0.274	0.055	0.061	0.056
N	5,457	5,553	5,533	5,553	5,553	5,553	5,553
Controls for baseline outcomes	YES	YES	YES	YES	YES	YES	YES

**Panel A: Effects on livestock ownership**

Variable	Own any livestock	Cows / Bull	Goats / Lambs	Pigs	Poultry	Others
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Percentage of households owning livestock</b>						
Treatment ITT	0.186***	0.034***	0.109***	0.025***	0.181***	0.022**
Std. Err.	(0.020)	(0.012)	(0.017)	(0.009)	(0.018)	(0.009)
Control mean	0.419	0.067	0.104	0.028	0.348	0.044
N	5,553	5,533	5,533	5,533	5,533	5,533
Controls for baseline outcomes	NO	NO	NO	NO	NO	NO
<b>Total livestock owned</b>						
Treatment ITT		0.089	0.278	0.062**	1.959***	0.047
Std. Err.		(0.128)	(0.185)	(0.032)	(0.509)	(0.038)
Control mean		0.648	1.302	0.107	8.011	0.173
N		3,016	3,016	3,016	3,016	3,016
Controls for baseline outcomes		NO	NO	NO	NO	NO

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. "Expenditure on agriculture" measured in Tanzania shillings. All other dependent variables are indicator variables. Agricultural assets include plough/hand hoe, fishing nets, beehives. Livestock were grouped in the following way: cow/bulls (bulls, cows, steers, heifers, male calves, female calves); goats / lambs (billy goats, shee goats, male kids, female kids, rams, ewes - include castrated -, male lambs, female lambs); pigs (boards, sows, male gilts and piglets, female gilts and piglets); poultry (male old chicken, female old chicken, young chicks, ducks); and, others (rabbits, donkeys, dogs). All specifications control for district. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.

**Table B13: The PSSN effect on Intra-Household Dynamics at Midline**

Variable	Female is primary decision maker				Female is part of decision-making process			
	Own Money (1)	Own Health and Contraception (2)	Child Health and Education (3)	Major HH purchase and daily purchases (4)	Own Money (1)	Own Health and Contraception (2)	Child Health and Education (3)	Major HH purchase and daily purchases (4)
<b>Panel A: All women</b>								
Treatment ITT	0.002	-0.002	0.023	0.005	0.020	-0.012	-0.016	-0.015
Std. Err.	(0.023)	(0.017)	(0.020)	(0.021)	(0.019)	(0.012)	(0.010)	(0.017)
Control mean	0.666	0.698	0.634	0.448	0.800	0.879	0.930	0.685
N	2,646	3,267	2,623	3,267	2,646	3,267	2,623	3,267
<b>Panel B: Women with partners</b>								
Treatment ITT	0.051	0.023	0.066**	0.048*	0.046*	-0.037***	-0.035**	-0.028
Std. Err.	(0.032)	(0.026)	(0.027)	(0.025)	(0.025)	(0.013)	(0.016)	(0.022)
Control mean	0.533	0.620	0.415	0.388	0.764	0.934	0.917	0.797
N	1,436	1,688	1,560	1,688	1,436	1,688	1,560	1,688
<b>Panel B: Women without partners</b>								
Treatment ITT	-0.025	-0.015	0.016	-0.025	0.001	0.004	0.014	-0.019
Std. Err.	(0.027)	(0.021)	(0.016)	(0.029)	(0.025)	(0.020)	(0.012)	(0.027)
Control mean	0.799	0.767	0.905	0.501	0.835	0.830	0.946	0.586
N	1,210	1,579	1,063	1,579	1,210	1,579	1,063	1,579

Notes: PSSN Midline Impact Evaluation Data, NBS/OCGS 2017. All dependent variables are indicator variables equal to 1 if the female respondent participates in a given decision. All specifications control for district and baseline outcomes. Robust standard errors clustered at the village level in parentheses. \*\*\* Significant at the 1 percent level, \*\* Significant at the 5 percent level, \* Significant at the 10 percent level.