

## **KASAMA Impact Evaluation: Analysis Plan**

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This analysis plan outlines the methodologies and specifications used to evaluate the impact of the KASAMA program that will be implemented by the Philippine Department of Labor and Employment (DOLE) in Regions 1, 2, 3, 4A, and 5 in the Philippines. The baseline data will be collected from January to March 2016 and the endline data will be collected from January to March 2018. The intervention will occur in March through August 2016. This impact evaluation aims to contribute to the DOLE's understanding of the effectiveness of the KASAMA program as well as to broader research on anti-child labor programs in the developing world.

### **1. Introduction**

#### **1.1 Motivation**

In 2012, one out of every five Filipino families was considered poor, or approximately 4.2 million families<sup>1</sup>. Poverty has widespread harmful effects especially on children. Many impoverished families often view child labor as a necessary means for survival. In the Philippines, certain areas that have higher rates of poverty also experience higher rates of child labor, such as in Northern Mindanao and Eastern Visayas with 14.2 percent and 8.2 percent, respectively, of children participating in labor activities.<sup>2</sup> In 2011, out of the 29.019 million Filipino children (5-17 year-old), 3.21 million, of the total 5.5 million working children, were identified as participating in unlawful child labor. Almost all of these children, 2.99 million (93%), were engaging in hazardous child labor (in activities where chemical, physical and biological hazards exist). Both boys and girls are engaging in hazardous labor activities; however, there are twice as many boys than girls in such activities.<sup>3</sup> While a majority of these child laborers participate in agricultural activities, such as in production of sugar cane, other areas of labor include participation in domestic help, production of pyrotechnics, scavenging, deep sea fishing, mining, prostitution, and drug trafficking.

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<sup>1</sup> Philippine Statistics Authority - National Statistics Coordination Board, Poverty, Human Development and Gender Statistics Division. (2013). *2012 Full Year Official Poverty Statistics*. Retrieved from <http://www.nscb.gov.ph/poverty/data/fullterm2012/Report%20on%20the%202012%20Full%20Year%20Poverty%20Statistics.pdf>

<sup>2</sup> Philippine Institute for Development Studies. (2012). Profile of Out-of-School Children in the Philippines. Retrieved from <http://dirp4.pids.gov.ph/ris/dps/pidsdps1201.pdf>

<sup>3</sup> International Labor Organization & Philippines National Statistics Office. 2011 Survey on Children. Received from [http://www.ilo.org/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-manila/documents/meetingdocument/wcms\\_184097.pdf](http://www.ilo.org/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-manila/documents/meetingdocument/wcms_184097.pdf)

In 2013, the US Department of Labor's Bureau of International Labor Affairs published its report, *Findings on the Worst Forms of Child Labor*, taking note of the Philippines' "significant advancement in efforts to eliminate worst forms of child labor." In their continued efforts to decrease child labor, especially in hazardous environments, DOLE is implementing Kabuhayan Para sa Magulang ng Batang Manggagawa (KASAMA) in some of the Philippines' poorest provinces. In the KASAMA program, DOLE focuses on improving access to sources of income for the parents of child laborers and building the capacities of communities to prevent and address child labor.

This evaluation is motivated by the question of whether it is possible to sustainably change how families generate their livelihoods in a way that eliminates child labor. The evaluation will focus on the aspects of KASAMA focused on sustainable livelihood promotion. Whether and how sustainable livelihood projects influence child labor is an important research question as sustainable livelihood promotion has become the centerpiece of anti-child labor programming.

## **1.2 Overview of the KASAMA Program**

The KASAMA program is a package of assistance composed of trainings and a grant for the purchase of equipment, tools and raw materials to be used in the livelihood undertakings of eligible beneficiaries. In our evaluation, KASAMA will be implemented as a one-time in-kind award of PHP10,000 (USD\$518 in PPP terms) in capital to parents of child laborers.

The program aims to promote entrepreneurial initiatives that will provide opportunities for vulnerable workers to augment their incomes. Ultimately, it seeks to transform these livelihood activities into sustainable enterprises to generate employment within the beneficiaries' communities.

Our evaluation is closely related to the recent evaluations of the Ultrapoor Graduation Programs that have occurred in many parts of the world. In the Philippines, there is already a pervasive cash transfer program aimed at helping households meet their basic needs, Pantawid Pamilyang Pilipino Program (4Ps). The 4Ps includes soft conditionality to promote schooling and health access that is not enforced at the time of our study. The consumption support, savings accounts, and outreach components of the 4Ps program mean that the value added of KASAMA to 4P beneficiaries is similar to the grant for business development within the Ultrapoor Graduation program. Thus, an important part of this evaluation is in understanding the role of the sustainable business development grant in ultra-poor graduation programs.

## **1.3 Logic Model**

We expect KASAMA to influence time allocation through its direct resource transfer or through the expansion of earning opportunities within the home of child laborers.

The direct resource transfer or the increase in household income coming through the growth in earnings opportunities within the home should impact child labor in three

ways. First, it might diminish the economic motives that lead to child labor in the first place. Liquidity constraints might be relaxed, subsistence constraints, or poor families might simply feel that they can forego child labor. Second, it might change the type of work children perform. Additional income might lead to more household goods where child time is complimentary. Alternatively, improved income might lead households to care more about the negative amenities associated with work that qualifies as child labor. Third, increased income might lead to demand for alternatives to work such as leisure or schooling. Of course increased income could also change the types of employment opportunities in the household depending on the impact of income directly on the economic structure of the household.

The expansion of earning opportunities from KASAMA will both increase income (perhaps beyond the net value of the transfer) and change the types of activities available to youth. An increase in income through a growth in employment within the household should influence child labor in the same way as the direct resource transfer, albeit with differences in magnitude and longevity. But the expansion of earning opportunities within KASAMA families can also impact child labor, holding the impact of KASAMA on income fixed. First, KASAMA should lead to more economic activity available within the household. Working children are more apt to do so within the home. This might be, because of regulatory barriers to employment away from the house, the nature of formal labor market work, or the disutility parents feel from having children work away. Regardless of the why, an expansion of household employment opportunities could lead to more children working. While this work would not be legally child labor, we could easily see more economic activity among children as a result of KASAMA.

The expansion of earning opportunities could also lead to changes in how children work. This might reduce child labor if KASAMA draws children into the home to either work in the new activities or to replace the household activities previously done by a parent drawn into the new activity.

## **2 RCT Design**

### **2.1 Evaluation Design**

The proposed evaluation includes a sample of 164 communities and 2,296 households selected from those communities. The project will operate in 5 regions of the Philippines where child labor is particularly prevalent, as determined from the 2011 Philippine Survey of Children. In particular, these regions engage in agricultural production of key exports as well as gold mining. Individual communities are enrolled in the study after identification by DOLE as targets. Target communities are communities that have not previously received KASAMA, but have high levels of child labor. From the list of target communities, half will be randomly assigned to receive the KASAMA treatment, while the other half will form the control group. Communities will be equally divided between treatment and control as feasible.

Individual beneficiaries within the community are identified following DOLE's standard procedure for identifying beneficiaries. Specifically, the Barangay Council for the Protection of Children will compile a list of those individuals eligible to receive KASAMA in both treatment and control barangays. In the event that more than 14 potential KASAMA beneficiaries are identified in a community, we will use a lottery to randomly choose 14 potential beneficiary households to survey.

## **2.2 Data Collection**

A baseline survey will be conducted for all 2,296 households in the sample. The household survey will ask detailed questions on demographic characteristics and time allocation for all household members. Demographic characteristics are also collected for all migrants from the household. Numerous background questions are asked to obtain information on unexpected shocks, government transfers, bargaining power, and the household's poverty status. Survey modules on agricultural production, livestock, and household enterprises will collect information on the income generating activities of the household. In addition, we collect data on household income, consumption, savings, and loans. Households also participate in a detailed module on food security.

In addition, all children in the household between the ages of 10 and 17 will be surveyed at baseline. The child survey will include modules on children's time use and work history. In addition, children will be asked about schooling, family structure, and life satisfaction. The life satisfaction questions are designed to measure perceptions of parenting styles. The survey will also include a task-based exercise designed to measure the child's persistence. All measures in both the household and child surveys will also be collected at endline for all 2,296 households.

Subjects will be tracked through two primary mechanisms. First, at the time of the baseline survey, we ask numerous questions to collect data to assist with tracking. Enumerators will record the GPS coordinates of each household. Further, we ask respondents for their mobile and landline phone numbers (if available). We also collect data on the two best people to contact should the respondent move from their current home and need to be contacted in the future. For these two individuals, we collect data on the address and phone numbers of these individuals. Second, quarterly DOLE reports on disbursement of KASAMA benefits will enable us to monitor that treated beneficiaries receive benefits.

The detailed data on tracking will help us revisit households during the endline survey. We collect this information with the goal of minimizing survey attrition. We will also test for differential attrition by treatment status at endline and will employ Lee (2009) bounds if differential attrition is present.

## **2.3 Balance Check**

Randomization balance will be determined by comparing characteristics of treatment and control barangays as measured in data collected in the 2010 Philippine Census of Population. We already have data from the National Statistics office that represents a 100% sample of all non-institutionalized individuals in the Philippines. In addition, we will check for balance of individual beneficiaries using the detailed household and child data collected during the baseline survey.

To test for statistical balance, we will run regressions of household and village characteristics on a binary variable indicating treatment status of the village. Standard errors will be clustered at the barangay level. Using an F-test, we will determine whether we can statistically reject the null hypothesis that the distribution of measures is the same for the treatment and control groups.

#### **2.4 Survey Attrition**

By collecting contact information for each household at baseline and by engaging in multiple follow-up visits in cases in which respondents are not initially reached by enumerators, we hope to minimize survey attrition. Nonetheless, we will test for differential attrition by treatment assignment at the time of endline analysis and will present estimates using an appropriate bounding procedure if differential attrition is detected.

### **3. Data Analysis**

The hypotheses listed below outline the focus of the research design implemented in the KASAMA evaluation.

#### **3.1 Primary Hypotheses**

*Hypothesis 1: Sustainable livelihood promotion does not reduce the prevalence of child labor amongst those already engaged*

The stated goal of the KASAMA program is to stop child labor where it exists. Hence, a central question in the evaluation will be whether KASAMA stops child labor amongst children already engaged in child labor. Few RCTs have found an impact of any intervention on participation in child labor for children already engaged in child labor. Hence, a rejection of this hypothesis would be an extremely important finding for those believing in sustainable livelihood promotion as a tool to stop existing child labor.

*Hypothesis 2: Sustainable livelihood promotion does not reduce entry into child labor*

Most child laborers live with other children. In fact, a standard marker of vulnerability to child labor is a child co-resident with a child laborer. Hence, even though KASAMA is targeted to families where child labor exists, it is likely that KASAMA will also influence children not working at the start of the intervention. Most RCTs aimed at populations vulnerable to child labor find some elasticity of entry into child labor with interventions.

Hence, the evaluation team suspects a priori that influencing entry into child labor will be more easily accomplished than reduction in child labor amongst those already engaged.

*Hypothesis 3: Sustainable livelihood promotion does not change the household's standard of living.*

A critical goal of this evaluation is to understand how KASAMA reduces child labor. The most direct channel will be through changes in household income and consumption, and we have ample evidence that entry into child labor can be extremely income elastic. Hence, an important aspect of understanding the impact of KASAMA is to identify whether it changes living standards.

*Hypothesis 4: Sustainable livelihood promotion has no effect on how the household generates its livelihood.*

Our discussion of child labor highlighted that it is the outcome of a complex calculation involving many factors, including the different types of activities available to the child. Hence, the introduction of new activities into the household through a sustainable livelihood project has the potential to influence child labor by changing the economic structure of the household. This might be through changes in income (hypothesis 3) or it might come through different demands on the time of children within the family's activities. Livelihood promotion has considerable scope for diverting children into different activities, and this evaluation will attempt to understand how important these activities are for changes in child labor.

### **3.2 Primary Outcomes of Interest**

The primary outcomes of interest are:

- *Child labor.* Child labor will be defined using the official Philippines definition below collected from the household and child surveys. This information will be critical for testing hypotheses one and two. The data collected to measure child labor will also support measuring the prevalence of hazardous child labor as well. We do not anticipate power to quantify unconditional worst forms of child labor. Outcomes will include detailed information on time allocation in economic and non-economic activities as well as schooling.
- *Economic Activity* of all household members. Not all economic activity is child labor. This study will use a standard time allocation module as a part of the household based survey to collect a complete picture of the activities of children as well as adults. This complete view of time allocation will be critical for testing hypothesis four as it will be useful for identifying how the sources of livelihood change in the household.
- *Household income.* Identification of the impact of KASAMA on how the household generates its livelihood will also benefit from an accounting of how the household generates income. This will be used for testing hypothesis three.

- *Household consumption.* The primary measure of living standards used in this study will be consumption based. A consumption-based measure has advantages over an income measure in households with seasonal income or significant non-market contributors to livelihood. Hence, the test in hypothesis three requires this consumption data.

### 3.3 Empirical Specification

#### 3.3.1 Basic Approach

The study size was chosen to be able to detect differences in child labor between those receiving KASAMA and those who do not in a simple comparison of means. This comparison of means can be written in regression form as:

$$(1) y_{i,j,k,t} = \beta_0 + \beta_1 D_k + \varepsilon_{it}$$

where  $y_{i,j,k,t}$  is the outcome for child  $i$  in family  $j$  associated with community  $k$  at time  $t$ .  $D_k$  is an indicator that the child lives in a community receiving a KASAMA treatment. Our analysis will focus largely on  $t=1$ , the endline survey,  $\varepsilon_i$  is a mean zero error term. We will consider the outcomes necessary to test our four main hypotheses as described in the RCT Methodology section. When  $y$  is child labor,  $\beta_0$  is mean prevalence of child labor in the control group.  $\beta_0 + \beta_1$  is mean child labor for children living in treated, KASAMA families.

Baseline data allows us to further reduce variance in (1) and more precisely estimate the impact of KASAMA treatment on child labor (or other outcomes in the household). Specifically, we modify (1) as:

$$(2) y_{i,j,k,1} = \beta_0 + \beta_1 D_k + \pi_1 ST_i + \pi_2 A_{i,t=0} + \pi_3 (A_{i,t=0} * F_i) + \pi_4 y_{i,j,k,t=0} + \varepsilon_{k1}$$

where  $y_{i,j,k,t}$  is the outcome such as child labor for child  $i$  in family  $j$  associated with community  $k$  at time  $t$ ,  $t \in \{0,1\}$ .  $y_{i,j,k,t=0}$  is the value of the outcome variable at baseline. Its inclusion means that we identify the impact of  $D$  based on changes in  $y$  between the baseline period and the endline period. For all time allocation related outcomes (including work and schooling), we will include the full vector of outcomes studied in  $y_{i,j,k,t=0}$ .

Randomization will be conducted after stratifying the population based on DOLE's policy interests. We include a vector of dummies  $ST_i$  to denote each strata. Even within each strata, we have strong priors that outcomes are highly correlated with gender and age. To incorporate that in our specification, we include dummies for age at baseline,  $A_{i,t=0}$  and include age-gender interaction ( $A_{i,t=0} * F_i$ ) as a control for all the outcomes that we consider. We also cluster errors at the community level in each time period.

With the refinement of the treatment in the first stage of the project, we anticipate some modification to this approach specified in equation (1).

### 3.3.2 Heterogeneity in treatment effects

In addition to estimating the impact of the KASAMA treatment on child labor, we can test for heterogeneity of the KASAMA treatment across subgroups. Our subgroups will be based on child demographics, household economic characteristics, and community characteristics. Our general approach will be to estimate (2) separately for each subgroup and to test the equality of  $\beta_1$  across subgroups.

#### Demographics

Demographic subgroups will be based on the child's gender, age, whether the child has both parents present, birth order, and number of siblings. Gender differences may arise because of differences in the treatment of boys and girls or their baseline time allocation. Differences in treatment effects by age may arise because of differences in time allocation by age. For heterogeneity by age, we will examine treatment effects for children 10-14 (inclusive) compared to children 15-17. For the child's position among siblings, we expect different effects for first born and first born daughters. First born children are born into an older average environment and may have certain traditional responsibilities (especially girls). Hence, we will examine heterogeneity that compares first born children to children who are not first born and the eldest girl to other girls who are not the eldest.

We also expect to examine how treatment varies with the number of children under 18 present in the household at baseline. We expect this heterogeneity because of differences in the available labor in the household, in the number of activities in the household, and in the value of the resource transfer on a per capita basis. Define  $H_{i,j,k,t=0}$  as a vector of indicators of the number of children under 18 present at baseline (with 5 or more grouped together in a single vector). We will then modify (2) as:

$$(3) \quad y_{i,j,k,1} = \beta_0 + \beta_1 D_k + \beta_2 D_k * H_{i,j,k,t=0} + \pi_1 ST_i + \pi_2 A_{i,t=0} + \pi_3 (A_{i,t=0} * F_i) + \pi_4 Y_{i,j,k,t=0} + \pi_5 H_{i,j,k,t=0} + \varepsilon_{k1}$$

#### Household Characteristics

Household economic subgroups will be based on a variety of characteristics that we think are important for the impact of KASAMA. We will examine the impact of KASAMA for agricultural versus non-agricultural households, whether the household has a nonfarm enterprise at baseline, whether the household reports any household based income earning endeavors (agr or non-agr) at baseline, whether the household reports wage employment at baseline, whether the household has a child laborer present at baseline, whether the household has a child engaged in hazardous child labor at baseline, whether the household has received 4P's (the Philippine government's conditional cash transfer program) at baseline, whether the household reports having bank loans at baseline, whether the household reports having savings at baseline, and whether the household is rural.

We will examine the impact of KASAMA in households that differ in whether they have experienced a shock. We expect KASAMA to allow households to better triage shocks through its effects on living standards and the availability of household based earnings



opportunities. A shock is defined as answering yes to any of questions 24-29 of section 4 of the household survey. We will look for heterogeneity in treatment effects based on whether the household had experienced a shock at baseline, and we will look for heterogeneity in treatment effects based on whether the household had experienced a shock between baseline and follow-up (testing also for a relationship between treatment status and reporting a shock).

We will examine the impact of KASAMA in households that differ in whether they have experienced an illness of a prime age (25-50) adult that involved missing work (health shock). We will look for heterogeneity in treatment effects based on whether the household had experienced a health shock at baseline, and we will look for heterogeneity in treatment effects based on whether the household had experienced a health shock between baseline and follow-up (testing also for a relationship between treatment status and reporting a health shock).

### Community Characteristics

Community subgroups will be based on the availability of schooling and the dominant types of work in the barangay. For the availability of schooling, we construct three measures based on baseline data. First, using administrative records, we construct an indicator that is 1 if there is a secondary education option in the barangay and look for heterogeneity in treatments effects by estimating (2) separately for barangays that differ in the presence of a secondary education option. Second, we construct an indicator that is 1 if more than 1 student 10-17 in the barangay reports attending a school with both primary and secondary school grades (based on responses to questions 204 and 205 of the Child Survey). We will estimate (2) separately for barangays that differ in whether children need to change schools for schooling in the barangay. Third, using the responses of children age 13 to 17 to Question 205 of the Child Survey, we construct the modal last grade available for students in the barangay. We then estimate (3) using indicators for each of the modal last grades available.

For types of work in the barangay, we tabulate the activity codes in the household roster. We will construct indicators that indicate whether any respondent in the barangay reports working in export agriculture (activity codes 1 – 6), inland fishing (activity codes 10-11), deep-sea fishing (activity code 12), gold mining (activity 13), pyrotechnics (activity 14), brickmaking (activity 23), or ragpicking (activity code 17 or 18). We will consider all of these indicators together as a vector in  $H_{i,j,k,t=0}$  and estimate (3) to examine whether treatment effects vary with the type of work available. We will also construct a measure of the prevalence of wage employment in the barangay by computing the fraction of adult men 25-50 in the barangay who report any wage employment. We will then use this fraction as  $H_{i,j,k,t=0}$  in estimating (3).

### 3.3.3 Take-up and Rescaling

At the time of writing, we expect all of our principal analysis to be reduced form. However, in the event that take-up is far from 1, we may instead emphasize results that instrument for reported KASAMA benefit receipt with barangay eligibility. This 2SLS analysis would also require attention to who the compliers are in the measurement of

treatment effects. Our piloting does not suggest that this should be an issue, but we can imagine scenarios where a 2SLS approach ends up being more appropriate in the event of significant leakage or non-compliance from our implementation partner.

#### **4. Child Labor and Time Allocation Definitions for the KASAMA Project**

Time allocation measures relate to schooling, economic activity, non-economic activity, and aggregated time use variables that combine information on economic activity and non-economic activity. Our baseline survey collects detailed data on children 10-17 from a child survey in addition to less detailed data for all persons in the household. Our follow-up survey is two years from baseline. For the time allocation measures examined in this section, we will focus on children 10-15 at baseline (who would still be 12-17 at followup) except for when we explicitly indicate otherwise. We create an indicator variable equal to 1 if the child refused to complete the child survey or could not be found for surveying. In this event, child responses are constructed solely from the household survey, as outlined below.

##### **4.1 Schooling Related**

Schooling is compulsory in the Philippines through Grade 11 in 2016 (ages 16 – 17). Hence, schooling outcomes will be considered for all children age 10-17. We start with age 10, because there is nearly universal primary in the Philippines, and our experience is that child labor and schooling are rarely elastic to outside influences below the age of 10. Because of the age cuts in the child labor laws described below, we will consider the time allocation of children 10-17 as a group, 10-14, and 15-17.

The following measures will be constructed from the survey data:

Attends School (in the last 7 days) – Indicator that Question 8 of Section 2 of Child Survey is greater than 0 [second measure based on response to Question 14 of Section 1 of Household Survey >0]

School Attendance Rate (in the last 7 days) – 0 for children not attending school. Child Survey Question 8 / Child Survey Question 9 if attend school. [second measure based on Question 14 of Household Survey divided by Question 15 of Household Survey]

Behind Grade – Indicator that response to Question 7 of Section 2 of the Child Survey is less than child age – 6

Type of Schooling – Two indicator variables, one for public school enrollment and one private school enrollment. The first variable is equal to 1 if Question 12 of Section 1 of the Household Survey equals 3. The second variable equals 1 if Question 12 of Section 1 of the Household Survey equals 1 or 2.

## 4.2 Economic Activity Related

Employed - Engaged in economic activity (in the last 7 days).<sup>4</sup> The U.N System of National Accounts defines economic activity as all production that could be destined for the market, regardless of whether the decision is made to sell or retained for own use. Thus, economic activity occurs both inside and outside of the home, regardless of whether the good or service produced is sold in the market. It includes collection activities such as the collection of wood or water. A child is employed if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items D, E, G, H, I, J, K, L, M, N, or O. [second measure for the last 12 months based on response to Questions 20, 21, 22, 23, 24, 25, 26, 27 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey]

Employed in Family Based Economic Activity (in the last 7 days) – A child is employed in a household based economic activity if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items D, E, G, J, K, or L. [second measure for the last 12 months based on response to Questions 20, 21, 22, 23 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey]

Employed outside the Family (in the last 7 days) – A child is employed in economic activity outside the family if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items H, I, or M. [second measure for the last 12 months based on response to Questions 23, 24, 25, 26, 27 equal to 1 in Section 1 of the Household Survey]

Collects Wood or Water (in the last 7 days) – A child is employed in collection activities if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items D or E. [second measure for the last 12 months based on >0 response to Question 29 in Section 1 of the Household Survey]

Hours Employed (in the last 7 days) – The sum of answers to hours worked in the last 7 days (Question 303) for items listed in the working child definition. [second measure for the last 12 months from Question 28 of Section 1 in Household Survey (recall period is for a typical week in past 7 days)]

Earnings – Total earnings from employment over the last 12 months as collected in Question 32 of Section 1 in the Household Survey.

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<sup>4</sup> In national accounts, employed differs from economic activity, because individuals looking for work but without work are economically active but not employed. That distinction is not made in the child labor (Guarcello, L., I. Kovrova, S. Lyon, M. Manacorda, and F.C. Rosati, “Towards Consistency in Child Labour measurement” *Understanding Children’s Work Programme*, June 2010).

### 4.3 Non-Economic Activity Related<sup>5</sup>

Hours in Unpaid Household Services (in the last 7 days) - Codes similar to hours employed except for activities that meet the definition of unpaid household services (items A, B, C, and F in Section 3). [second measure from Question 30 of Section 1 in Household Survey (recall period is for a typical week in past 7 days)]

### 4.4 Aggregated Time Use Variables

Participates in Hazardous Child Labor (in the last 12 months) – a child participates in hazardous economic activity if any of the following are true:

- The child’s work code in answer to Question 304, 305, 306, or 307 of the Child Survey is on the list of hazardous occupations (<http://www.oshc.dole.gov.ph/330/>) or indicates begging or scavenging work:
  - Deep-Sea Fishermen
  - Mining And Quarrying Including Gold Extraction
  - Manufacturing Pyrotechnics
  - Street Work Including Scavenging And Begging
  - Scavenging In Dumpsites
  - Commercial Sexual Activity
  - Artistic and Entertainment Associate Professionals (Entertainers)
  - Plumbers
  - Brick making
  - Extraction of lard/oil
  - Vulcanizing (rubber workers)
  - Grain mill workers
  - Heavy Equipment Operator (ie., bulldozer operator)
  - Guard
  - Firefighter
  - Blacksmiths, Tool-Makers And Related Trades Workers
  - Charcoal Makers And Related Workers
  - Loggers
  - Garbage Collectors And Related Laborers
  - Handicraft Workers In Wood, Textile, Leather, Chemicals And Related Workers
  - Hotel Housekeepers And Restaurant Services Workers
  - Machinery Mechanics, Fitters And Related Trades Workers

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<sup>5</sup> The 19<sup>th</sup> International Conference of Labor Statisticians explicitly included unpaid household services in its concept of child labor. However, child labor laws in the Philippines do not address unpaid household services in the child’s own home. We have adopted definitions here that are consistent with Philippine child labor laws rather than the ICLS definitions.

- Metal Molders, Welders, Sheet-Metal Workers, Structural-Metal Preparers And Related Trades Workers
- Motor Vehicle Drivers
- Shotfirers, Stone Cutters And Carvers
- Textile, Garment And Related Trades Workers
- Wood Treaters, Cabinet Makers And Related Trades Workers
- The child answers yes to any one of the following questions about their experiences while working over the last 12 months:
  - Was any of this work done after the sunset or before sunrise?
  - Do you ever have problems seeing while doing any of this work because of inadequate lighting?
  - Are there loud noises from machinery or people when you do this work?
  - Have you ever had to do this work in extreme temperatures or in a setting with poor ventilation?
  - Have you worked in an environment with lots of dust or debris?
  - Do you carry heavy loads while doing this work?
  - Do you operate any machinery or heavy equipment in this work?
  - Do you operate a motor vehicle in this work?
  - Are you ever exposed to an open flame or need to be concerned about being burned in this work?
  - Have you been injured while doing any of this work?
  - Do you handle any chemicals or toxic substances in this work including pesticides or fertilizers?
  - Do you wear protective gear such as gloves and masks when working with these chemicals?
  - Have you noticed headaches, skin problem, breathing problems, stomach problems, or a general feeling of unwellness after doing this work?
  - Do you think any of the work you've done is hazardous or dangerous to you?

Potential Forced or Bonded Laborer (in the last 12 months) – an indicator that is 1 if the child works around non-family members (YES to Question 417 of the Child Survey) or works outside of his family dwelling or field (Answer to Question 416 of the Child Survey is not family dwelling (1) or family field (2)) and meets any of the following criteria:

- Child is unable to take days off work (Answer to Question 418 is NO)
- Child cannot refuse tasks at work (Answer to 419 is NO)
- Child is unable to leave work because of debt owed (Answer to 420 is NO and Answer to 421 is Yes)
- Child is unable to leave work because family would be punished (Answer to 420 is NO and Answer to 423 is Yes)
- Child is not paid for work (Answer to 434 is Yes)
- All income is turned over to others (Answer to 436 is 1)

Potential Trafficked Person (in the last 24 months)

This outcome will be constructed based on all children 10-17 (inclusive) in the household roster and all children 10-17 mentioned in Section 2 of the Household Survey. For migrant children (only in Section 2 of the Household Survey), the child is a potential trafficked person if the child meets all the following criteria:

- Migrant is economically active (Question 11 of Section 2 of the Household Survey is anything other than student (code 90) or unpaid household services (code 91))
- Migrant is not free to move back (Question 16 of Section 2 of the Household Survey)
- Migrant is not married living with spouse (Question 5 of Section 2 of the Household Survey)

For children in the household roster (Section 1 of the Household Survey), a child is coded as a potential trafficked person if the child's not born in the community (Question 6 of Section 1 of the Household Survey is NO), the child does not have a parent present (Question 40 and 48 are both NO), the child does not attend school (Question 9 Section 1 of Household Survey is NO), and the child meets any one of the following criteria:

- The child was unavailable to complete the child survey
- Child is unable to take days off work (Answer to Question 418 is NO)
- Child cannot refuse tasks at work (Answer to 419 is NO)
- Child is unable to leave work because of debt owed (Answer to 420 is NO and Answer to 421 is Yes)
- Child is unable to leave work because family would be punished (Answer to 420 is NO and Answer to 423 is Yes)
- Child is not paid for work (Answer to 434 is Yes)
- All income is turned over to others (Answer to 436 is 1)

(Potentially) Other Worst Form of Child Labor (in the last 12 months)— child below the age of 18 who is a potential forced or bonded laborer, who is a potential trafficked person, who reports working as a child soldier, or who reports working in the commercial sex industry.

(Potentially) Worst Form of Child Labor (in the last 12 months) – a child below the age of 18 who is engaged in hazardous child labor or (potentially) engaged in an Other Worst Form of Child Labor

Child Labor (in the last 12 months)

### *Legal Background*

Project definitions of child labor will be based on definitions set by the evaluation partner, DOLE, as they are implemented in the Philippine context. DOLE defines child labor on the basis of Philippine Republic Act Nos. 9231 and 7610 and ILO Convention 182 or the Worst Forms of Child Labor Conventions. Child labor is referred to as “any work or economic activity performed by a child that subjects

him/her to any form of exploitation or is harmful to his/her health and safety or physical, mental or psychosocial development.”

Republic Act 7610 defines children as “persons below eighteen (18) years of age or those over but are unable to fully take care of themselves or protect themselves from abuse, neglect, cruelty, exploitation or discrimination because of a physical or mental disability or condition.”

Section 3 of Republic Act No. 9231 enumerates the worst forms of Child labor:

(1) all forms of slavery, as defined under the "Anti-Trafficking in Persons Act of 2003", or practices similar to slavery, such as sale and trafficking of children, debt bondage and serfdom and forced or compulsory labor, including recruitment of children for use in armed conflict;

(2) use, procuring, offering or exposing of a child for prostitution, for the production of pornography, or for pornographic performances;

(3) use, procuring, or offering of a child for illegal or illicit activities, including the production and trafficking of dangerous drugs and volatile substances prohibited under existing laws; and

(4) work which, by its nature or the circumstances in which it is carried out, is hazardous or likely to be harmful to the health, safety or morals of children.

It should be noted that in the Philippines, it is not considered child labor if children aged 15 years to below 18 years of age work if the following conditions are met: a) not more than eight (8) hours a day, b) not beyond forty (40) hours a week, c) not during 10:00 pm to 6:00 am the following day. It is required that if they do work under these circumstances, they should be provided with elementary and secondary education.

Children below age 15 may be economically active if the child is supervised by a senior family member such as a parent, if the child works in a location where only member of the child’s family are employed, if the work is not hazardous, if the child attends school, and if the child’s employer has a work permit for the child.

### *Implementation*

The project codes children below the age of 18 as child laborers if they meet *any* of the following criteria (definitions defined above):

- A child participates in hazardous economic activity
- A child is potentially a bonded laborer
- A child is potentially a trafficked person and in the household roster<sup>6</sup>

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<sup>6</sup> Children recorded in the migrant survey alone cannot be included in the child labor definition as we do not have enough information to identify whether they are child laborers in the location where they reside.

- A child is economically active and reports more than 8 hours a day in a typical day last week
- A child is working more than full time
- A child is economically active and does not attend school

The project codes children below the age of 15 as a child laborer if they meet any of the above criteria. In addition, a child below the age of 15 is a child laborer if they are economically active unless the economically active child satisfies *all* of the following criteria:

- The child is economically active in a location where only family members are employed<sup>7</sup>
- The child does not participate in an hazardous activity
- The child is not potentially a bonded laborer
- The child is not potentially a trafficked person
- The child does not report more than 8 hours a day in economic activity in a typical day last week
- The child does not engage in economic activity between the hours of 10pm and 6am in a typical day last week
- The child is not economically active for more than 40 hours per week according to the household roster response
- The child attends school

## **5. Child Behavior Related Definitions for the KASAMA Project**

The constructs in this section are only available for persons in the child survey (conducted for persons 10-17). Hence, we will only be able to look at these outcomes for persons 17 or younger at followup.

### **5.1 Parental Attention**

One consequence of the KASAMA intervention may be changes in parental attention. The survey includes a detailed module on parenting bonding that has been developed by Parker et al (1979).<sup>8</sup> We follow their guidelines in the construction of outcomes based on the instruments. There are two indexes (Care and Overprotection) and four indicators of parenting style based on the combination of the two indexes.

We construct indexes of care and protection. Not all responses on the parental attention questionnaire are scored in the same direction. For the construction of these normed indexes, we will use the scoring recommended in the guidelines. These scorings differ from the response codes in the questionnaire.

- Care Index. The following questions are scored positively so that the “Very Like” response is given a 3 and the “Very Unlike” response is a 0: 502 506 507 512 513

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<sup>7</sup> As we do not anticipate contact with child employers where work permits would be required, we do not ask about the work permit status of employment.

<sup>8</sup> Parker, Gordon, Hilary Tupling, and L. B. Brown. "A parental bonding instrument." *British journal of medical psychology* 52.1 (1979): 1-10.



518 for mothers / 527 531 532 537 538 542 for fathers. The following questions are scored negatively so that the “Very Like” response is given a 0 and the “Very Unlike” response is a 3: 503 505 515 517 519 525 for mothers / 528 530 540 542 544 550 for fathers.

- Protection Index. The following questions are scored positively so that the “Very Like” response is given a 3 and the “Very Unlike” response is a 0: 509 510 511 513 520 521 524 for mothers / 534 535 536 538 545 546 549 for fathers. The following questions are scored negatively so that the “Very Like” response is given a 0 and the “Very Unlike” response is a 3: 504 508 516 522 523 526 for mothers / 529 533 541 547 548 551 for fathers.

We will construct indexes separately for mothers and fathers.

Indicators of parenting style:

- Affectionate Constraint – high care and high protection
- Affectionless Control – low care and high protection
- Optimal Parenting – high care and low protection
- Neglectful Parenting – low care and low protection

The definitions of high and low vary by gender according to the guidelines. For mothers, a care score above 27 and a protection score above 13.5 are considered high. For fathers, a care score above 24 and a protection score above 12.5 are considered high.

In our analysis, we will examine the care index, the protection index, and each of the four indicators of parenting style as outcomes. We will examine father and mother parenting measures separately. We will consider heterogeneity by each of the sources of heterogeneity described elsewhere in this document. We will also consider heterogeneity by the type of new enterprise created between baseline and followup and whether the mother and father were engaged in a new enterprise between baseline and followup.

## **5.2 Life Satisfaction**

Life satisfaction is self-reported by the child in response to Cantrill’s ladder in Question 501 of the Child Survey. It will be scaled from 1 to 10. We will also consider indicators for poor life (0 or 1 on the ladder) and great life (9 or 10).

## **5.3 Demonstrated Behaviors**

Inattentive – Based on Question 603 – enumerator reports child frequently drifting or often off task during interview

Careless – Based on Question 604 – enumerator reports child as unfocused or careless at times

Unengaged – Based on Question 605 – enumerator reports child as difficult to engage or frequently needed encouragement

Shy – Based on Question 606 – enumerator reports child was shy and hesitant to speak

Persistence – based on the mirror drawing exercise in Section 0 of the Child Survey. We construct two measures of persistence. The first is the number of drawings successfully completed by the child. The second is the natural log of the total time (in seconds) the child spent on all attempted mirror drawing tasks.

## **6. Migration and Household Composition**

Number of Out Migrants – Based on Section 2 of the Household Survey, number of individuals who have been members of the household at sometime over the last 24 months that are currently not household members

Any Out Migrants – An indicator that is 1 if the household reports any out migrants

Number of Child Out Migrants – Based on Section 2 of the Household Survey, number of individuals below the age of 18 who have been members of the household at sometime over the last 24 months that are currently not household members

Any child out migrants – An indicator that is 1 if the household reports any child out migrants

Number of Working Child Out Migrants – Based on Section 2 of the Household Survey, number of individuals below the age of 18 who have been members of the household at sometime over the last 24 months that are currently not household members and report economic activity in their current location

Any working child out migrants – An indicator that is 1 if the household reports any working child out migrants

Household size – Based on the household roster, number of household members

Number of Adults – Based on the household roster, number of household members above age 24

Number of Young Adults – Based on the household roster, number of household members 18-24 inclusive

Number of Children – Based on the household roster, number of household members below 18

Number of School Age Children – Based on the household roster, number of household members 6-17 inclusive

Number of Young Children – Based on the household roster, number of household members under 6

Number of Baseline Children not present at followup – Based on the household roster, the number of children who were in the household at baseline that are not present at follow-up

Number of Baseline Children Married and Living Elsewhere at followup - Based on the household roster, the number of children who were in the household at baseline that are not present at follow-up and who are currently married and living elsewhere

## **7. Adult Time Allocation**

We construct the following measures of adult time allocation for all prime age adults (aged 25-50) in the household. In order to measure the transition to the labor market of young adults, all variables below will also be examined for young adults, aged 17 to 19.

Employed - Engaged in economic activity (in the last 12 months). The U.N System of National Accounts defines economic activity as all production that could be destined for the market, regardless of whether the decision is made to sell or retained for own use. Thus, economic activity occurs both inside and outside of the home, regardless of whether the good or service produced is sold in the market. It includes collection activities such as the collection of wood or water. An adult is employed if the response to Questions 20, 21, 22, 23, 24, 25, 26, 27 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey.

Employed in Family Based Economic Activity (in the last 12 months) – An adult is employed in a household based economic activity if the response to Questions 20, 21, 22, 23 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey.

Employed outside the Family (in the last 12 months) – An adult is employed in economic activity outside the family if the response to Questions 23, 24, 25, 26, 27 equal to 1 in Section 1 of the Household Survey.

Hours Employed (in typical week) – Hours worked in a typical week in the past 12 months as measured from Question 28 of Section 1 in Household Survey.

Hours of Home Production (in a typical week) – Hours spent on household chores in the past 12 months as measure from Question 30 of Section 1 in the Household Survey.

Earnings (in the last 12 months) – Total earnings from employment (excluding self-employment) over the last 12 months as collected in Question 32 of Section 1 in the Household Survey.

New Economic Activity – Indicator for if an adult undertook a new economic activity in the past 12 months, as defined by Question 31 of Section 1 in the Household Survey.

Migrated for Employment (in the last twelve months) – Indicator if an adult in the household worked in another village, town, city or country, as defined by Question 27 of Section 1 in the Household Survey.

## **8. Consumption, Household Income, Assets, and Food Security**

Hypotheses three and four require the calculation of consumption and income variables.

### **Consumption Related**

The following measures will be constructed from the household survey. All variables will be expressed as natural logs.

Total Food Expenditures (in the past 7 days) – Per Capita PPP adjusted U.S. Dollar value of breads and cereals, roots and tubers, vegetables, meat, fish, dairy products and eggs, oils and fats, fruits, sugar, jam, honey, sweets, and candies, non-alcoholic drinks, spices and condiments, prepared foods, and other foods, as defined by Questions 1 through 10 and 13 through 15 of Section 9 of the Household Survey.

Medical Expenditures (in the past 4 weeks) – Per Capita PPP adjusted U.S. Dollar value of Question 39 of Section 1 in the Household Survey.

Children’s Medical Expenditures (in the past 4 weeks) – Per Capita PPP adjusted U.S. Dollar value of all medical expenditures as defined in Question 39 of Section 1 of the Household Survey for all household members less than 18 years of age. Children’s medical expenses are also calculated separately by gender of the child.

Education Expenditures (in past 12 months) – Per Capita PPP adjusted U.S. Dollar value of school fees and all other education related expenses as defined in Questions 13 and 14 of Section 1 in the Household Survey.

Durable Expenditures (in the past twelve months) – Per Capita PPP adjusted U.S. Dollar value of Question 33 of Section 9 in the Household Survey.

Non-durable Expenditures (in past 30 days) – Food expenditures plus alcohol, tobacco, medical, education, social and other expenditures. Medical expenditures are measured in Question 31 of Section 9 in the Household Survey, while education expenditures are measured in Question 32 of Section 9 of the Household Survey. Social expenditures include charitable donations, dowry fees, fees paid to barangay officials, religious expenses, funeral expenses, weddings, and recreation expenses, as defined in Questions 20, 27, 28, 29, 30, 34, and 35 of Section 9 of the Household Survey. Other expenditures include airtime, travel and transportation, gambling expenditures, clothing, personal items, household items, firewood, electricity, and water, as defined by Questions 16, 17, 18, 19, 21, 22, 23, 24, and 25 of Section 9 of the Household Survey.

## **Income Related**

Agricultural revenue (in the past 12 months) – PPP adjusted US Dollar value of all revenue from crops (Section 6, Question 26), land rentals (Section 6, Question 15) and sharecropping earnings (Section 6, Question 13).

Agricultural income (in the past 12 months) – PPP adjusted US Dollar value of all revenue from crops (Section 6, Question 26), land rentals (Section 6, Question 15) and sharecropping earnings (Section 6, Question 13), minus land rental fees (Section 6, Question 10) and farming input expenditures (Section 6, Questions 27-39).

Livestock revenue (in the past 12 months) – PPP adjusted US Dollar value of all revenue from livestock. Livestock revenue is defined as: total revenue received from milk sales (Section 7, Question 9), other income received from large livestock (Section 7, Question 12), income earned from large livestock sales (Section 7, Question 16), total revenue of butchered meat from large livestock (Section 7, Question 19), other income received from small livestock (Section 7, Question 29), amount earned from small livestock sales (Section 7, Question 33, total revenue of butchered meat from small livestock (Section 7, Question 36), total revenue from eggs (Section 7, Question 47), income from bird sales (Section 7, Question 50), and total revenue from butchered birds (Section 7, Question 54)

Livestock income (in the past 12 months) – PPP adjusted US Dollar value of all revenue from livestock minus costs. Livestock income is defined as: total revenue received from milk sales (Section 7, Question 9), other income received from large livestock (Section 7, Question 12), income earned from large livestock sales (Section 7, Question 16), total revenue of butchered meat from large livestock (Section 7, Question 19), other income received from small livestock (Section 7, Question 29), amount earned from small livestock sales (Section 7, Question 33, total revenue of butchered meat from small livestock (Section 7, Question 36), total revenue from eggs (Section 7, Question 47), income from bird sales (Section 7, Question 50), and total revenue from butchered birds (Section 7, Question 54), minus amount spent on care of large livestock (Section 7, Question 10), amount spent on care of small livestock (Section 7, Question 27), and amount spent on care of birds (Section 7, Question 48).

Enterprise revenue (in the past 12 months) – PPP adjusted US Dollar value of revenue from enterprises (Section 8, Question 21).

Enterprise income (in the past 12 months) – PPP adjusted US Dollar value of revenue from enterprises (Section 8, Question 21) minus costs, where costs are defined as: amount spent on machinery or durable goods (Section 8, Question 10), amount spent on electricity (Section 8, Question 13), amount spent on salaries/wages (Section 8, Question 14), amount spent on water (Section 8, Question 15), amount spent on transport (Section 8, Question 16), amount spent on purchase of inputs (Section 8, Question 17), and other costs (Section 8, Question 18).

Interest income (in the past 12 months) – Any interest income from savings accounts in PPP adjusted US Dollars, as defined in Section 10, Questions 29, 35, 41, and 47.

Borrowing (in the past 12 months) – PPP adjusted US Dollar value of interest paid on loan payments as defined in Section 10, Questions 3, 6, 9, 12, 15, 18, and 21.

Access to credit (in past 12 months) – indicator variable equal to 1 if the household had a loan from a bank, MFI, family or friend, agricultural traders, informal money lenders, sari-sari stores, or other loans, as measured in Questions 1, 4, 7, 10, 13, 16, and 19 in Section 10 of the Household Survey.

Transfer income (in the past 12 months) – PPP adjusted US Dollar value of government transfers received in the last 12 months, including the Philippines' conditional cash transfer program, 4Ps (Section 5, Question 32), and other government transfers (Section 5, Q36).

Remittance income (in the past 12 months) – PPP adjusted US Dollar value of monetary gifts received (Section 3, Question 5) minus peso value of monetary gifts made (Section 3, Question 2) .

Total revenue (in the past 12 months) – The sum of revenue from agriculture, livestock, and enterprises, as defined above.

Total Income (in the past 12 months) – The sum of income from agriculture, livestock, enterprises, interest, remittances, and transfers as defined above plus the amount won from gambling (Section 4, Question 23) minus the amount spent on gambling (Section 4, Question 22)

Report start-up capital from government transfer: Indicator variable equal to 1 if enterprise started in the last 24 months used start-up capital from a government transfer, as measured in Question 8 of Section 8 of the Household Survey.

Presence of Household Enterprise – Household member fully, or partly, owns and operates one or more enterprises (non-agricultural, non-livestock income generating activities). Defined by Question 1 of Section 8 of the Household Survey.

Number of Household Enterprises – Number of enterprises owned or partly owned by household members. Defined by Questions 1 and 2 of Section 8 of the Household Survey.

New Enterprise (opened in last 24 months) – Indicator equal to 1 if Question 4 of Section 8 is equal to less than or equal to 24.

Number of New Enterprises (opened in last 24 months) – Number of enterprises owned or partly owned by the household that were opened in the last 24 months, as defined by Questions 2 and 4 of Section 8 of the Household Survey.

## **Asset Related**

Value of durable goods – PPP adjusted US Dollar value of non-land assets (house, telephones, sofa, chairs, tables, clocks/watches, bicycles, tricycles, motorbikes, boats, other motorized vehicles, radio or CD player, beds, mattresses, solar panels, generators, televisions, VCR/DVD, computer, farm tools, wheelbarrow, car, kerosene or propane stove, refrigerator, washing machine, air conditioner, electric fan, fishing net, pedicab, and rice stocks), as defined in Questions 1 through 32 of Section 5.

Number of large livestock – Number of large livestock owned by the household as measured in Question 1 of Section 7 of the Household Survey.

Number of small livestock – Number of small livestock owned by the household as measured in Question 21 of Section 7 of the Household Survey.

Number of birds – Number of birds owned by the household as measured in Question 35 of Section 7 of the Household Survey.

Value of furniture – PPP adjusted US Dollar value of all furniture, including sofas, chairs, tables, beds, and mattresses, and measured in Questions 4, 5, 6, 14, and 15 of Section 5 of the Household Survey.

Value of agricultural tools – PPP adjusted US Dollar value of all agricultural tools, including farm tools, wheelbarrow, and cart, and measured in Questions 21, 22, and 23 of Section 5 of the Household Survey.

Value of radio/tv – PPP adjusted US Dollar value of all radios, televisions, and VCR/DVD players, as measured in Questions 13, 18, and 19 of Section 5 of the Household Survey.

Value of bike/motorbike – PPP adjusted US Dollar value of all bicycles, tricycles, and motorbikes, as measured in Questions 8, 9, and 10 of Section 5 of the Household Survey.

Value of appliances – PPP adjusted US Dollar value of all appliances, including solar panels, generators, stoves, refrigerators, washing machines, and air conditioners as measured in Questions 16, 17, 24, 25, 26, 27, and 28 of Section 5 of the Household Survey.

Value of cell phone – PPP adjusted US Dollar value of cell phones as measured in Question 3 of Section 5 of the Household Survey.

Value of savings – PPP adjusted US Dollar value of all savings, as measured in Questions 25, 31, 37, and 43 of Section 10 of the Household Survey.

## **Food Security Related**

Meals skipped (adults in past 30 days) – The number of meals cut or skipped in the last 30 days, as measured in Questions 1 and 2 of Section 11 of the Household Survey.

Whole days without food (adults in past 30 days) – The number of days without food in the last 30 days, as measured in Questions 3 and 4 of Section 11 of the Household Survey.

Meals skipped (children in past 30 days) – The number of meals cut or skipped in the last 30 days by children less than 14 years of age, as measured in Questions 5 and 6 of Section 11 of the Household Survey.

Whole days without food (children in past 30 days) – The number of days without food in the last 30 days by children less than 14 years of age, as measured in Questions 7 and 8 of Section 11 of the Household Survey.

Eat less preferred/cheaper foods (in past 30 days) – The number of times household members have eaten less preferred or cheaper foods in the last 30 days, as measured in Questions 9 and 10 of Section 11 of the Household Survey.

Rely on help from others for food (past 30 days) – The number of times household members have to borrow food or rely on help from a neighbor or relative in the last 30 days, as measured in Questions 11 and 12 of Section 11 of the Household Survey.

Purchase food on credit (past 30 days) – The number of times the household has had to purchase food on credit in the last 30 days, as measured in Questions 13 and 14 of Section 11 of the Household Survey.

Gather wild food (past 30 days) – The number of times the household has had to hunt or gather wild food in the last 30 days, as measured in Questions 15 and 16 of Section 11 of the Household Survey.

Beg for food (past 30 days) – The number of times the household has had to beg for food in the last 30 days, as measured in Questions 17 and 18 of Section 11 of the Household Survey.

All members usually eat two meals – Indicator variable equal to 1 if yes response to Question 19 of Section 11 of the Household Survey.

All members usually eat until content – Indicator variable equal to 1 if yes response to Question 20 of Section 11 of the Household Survey.

Ate fish or meat in last week – The number of times the respondent ate fish, meat, or eggs in the last 7 days, as measured in Question 21 of Section 11 of the Household Survey.



Enough food in house for tomorrow – Indicator variable equal to 1 if the household has enough food in it for tomorrow, as measure in Question 22 of Section 11 of the Household Survey.

Food security index – weighted standardized average of indicator variables of the above food security variables. All variables above will be turned into indicator variables where 1 is equal to a non-zero value.

## **9. Multiple Hypothesis Testing**

We have a large volume of correlated outcomes. We will group them as described in this section. For each grouping, we will transform each outcome so that a positive value is a better outcome. We will standardize each transformed variable by the mean and standard deviation of the outcome in the control group. We will then combine all the grouped variables and conduct standard multiple hypothesis testing procedures.

For child work, we will group all outcomes described in Section 4.2 – 4.4

For business earnings, we will group livestock income, agricultural income, and enterprise income.

For household income, we will group all outcomes described in Section 8 under income related.

For consumption, we will group all outcomes described in Section 8 under consumption related.

For assets, we will group all outcomes described in Section 8 under assets related.

For food security, we will group all outcomes described in Section 8 under food security related.

For living standards, we will group income variables, consumption variables, food security variables, and the life satisfaction variables

For child behaviors, we will group life satisfaction, inattentiveness, carelessness, unengagement, shyness, and the two persistence measures (transforming them so that positive is the better outcome).

For human capital, we will group schooling related outcomes in Section 4.1 and the child cognitive behaviors questions.

For adult time, we will group all of the adult time allocation measures in Section 7.

For parenting styles, we will group all of the mother and father parenting style measures in Section 5.1.