# Midline Report: KASAMA Program

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# Executive Summary

Child labor is a tragic feature of life in poverty. For some, child labor starts a lifetime of disadvantage that creates a cycle of poverty through the generations. Current global anti-child labor policy is focused on learning how to eliminate hazardous child labor sustainably through the promotion of alternative livelihoods that obviate the need for child labor income.

The Philippine government is a global leader in this discussion through the Philippine Department of Labor and Employment's (DOLE) Kabuhayan Para sa Magulang ng Batang Manggagawa (KASAMA) Program. This program provides in-kind transfers of equipment, tools, and/or raw materials and trainings to parents of child laborers to promote sustainable, alternative forms of income that replace the family's use of child labor.

Recognizing the Philippine government's significant achievements to eliminate the worst forms of child labor, the U.S. Department of Labor (US DOL) is funding this Innovations for Poverty Action (IPA) evaluation of the impact of the KASAMA Program. Evidence of the impact of such livelihood programs on child labor practices is limited, and this study will serve as one of the first rigorous evaluations of its kind that can inform child labor interventions in the Philippines and across the world. To do so, the study will answer the following questions:

1. Does sustainable livelihood promotion reduce the prevalence of child labor amongst those already engaged?
2. Does sustainable livelihood promotion reduce entry into child labor?
3. Does sustainable livelihood promotion change the household's standard of living?
4. Does sustainable livelihood promotion have an effect on how the household generates its livelihood?

Learning how and why KASAMA impacts these questions requires that researchers observe communities receiving KASAMA and that researchers have a hypothesis about what would happen in these KASAMA receiving communities absent the program. A randomized control trial (RCT) evaluation design was chosen to identify the impact of KASAMA on child labor and household economic outcomes. The evaluation's sample consists of 164 communities, or barangays, selected by DOLE. A lottery was used by the IPA research team to allocate these 164 barangays into treatment and control groups. The lottery assures that the control barangay can inform the study about what would have happened in KASAMA receiving communities absent the program. If KASAMA proves successful, KASAMA may be scaled throughout the country in the future.

Between May and July 2017, IPA conducted a midline survey of 2,285 households containing 7,289 children below the age of 18 across the 164 sample barangays in Regions I, II, III, IV-A, and V on the island of Luzon. The primary purpose of the midline survey was to maintain contact with study subjects. 99.5% of baseline households were reinterviewed at midline. Additional information was collected to measure take-up of KASAMA, and random assignment to a KASAMA barangay doubles the probability a household has an enterprise at midline. The midline survey experiences leave us optimistic about the ability of the endline survey to inform the four questions that motivate this study.

# 1. Project Overview

## 1.1 Context

Despite the Philippines' strong economic progress over the last several decades, one in five Filipino families is still poor, and 3.21 million Filipino children are engaged in unlawful child labor. While many impoverished families view child labor as a necessary means for survival, such work negatively impacts child development and future earning potential and hence limits social and economic mobility. Moreover, in low-income countries with widespread child employment, this impact dampens future economic growth and depresses current growth by reducing unskilled wages and discouraging the adoption of skill-intensive technologies. Given these harmful impacts at the child, household, and national levels, the elimination of child labor in all its forms has been chosen as a UN Sustainable Goal.

After the Philippines ratified the United Nations Convention on the Rights of the Child in 1990, it instituted legal and policy reforms to eliminate child labor in the country. 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 fight child labor, especially in hazardous environments, the Philippine Department of Labor and Employment (DOLE) is implementing the Kabuhayan Para sa Magulang ng Batang Manggagawa (KASAMA) Program, a livelihood program targeting the parents of child laborers.

Like KASAMA, anti-child labor programs have recently shifted towards sustainable income generation as a tool to combat child labor. In Ecuador, a recent study found an enormous impact of a government welfare program on paid employment that seemed to work by helping families afford the transition from primary to secondary school. But welfare payments are difficult to finance and sustain, so the focus of recent efforts to combat child labor has become intertwined with the discussion of how to have permanent impacts on the livelihoods of the world's poor through short-term projects and programs aimed at sustainable livelihoods.

This evaluation of the KASAMA program comes at an opportune time in both its relevance to the Philippines and the policy-related literature on child labor overall.

## 1.2 Intervention

KASAMA is implemented directly by DOLE, and the intervention consists of the following components:

1. **Letter of commitment.** Prior to receiving KASAMA, beneficiaries must sign a letter expressing their willingness to remove their children from exploitative child labor.

2. **Asset transfer.** KASAMA provides an in-kind transfer of equipment, tools, and/or raw materials to be used in the livelihood undertakings of eligible beneficiaries. In our evaluation, KASAMA is implemented as a one-time in-kind award of PHP10,000 (USD$518 in PPP terms)

in capital to parents of child laborers. The asset distribution is administered by the local government unit (LGU) in Region 3, and by DOLE in Regions 1, 2, 4, and 5. The beneficiaries choose which asset(s) they would like during an initial meeting with DOLE representatives. The type of asset is determined in discussions with the beneficiary. DOLE encourages beneficiaries to select assets complementary to their existing skillsets, but provides additional skills-based training when needed. Beneficiaries submit a business plan during their first training in which they request the specific asset.

3. **Trainings.** The beneficiaries also attend two required trainings: 1) a training on how to complete a business plan and 2) a social preparation training to teach simple bookkeeping and financial literacy. These trainings are usually conducted by the respective DOLE regional office, resource persons from the Bureau of Workers with Special Concerns (BWSC), or Accredited Co-Partners (ACPs). The first training also serves as the time for DOLE to engage in "advocacy" with the household. This involves an orientation on child labor and a description of the KASAMA program. A third, optional training teaches enterprise-specific skills to beneficiaries when necessary.

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.

The intended impact of KASAMA is well illustrated by the experience of the Garcia[1] family[2]. The Garcias were sugarcane workers targeted by DOLE for KASAMA livelihood benefits since they had children conducting hazardous work in sugarcane fields. The mother of the working children was provided capital for an enterprise cooking food and vending fish, vegetables, and snacks because she determined there was a market for such a service in her barangay where field hands were often too tired to cook when returning from work. Her market analysis was accurate, and she found her new enterprise to be profitable. As she shifted her work as a field hand to food vending, her daughter no longer worked in a hazardous agricultural environment and instead assisted with the vending business. Her daughter was able to support her mother while working in a safe environment and also successfully complete high school. Thus, the program appeared to achieve its goal of removing children from harmful labor practices through the promotion of entrepreneurial activities.

Interviews with past KASAMA beneficiaries revealed that most see child labor as problematic for the development of children yet admit economic circumstances leave households with little choice. KASAMA is primarily a response to these households' economic needs, and many interviewed beneficiaries claim KASAMA helps address the problem through an expansion of economic opportunity and increase in household income, leaving many generally satisfied with the program. However, to what degree and how such benefits impact household economic outcomes and subsequently child labor practices remains unclear. Pointing to the fact that

[1] This is not the real name of the family in order to maintain the confidentiality of the interview.

[2] This story is part of a collection of semi-structured interviews conducted by IPA with past KASAMA beneficiaries and key implementers in Regions I, II, III, IV-A, and V.

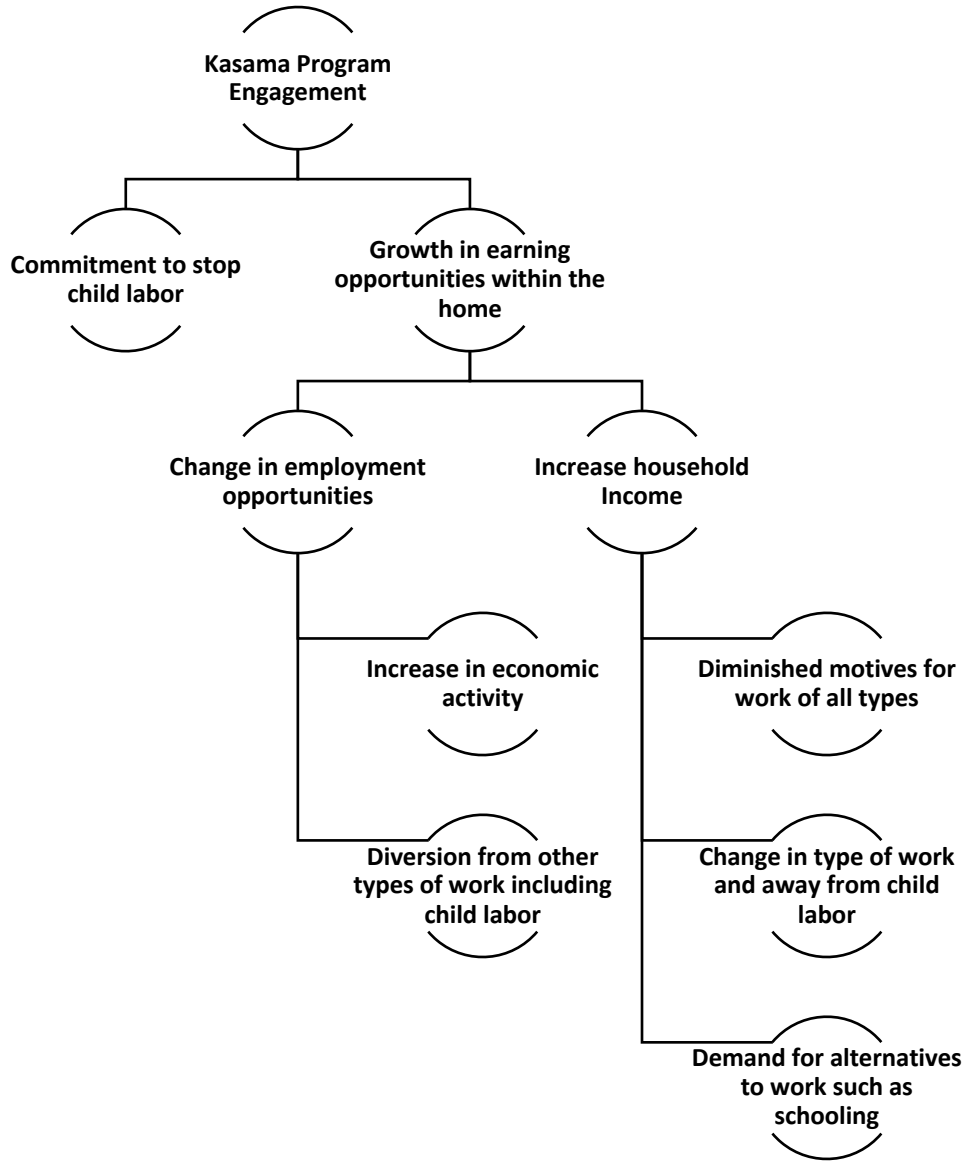
KASAMA has no monitoring component, interviewed DOLE implementers admit that a clear understanding of the program's impact is lacking. This study intends to help address this evidence gap, and it begins by mapping out the intervention's theory of change, or logic model.

## 1.3 Logic Model, Key Hypotheses, and Key Outcomes

We expect the impact of KASAMA would flow through either the parental commitment or the impact of the livelihood promotion interventions. Figure 1 contains the logic model for how engagement with KASAMA will impact child labor for direct beneficiaries.

Beyond the parental commitment to stop child labor, we expect KASAMA to influence time allocation through its direct resource transfer (indicated by the arrow from the program to increased household income) or through the expansion of earning opportunities within the home of child laborers.

*Figure 1: Logic Model for Direct Beneficiaries*



The impact of the parental commitment should be evident immediately as beneficiaries begin engagement with the project. Its impact throughout the period of evaluation may persist if the commitment changes household norms, although we suspect that the saliency of this original commitment will fade over time and may be difficult for beneficiaries to recall by our endline survey in February 2018. In fact, during semi-structured interviewes with past beneficiaries who received KASAMA within the last five years, no one was able to recall the commitment letter, or if they did, they did not remember its contents.

The direct, one-time resource transfer will immediately make beneficiaries better off. We expect to see the impact of the direct resource transfer immediately. Following the direct resource transfer to beneficiaries, we expect beneficiaries to leverage that into sustained, productive income-generating activities. Within a few months of the dispersion of benefits it should be possible to identify whether the transfer has been leveraged into a productive new source of income or an increase in an existing line of business. We will measure this in February 2018. Depending on the barangay, subjects will be re-interviewed between 5 and 22 months after the distribution of benefits. This longer perspective should allow us to detect primarily meaningful changes in the household's economic status. We will not be able to detect transitory effects of the transfer that do not last until the endline survey. Interviews with past beneficiaries and key implementers suggest that many beneficiaries struggle to sustain their KASAMA-supported businesses (e.g. the asset is not maintained, demand for the products falls, or the business' finances are managed poorly), so measuring longer-term outcomes to understand to what degree these enterprises are actually sustained is of particular importance. Evaluations of similar programs in non-child labor settings typically find sustained effects years after transfers.

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 make households better off. Additional resources might eliminate subsistence motives for child labor. Child labor driven by illiquidity in income might be overcome with the rise in living standards or the value of the transfer. Families might simply feel they can afford the luxury of no 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. For example, additional income might lead to the purchase of a bicycle which a child could use in a delivery business or it might lead to a washing machine that would replace the child's time manually washing clothes. Anecdotal evidence from past beneficiaries and implementers suggests this may be the most active channel by which KASAMA may impact child labor. Alternatively, improved income might lead households to care more about the negative consequences 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. All of these channels could be in play immediately with the initial distribution of benefits, and all should persist if the impact of KASAMA on income sustains.

An increase in income through 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. Depending on the course of how households leverage KASAMA into a growth in income generating activities, changes in the economic structure of the household could take

several months to manifest. 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 and/or increased working hours of children. While this work might not legally be 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.

Overall, KASAMA, by virtue of being a large, one-time transfer may have short term effects on the household through all of the mechanisms described in figure 1, and these effects may be immediately evident (although it is reasonable to expect a change in the economic structure of the household to take several months to evolve). Our study is designed to capture these changes that sustain and persist beyond the initial benefit distribution.

## 1.4 Key Hypotheses

The key hypotheses guiding the impact evaluation are summarized as the following:

**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 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.

## 1.5 Key Outcomes

The primary outcomes of interest are:

**Child Labor**. Child labor will be defined using the official Philippines definition below. We will restrict the sample to children of ages 10 – 17 because there is nearly universal primary education in the Philippines, and child labor and schooling are rarely elastic to outside influences below the age of 10. Data will be collected using a household-based survey, and this information will be critical for testing hypotheses one and two. The data collected to measure child labor will support measuring the prevalence of hazardous child labor as well. We do not anticipate power to quantify unconditional worst forms or traditional child labor.

DOLE defines child labor on the basis of Philippine Republic Act Nos. 9231 and 7610 and ILO Convention 182 on 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 members 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.

**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.

**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.

# 2. Evaluation Setting

## 2.1 Evaluation Participants

**DOLE.** DOLE is the primary government agency leading the progressive elimination of child labor in the Philippines and responsible for formulating and implementing the KASAMA Program. In particular, KASAMA is under DOLE's Bureau of Workers with Special Concerns (BWSC), so the BWSC is overseeing the evaluation from DOLE's end.

**Innovations for Poverty Action (IPA).** IPA is an international non-governmental organization that conducts rigorous evaluations of social programs to promote evidence-based policy-making. IPA, under the leadership of Principal Investigators (PIs) Eric Edmonds (Dartmouth College) and Caroline Theoharides (Amherst College), is conducting the evaluation of the KASAMA Program.

**United States Department of Labor (USDOL).** USDOL is funding this evaluation through the Bureau of International Labor Affairs (ILAB)'s Office of Child Labor, Forced Labor and Human Trafficking. ILAB is tasked to carry out the department's international responsibilities and is funding this evaluation, among others, to build the body of evidence of effective ways to sustainably eliminate child labor around the world.

## 2.2 Study Design

The evaluation consists of a sample of 164 communities, or barangays, and 2,296 households selected from those communities. The above research questions will be tested using a cluster randomized control trial (RCT) where barangays are randomly and evenly allocated into a treatment group and a control group. The treatment group will receive the KASAMA livelihood benefits while the control group will serve as true controls and not receive KASAMA throughout the duration of the study.

## 2.3 Power Analysis

The statistical power of an RCT is the probability of detecting a given effect at a given significance level, in the event the intervention has an impact. An under-powered study runs the risk of concluding that the intervention had no impact when in fact it did, simply because the sample was not large enough to give statistically significant results.

Power calculations for the full evaluation can be constructed using the results of the baseline survey. In our sample, 44 percent of children aged 10 to 17 were engaged in hazardous forms of child labor, compared to 10 percent of children in the Philippines as a whole. The formulas employed in power calculations are laid out in Hayes and Bennett, "Simple sample-size calculations for cluster-randomized trials", a reference article for calculating power in cluster-

randomized trials.3 The formula employed for calculating the number of clusters required is as follows, where c is the number of clusters, n is the number of individuals sampled per cluster, k is the intracluster correlation coefficient, and π1 and π0 are the population indicators in the presence and absence of the intervention, respectively. zα/2 and zβ are standard normal distribution values corresponding to upper tail probabilities of α/2 and β, and the sample size provides a power of 100(1- β)% of observing an effect significant at the level α.

(1) c = 1 + (zα/2+ zβ)2[π0 (1- π0 )/n + π1 (1- π1 )/n + k2 (π02 + π1 2)]/( π0 - π1)^2

Following convention in the social sciences, for power calculations we used a significance level (probability of Type I error, i.e. rejecting the null hypothesis when it is in fact true) of 0.05 (alpha in the formula) and power (probability of avoiding a Type II error, i.e. not rejecting the null hypothesis when it is in fact false) of 0.8. We assume a one-sided test and obtain the intracluster correlation of 0.08 from the baseline survey.

With 44 percent of children in hazardous child labor, we can detect a 19 percent decline in the prevalence of hazardous child labor with 2,296 households from 164 communities, using the assumptions of the previous paragraph.

To calculate the minimum detectable effect, we use the following formula:

$$MDE = (z_{\alpha/2} + z_{\beta}) \sqrt{\frac{1}{P(1-P)}} \sqrt{\frac{\sigma^2}{N}} \sqrt{1 + (n-1)k}$$

where zα/2 and zβ are standard normal distribution values corresponding to upper tail probabilities of α/2 and β, and P is the proportion of villages randomized to the treatment. We define N as the number of clusters, c, times the number of observations per cluster, n. k is the intracluster correlation coefficient. For a given sample size N, we prefer c to be large and n to be small as we get a smaller minimum detectable effect with a large number of clusters and small number of observations per cluster, than with a small number of clusters and large number of observations per cluster.

In the case of the KASAMA intervention, with c=164 villages and n=14 observations per village, our minimum detectable effect is a 19 percent decline in child labor. Comparing this to the previous literature on child labor, we expect an effect substantially larger than this minimum detectable effect in response to the KASAMA intervention.

## 2.4 Barangay Selection

The sample barangays are in Regions I, II, III, IV-A, and V in the island of Luzon. See Appendix 1 for maps indicating the sample barangays in each of these regions. Sample barangays were selected using the following criteria:

[3] Hayes, R.J. and S. Bennett. 1999. "Simple sample size calculations for cluster-randomized trials." *International Journal of Epidemiology* 28: 319-326.

**Prevalence of Child Labor** Child labor is particularly prevalent as determined by the National Statistics Office's (NSO), now known as the Philippine Statistics Authority (PSA), and the International Labour Organization's (ILO) 2011 Philippine Survey of Children. In particular, these regions engage in agricultural production of key exports while some also engage in gold mining.

**Absence of KASAMA.** They have not yet received KASAMA, and DOLE intends to target them for livelihood assistance.

**No Political Opposition.** The Local Government Units (LGUs) are open to receiving KASAMA as determined by DOLE's regional focal persons.

**Won't Constraint DOLE's Annual Achievements.** They are not "low hanging fruits" that DOLE can certify as child labor-free within the evaluation period. These are barangays that receive a confluence of support services targeting child labor and are considered in an advanced stage in their effort to eliminate child labor. Excluding these barangays ensures that the constraints imposed by the study's control group will not affect DOLE's annual targets of child labor-free certifications.

**Logistically Feasible.** The fixed cost of reaching the barangays for the baseline and follow-up survey is within the project's budget.

IPA met with the BWSC and the respective Regional Focal Persons (RFPs) to discuss and finalize these selection criteria, and the RFPs then determined which barangays would be included in the study. As seen in Table 1 , Region V has the most number of sample barangays, followed by Region IV-A, II, III, and I with the fewest barangays. As measured by the *2011 Survey on Children*, Regions III and V have the country's highest share of child laborers while Region IV-A has the fourth highest (see full table in Appendix 2).

**Table 1: Number of Sample Barangays and Percentage Share of Child Laborers by Region**

| Region | Number of Barangays | Percentage Share of Country's Child Laborers[4] |
|---|---|---|
| **1** | 18 | 3.9% |
| **2** | 32 | 4.4% |
| **3** | 25 | 10.5% |
| **4-A** | 34 | 8.3% |
| **5** | 55 | 10.4% |
| **Total** | **164** | **37.5%** |

Table 2 shows child-weighted statistics of household characteristics in the study sample's barangays compared to the country's

[4] NSO and ILO, 2011 *Survey on Children*

population as a whole. Overall, the sample barangays are representative of the country including the household size, number of children aged 10-17 years old, gender breakdown of the household, and average years of education of household members aged 18 and above. However, fewer households in sample barangays own the land they live on than the population as a whole (a 22-percentage point difference), and they are about 28 percent more likely to live in urban areas. See Appendix 3 for a breakdown of these characteristics by each region included in the study.

**Table 2: Household Characteristics of Sample Barangays and Total Population**

| Household Characteristic | Sample Barangays | Total Population |
|---|---|---|
| Fraction owning land house is on | 0.13 | 0.35 |
| Household size | 6.30 | 6.33 |
| Number of kids aged 10-17 | 2.24 | 2.25 |
| Fraction of households with an overseas worker | 0.08 | 0.07 |
| Fraction of household members that are female | 0.49 | 0.49 |
| Fraction of households with married heads | 0.82 | 0.83 |
| Fraction of households that are entirely Catholic | 0.84 | 0.77 |
| Years of Education (>18 Years of Age) | 7.04 | 6.60 |
| Fraction of households that are urban | 0.55 | 0.43 |
| Number of Households | 126,729 | 20,171,401 |

*Source: PSA 2010 Census of Population and Housing*

## 2.5 Household Selection

Individual beneficiaries within each barangay were identified by DOLE on the basis that the household has at least one working child. These lists of targeted households provided by DOLE were further validated by IPA field staff with LGUs at the barangay level to ensure the households were still located within the respective barangay and they include working children.

In each barangay, 14 eligible households were selected for inclusion in the study, totaling 2,296 households. If the lists of potential beneficiaries per barangay provided by DOLE included more than 14 households, the IPA Research Associate randomly selected 14 households to interview for the baseline survey. Comparing child-weighted statistics of sample households to the population as a whole in Table 3, we see sample households are less likely to own the land they live on (a 17-percentage point difference) and have adults with about three more years of education. Moreover, sample households are about 44 percent less likely to live in urban areas than the overall population with about 76 percent living in rural areas.

| Table 3: Household Characteristics of Sample Households and Total Population | | |
|---|---|---|
| **Household Characteristic** | **Sample Households** | **Total Population** |
| Fraction of households owning land house is on | 0.18 | 0.35 |
| Household size | 6.86 | 6.33 |
| Number of kids aged 10-17 | 2.46 | 2.25 |
| Fraction of households with an overseas worker | 0.02 | 0.07 |
| Fraction of household members that are female | 0.47 | 0.49 |
| Fraction of households with married heads | 0.81 | 0.83 |
| Fraction of households that are entirely Catholic | 0.85 | 0.77 |
| Years of Education (>18 Years of Age) | 8.38 | 6.60 |
| Fraction of households that are urban | 0.24 | 0.43 |
| Number of Households | 2,296 | 20,171,401 |

*Source of total population statistics: PSA 2010 Census of Population and Housing*

## 2.6 Baseline Data Collection

Between February and May 2016, IPA conducted a baseline survey of 2,296 households and 4,309 children within these households across the 164 sample barangays in Regions I, II, III, IV-A, and V on the island of Luzon. Two surveys were administered during the baseline:

**Household Survey.** This survey was administered to the household member most informed of the household's economic decisions and collected information such as household economic activity, the time allocation of individuals within the household, the status of household members living elsewhere, and household consumption.

**Child Survey.** This survey was administered to each child within the household between the ages of 10 and 17 and collected information on the child's time use, school participation, work characteristics, and life satisfaction.

This baseline survey was used to assess the validity of the randomization by comparing child, household, and barangay characteristics across communities that differed in their treatment status. Randomization appears valid in the full sample as well as within and between strata (urbanity, 4Ps roll-out). The Baseline Report finalized in July 2016 contains a more detailed description of the baseline survey and analysis of the data.

# 3. Midline Data Collection

## 3.1 Survey Design and Administration

Between May and July 2017, IPA conducted a midline survey of 2,285 households across the 164 sample barangays in Regions I, II, III, IV-A, and V on the island of Luzon. Two surveys were administered during the midline:

**Household Survey.** Like the baseline household survey, the midline household survey was conducted with the available household member most knowledgeable of economic activity in the household. Data was collected on a variety of topics, including status of baseline members, characteristics of the household, government programs received, land and agriculture owned by the household, livestock and enterprises owned by the household, food security, and time allocation.

**Barangay Captain Survey.** This survey was introduced during the midline and was conducted with the barangay captain, or the most senior barangay official available. The purpose of the survey was to measure: 1) characteristics of the barangay leader and resources available in the barangay; 2) political connectedness of barangay officials; 3) shocks and violence; 4) development programs being implemented in the barangay; and 5) quality of life.

The surveys were programmed using SurveyCTO, an ODK-based software, and administered using 3G-enabled, encrypted tablets. The questionnaires and programming structure were tested with non-sample households identified by DOLE during a pilot in a rural area of Lian, Batangas.

The midline survey was led by IPA Research Associate Ryan McLaughlin with guidance from Principal Investigators Eric Edmonds and Caroline Theoharides and IPA Research Manager Peter Srouji. A team of 24 enumerators, 3 field coordinators, 3 assistant field coordinators, 4 auditors, and a field manager were recruited for midline data collection and underwent a 6-day training which involved a combination of lectures, role play, and field practice with non-sample households in Tanay, Rizal. The survey was conducted between May 24$^{th}$ and July 18$^{th}$, 2017, and field staff were split into three teams to simultaneously survey Regions 3, 4A, and 5, and later Regions 1 and 2. Apart from a module on government transfers, IPA field staff were under strict instructions not to mention DOLE or KASAMA during the interview to avoid an affiliation that could result in biased data.

The data collection process followed IPA protocols for ensuring high quality data. For example, back checks (re-administration of a small part of a survey) were conducted in a randomly-selected 17% of the sample households. In each of those households, respondents were re-asked a random portion of the survey. Back-checks indicated that survey teams went to all households and administered the survey in a satisfactory manner.

A total of 2,285 households were re-interviewed for the midline survey.

## 3.2 Household-level Attrition

The midline survey field staff made considerable efforts to recontact all baseline households. The baseline survey contained questions designed to make midline recontact easier, including names of household members, qualitative descriptions of the household's location in the barangay, phone numbers, and names and phone numbers of other non-household members that could be contacted to find the household in case of migration. When a household still could not be found, enumerators inquired around the barangay for information and used social media to look for household members. These methods proved largely successful and kept midline attrition at under half a percent of all households.

Table 4 shows how household-level attrition in the midline survey was distributed across two subgroup characteristics used for stratification: urbanity and completeness of the Pantawid Pamilyang Pilipino Program (4Ps) (e.g. whether all sample households in the barangay receive conditional cash transfers as beneficiaries of 4Ps). It also shows whether recontacted households were found in the same barangay. We can see most households were found in the same barangay. The attrition rate is small, and it is similar in urban and rural barangays, as well as 4Ps-complete and 4Ps-incomplete barangays. It appears that urban households were slightly more likely to be found outside the baseline barangay than rural barangays.

**Table 4: Households in Baseline and Midline**

| Subgroup | In Baseline | In Midline | In midline in same barangay as baseline | In midline in different barangay from baseline | Not in midline |
|---|---|---|---|---|---|
| **Full Sample** | 2,296 | 2,285 | 2,259 | 26 | 11 |
| **Urban** | 546 | 544 | 534 | 10 | 2 |
| **Rural** | 1,750 | 1,741 | 1,725 | 16 | 9 |
| **Complete 4Ps** | 896 | 892 | 883 | 9 | 4 |
| **Incomplete 4Ps** | 1,400 | 1,393 | 1376 | 17 | 7 |

Table 5 shows that most attrited households were not found due to migration, while there was only one refusal. The one refusal was due to a recent family tragedy, which meant no household member was willing to participate in the survey.

**Table 5: Reasons households unavailable for interview**

| Reason for Attrition | Number of Households |
|---|---|

| | |
|---|---|
| Household migrated, phone numbers do not work or no answer | 10 |
| Refusal to participate in survey | 1 |
| **Total** | **11** |

## Child-level Attrition

Next, we consider the attrition of children that were household members during the baseline survey and were surveyed in the child survey at baseline. The midline survey did not contain a child survey, and we only tracked individuals, not households, during the midline survey. In Table 6, we examine how many of the children we surveyed during baseline are still in the household during the midline survey.

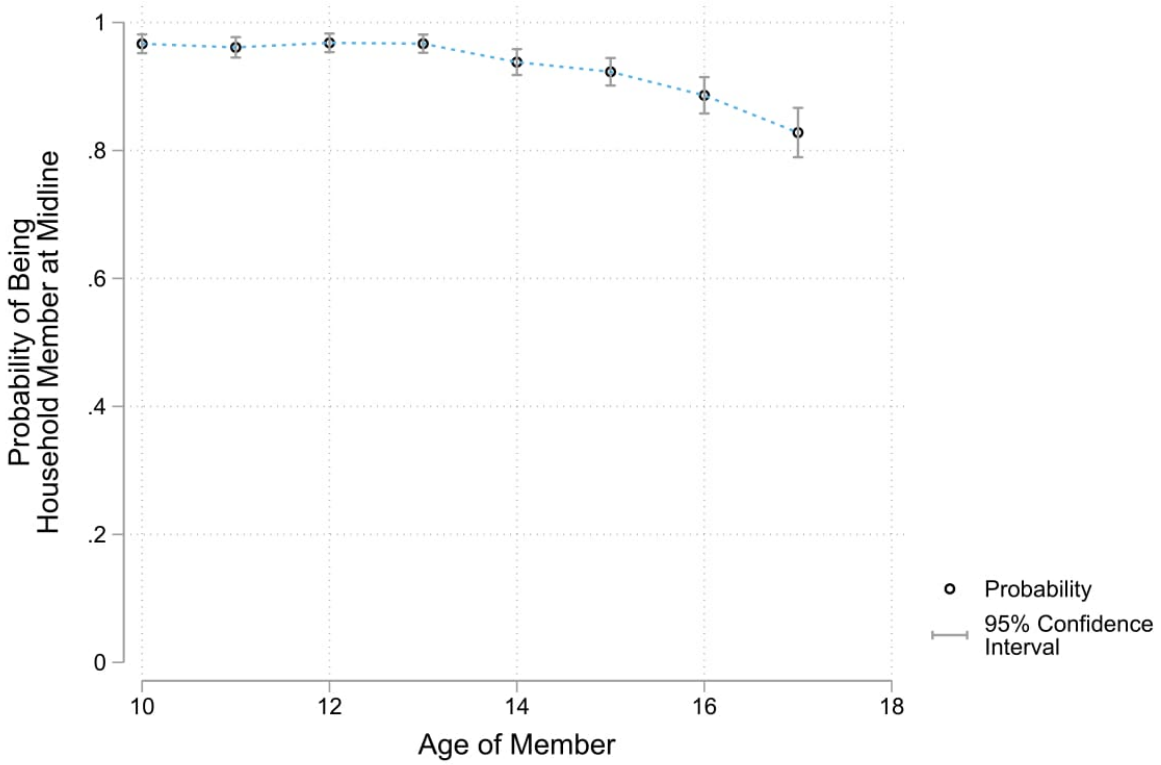
We see that of 4,307 children at baseline, 4,029 were still household members at midline. 51 of these children were in households that changed locations from baseline (the enumerator indicated that the household either moved within the barangay or to a new barangay). Among urban households, 1,029 children were interviewed at baseline and 979 were still household members at midline, while 3,978 rural children were interviewed at baseline and 3,050 were interviewed at midline. In barangays where all study households were 4Ps recipients, 1,664 children were interviewed at baseline and 1,555 remained household members at midline. In barangays without all study households as 4Ps recipients, 2,643 children were interviewed at baseline and 2,474 remained household members at midline.

| Table 6: Children aged 10-17 at baseline | | | | | |
|---|---|---|---|---|---|
| **Subgroup** | **Number of Children Interviewed at Baseline** | **Number of children still in household at midline** | **Number of children in same location as baseline** | **Number of children in different location as baseline** | **Not in household at midline** |
| **Full Sample** | 4,307 | 4,029 | 3,978 | 51 | 278 |
| **Urban** | 1,029 | 979 | 957 | 22 | 50 |
| **Rural** | 3,278 | 3,050 | 3,021 | 29 | 228 |
| **Complete 4Ps** | 1,664 | 1,555 | 1,536 | 19 | 109 |
| **Incomplete 4Ps** | 2,643 | 2,474 | 2,442 | 32 | 169 |

We expect individual attrition to be greater than household-level attrition, especially for children as many will mature and transition to adulthood.

Figure 2 shows the probability that a child interviewed at baseline would remain a household member at midline by age. The grey bars indicate the 95% confidence intervals while the black circles indicate the point estimate. It can be seen that while the probability the child is still in the household at midline remains roughly flat at above 95% from ages 10 to 13, it begins to decline afterwards, reaching 83% at age 17. The confidence interval also widens as children age.

*Figure 2: Probability children interviewed at baseline remain household members at midline by age*




Our endline analysis will focus on children who are still potential child laborers at the time of the endline. Because of the timing of our surveys, the youngest of children where we have detailed child time allocation information at baseline were age 10 at baseline. They will be the youngest at endline, conducted two years after baseline. Thus, the focus of our analysis in this study will be on children age 12-17 at endline.

Table 7 replicates Table 6 but for children that will be aged 12-17 at endline. This gives us a sense of scale for the individual-level attrition rate that may be encountered at the endline. Of 3,452 children aged 12-17 interviewed at baseline, 3,293 remained household members at midline. Similar figures can be seen for urbanity and 4Ps completeness.

| Table 7: Children aged 12-17 at endline | | | | | |
|---|---|---|---|---|---|
| **Subgroup** | **Number of Children Interviewed at Baseline** | **Number of children still in household at midline** | **Number of children in same location as baseline** | **Number of children in different location as baseline** | **Not in household at midline** |
| **Full Sample** | 3,452 | 3,293 | 3,251 | 42 | 159 |
| **Urban** | 826 | 795 | 776 | 19 | 31 |
| **Rural** | 2,626 | 2,498 | 2,475 | 23 | 128 |
| **Complete 4Ps** | 1,342 | 1,276 | 1,261 | 15 | 66 |
| **Incomplete 4Ps** | 2,110 | 2,017 | 1,990 | 27 | 93 |

95% of children of interest for the endline evaluation are still in their baseline household at midline. If this 5 percent attrition per year continues, then we would have 91% of our original target children in the same household at endline. Our hope is that the additional tracking information collected at midline combined with the enhanced resources for tracking at endline will allow us to recontact more than 91% of our original subjects.

# 4. Growth in Household Economic Activities and Random Assignment (Take-up)

## 4.1 Take-Up Related Data Collection in Midline Survey

The main method of monitoring treatment distribution is by receiving reports from DOLE. Beyond this, the midline survey contains questions that provide a second means of determining whether KASAMA benefits have been distributed to the household or barangay. Within the household survey, a module asks the respondent about the various government transfers received by the household. The respondent is asked about the benefits they receive from 4Ps, the Department of Social Welfare and Development's (DSWD) Sustainable Livelihoods Program (SLP), Social Security System (SSS) benefits, the Philippine Charity Sweepstakes Office (PCSO), and KASAMA. The question regarding KASAMA is worded as follows:

> *In the past 12 months, did you or any member of your household receive KASAMA (Kabuhayan para sa Magulang ng Batang Manggagawa), also known as DILEEP (DOLE Integrated Livelihood and Emergency Program) benefits?*

The respondent is asked about KASAMA between questions about other government programs partly to disguise the enumerator's affiliation with the program.

Furthermore, the midline survey contained questions related to enterprises owned and operated by the household. This included questions about new, expanded, and closed household enterprises. The survey was programmed to be open-ended, and allowed respondents to provide details about as many enterprises as were operated by the household. The following question from the survey provides an idea of the repeating nature of the survey for new enterprises, and similar questions exist for expanded and closed enterprises.

> *The following is the current list of enterprises started in the past 12 months.*
>
> *[List of provided enterprises]*
>
> *In the past 12 months, has anyone in this household opened any other ENTIRELY new non-agricultural enterprise?*

Other questions in the module ask about the nature of the enterprises, sources and nature of funds or capital for these enterprises, and profits or losses. Together, this module provides an additional measure of take-up of the KASAMA program in treatment barangays relative to control barangays.

In general, DOLE reporting remains the most reliable metric of asset distribution. Households may not recall the name of KASAMA or DILEEP from which they benefit, or fail to report receiving benefits for some other reason. Households may not report new enterprises started with assistance from KASAMA for a variety of reasons, including the need for privacy, forgetfulness, satisficing during the survey, or misunderstanding of definitions. Furthermore, the likelihood of measurement error or enumerator misreporting of data is higher in the field.

Despite this, DOLE reports of asset distribution have high correlation with the relevant questions in the midline survey. 91 percent of households to whom asset distribution has been reported by DOLE by the date of the midline survey report having those benefits distributed in the midline survey (see Section 2.3 of the Monitoring Report for further details).

## 4.2 Random Assignment and Take-Up

The midline survey contains five ways to measure take-up of KASAMA benefits. In this section, we demonstrate that random assignment is associated with take-up of KASAMA benefits. In the language of the program evaluation literature, we find that there has been a treatment.

In the midline survey, there are five measures related to KASAMA benefits, and four of the five show that there is evidence of an impact of treatment (random assignment to KASAMA barangays) on the household. The five measures are the outcome of interest, indicated by the column, in Table 8. More precisely, each dependent variable is defined in the midline survey as follows:

(1) **Report KASAMA:** *In the past 12 months, did you or any member of your household receive KASAMA (Kabuhayan para sa Magulang ng Batang Manggagawa), also known as DILEEP (DOLE Integrated Livelihood and Emergency Program) benefits?*

*(2)* **Owns Enterprise:** *Does anyone in this household fully, or partly, own and operate one or more non-agricultural, non-livestock, income generating enterprises?*

*(3)* **New Enterprise:** *In the past 12 months, has anyone in this household opened an ENTIRELY new non-agricultural enterprise?*

*(4)* **Expanded Enterprise:** *In the past 12 months, has anyone in this household expanded an EXISTING non-agricultural enterprise that was opened more than 12 months ago?*

*(5)* **Closed Enterprise:** *Has anyone in this household closed a non-agricultural, non-livestock, income generating enterprise in the last 12 months?*

In Table 8, we present how the dependent variable changes with random assignment in the full sample (first row) as well as in each stratum (subsequent rows). Random assignment increases the probability a household reports receiving KASAMA benefits by 61 percentage points. It increases the probability a household owns an enterprise by 22 percentage points. The effectively doubles the probability of a household owning an enterprise compared to baseline levels. Random assignment increases the probability that a household has started a new enterprise by 13 percentage points. Respondents do not report expanding existing enterprises, and we also see some old enterprises closing. The later may owe to KASAMA benefits diverting the household out of one activity into another.

| Table 8: Regression Coefficients on Key Outcomes | | | | | |
|---|---|---|---|---|---|
| **Subgroup** | **Report KASAMA** | **Owns Enterprise** | **New Enterprise** | **Expanded Enterprise** | **Closed Enterprise** |
| Full Sample | 0.61***<br>(0.04) | 0.22***<br>(0.03) | 0.13***<br>(0.02) | 0.02<br>(0.02) | 0.03**<br>(0.01) |
| Urban | 0.33***<br>(0.09) | 0.11*<br>(0.06) | 0.09**<br>(0.04) | 0.04<br>(0.03) | -0.02<br>(0.02) |
| Rural | 0.70***<br>(0.05) | 0.26***<br>(0.04) | 0.15***<br>(0.02) | 0.01<br>(0.02) | 0.05***<br>(0.02) |
| Complete 4Ps | 0.60***<br>(0.07) | 0.24***<br>(0.05) | 0.19***<br>(0.03) | 0.01<br>(0.03) | 0.03<br>(0.03) |
| Incomplete 4Ps | 0.62***<br>(0.06) | 0.21***<br>(0.04) | 0.10***<br>(0.02) | 0.03*<br>(0.02) | 0.03***<br>(0.01) |

*All regressions include control for urbanity and whether all household in the barangay received the 4Ps conditional cash transfer program, as well as age fixed effects and age fixed effects interacted with gender. Columns 2 and 3 also control for the baseline outcome variable. In columns 1, 4, and 5 the baseline outcome was not available.*

Taken together, Table 8 provides strong evidence of an impact of random assignment on household engagement with activities in the direction that the intervention is aimed at. It seems clear that there is a program.

## 5. Implications for Research Design

The analysis above suggests that KASAMA has the intended first stage effect. It appears that KASAMA recipients are starting enterprises with the assets and training that has been provided to them. This result clears the path for the endline survey, where field staff will re-interview children from the baseline and gather the data needed to determine the effect of KASAMA on child labor.

As seen in the attrition tables above, the midline survey suggests that attrition is not likely to be a significant challenge in the endline survey. From the 2,296 households interviewed in the midline, only 11, or under half of one percent, could not be re-interviewed. Furthermore, the midline survey allowed us to obtain new and updated data on the whereabouts of study households. The main foreseeable challenge will be the need to interview children during the endline survey, who are often difficult to locate.

# Appendix 1: Maps of Treatment and Control Barangays

*Figure 3: Luzon Treatment and Control Barangays (Blue treatment, pink control)*

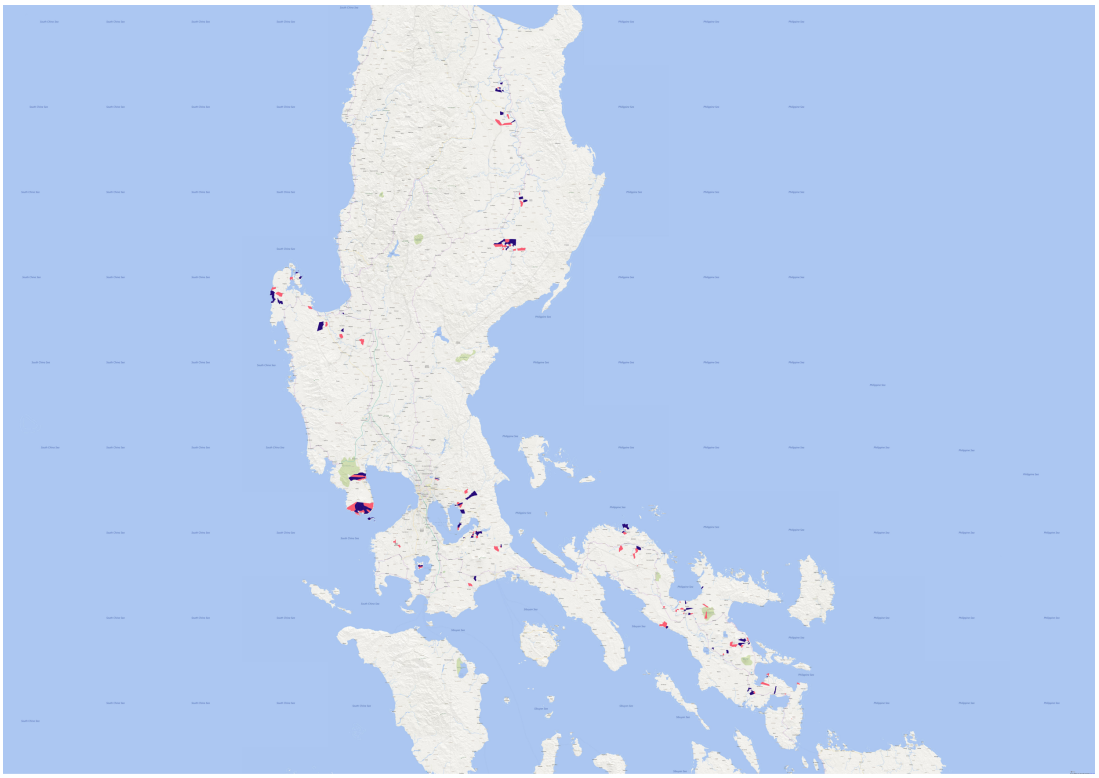


*Figure 4: Region 1 Treatment and Control Barangays (Blue treatment, pink control)*

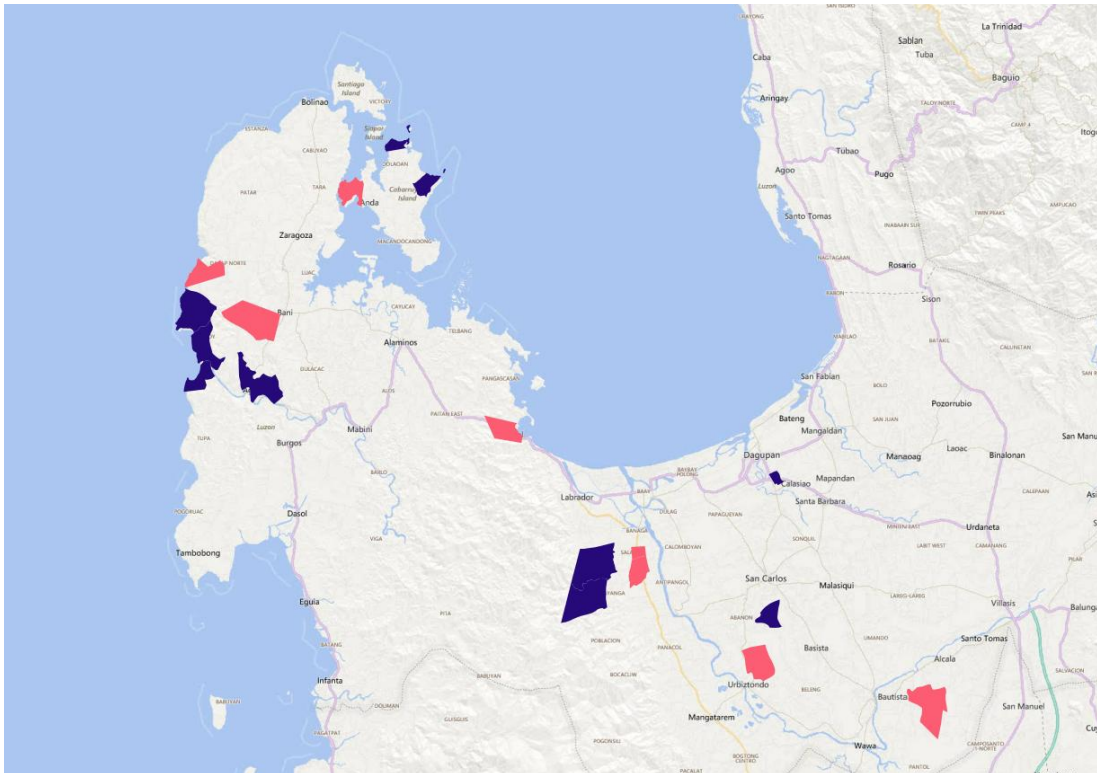



*Figure 5: Region 2 Treatment and Control Barangays (Blue treatment, pink control)*

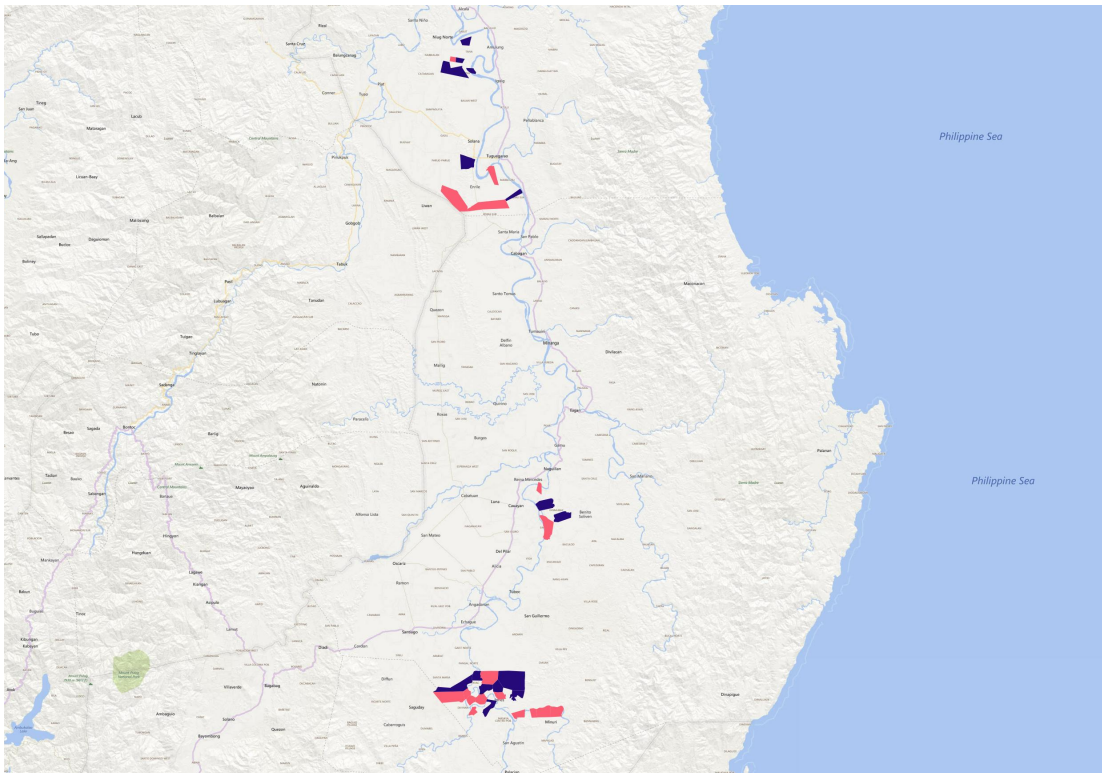


*Figure 6: Region 3 Treatment and Control Barangays (Blue treatment, pink control)*

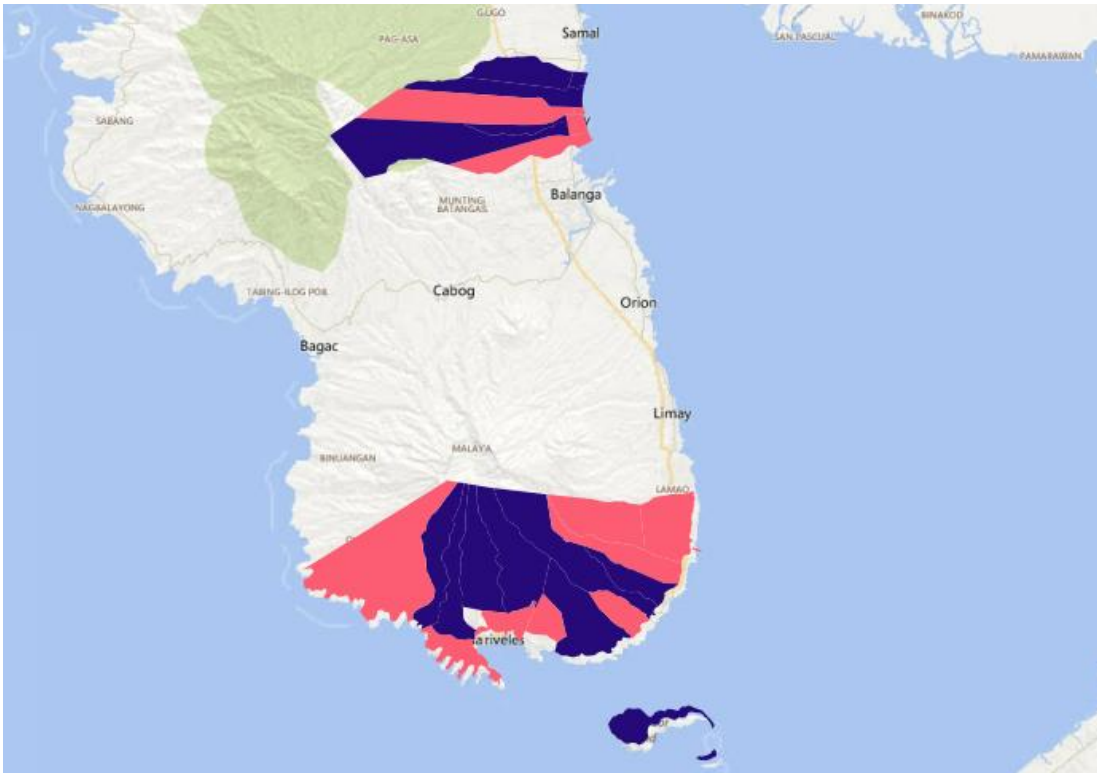



*Figure 7: Region 4A Treatment and Control Barangays (Blue treatment, pink control)*

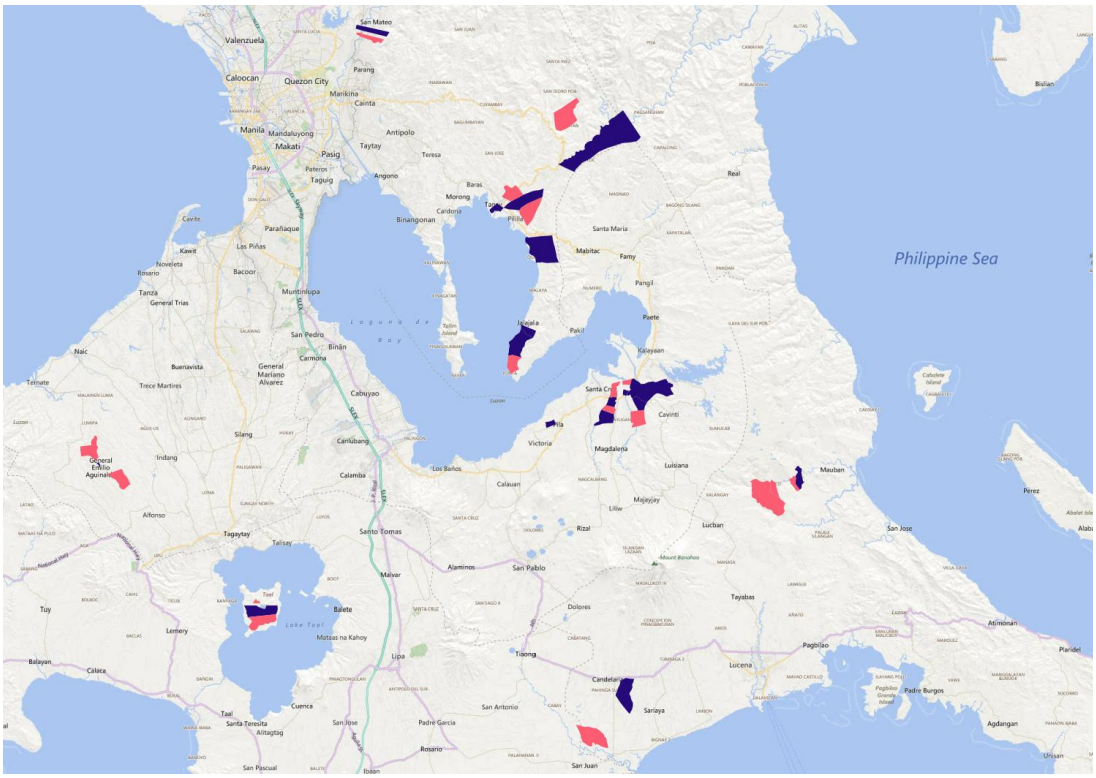
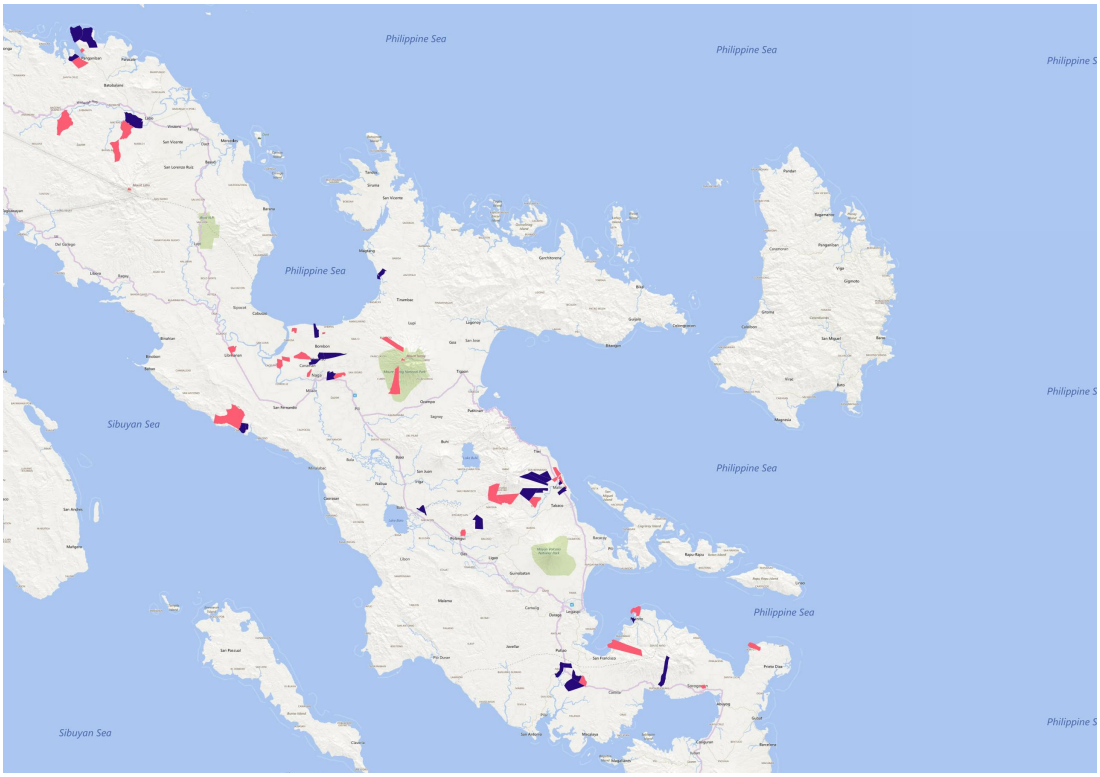


*Figure 8: Region 5 Treatment and Control Barangays (Blue treatment, pink control)*



# Appendix 2: 2011 Survey on Children

**Working children 5 to 17 years old by age, sex and region: 2011 SOC**

| Region | Total | | | 5 to 9 years old | | | 10 to 14 years old | | | 15 to 17 years old | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Both sexes | Male | Female | Both sexes | Male | Female | Both sexes | Male | Female | Both sexes | Male | Female |
| Philippines | | | | | | | | | | | | |
| Number (in thousands) | 3,312 | 2,082 | 1,230 | 292 | 161 | 132 | 1,258 | 783 | 474 | 1,762 | 1,138 | 624 |
| Percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| National Capital Region | 4.8 | 4.0 | 6.2 | 8.7 | 8.6 | 8.9 | 4.1 | 3.5 | 5.2 | 4.6 | 3.7 | 6.3 |
| Cordillera Administrative Region | 1.8 | 1.9 | 1.5 | 1.6 | 2.1 | 0.9 | 1.8 | 1.9 | 1.6 | 1.8 | 1.9 | 1.5 |
| Region I - Ilocos Region | 3.8 | 4.1 | 3.1 | 1.8 | 0.8 | 3.1 | 3.1 | 3.5 | 2.6 | 4.5 | 5.1 | 3.5 |
| Region II - Cagayan Valley | 3.8 | 4.1 | 3.4 | 1.7 | 2.1 | 1.1 | 4.0 | 4.2 | 3.6 | 4.0 | 4.2 | 3.7 |
| Region III - Central Luzon | 8.7 | 9.4 | 7.6 | 7.9 | 9.4 | 6.0 | 9.2 | 10.1 | 7.7 | 8.6 | 9.0 | 7.8 |
| Region IVA - CALABARZON | 10.0 | 9.1 | 11.5 | 13.4 | 11.6 | 15.6 | 9.6 | 8.8 | 11.0 | 9.7 | 9.0 | 10.9 |
| Region IVB - MIMAROPA | 4.9 | 4.7 | 5.2 | 5.6 | 4.1 | 7.4 | 5.2 | 4.8 | 5.8 | 4.6 | 4.7 | 4.4 |
| Region V- Bicol | 9.2 | 9.9 | 7.9 | 7.6 | 7.4 | 7.9 | 9.6 | 10.4 | 8.2 | 9.1 | 9.8 | 7.7 |
| Region VI - Western Visayas | 7.9 | 7.7 | 8.1 | 4.2 | 3.9 | 4.5 | 6.9 | 7.1 | 6.7 | 9.1 | 8.7 | 9.8 |
| Region VII - Central Visayas | 8.3 | 8.1 | 8.6 | 10.2 | 10.4 | 9.9 | 8.9 | 8.9 | 9.0 | 7.5 | 7.2 | 8.0 |
| Region VIII - Eastern Visayas | 7.2 | 7.7 | 6.3 | 5.6 | 6.8 | 4.2 | 8.1 | 8.5 | 7.3 | 6.9 | 7.3 | 6.1 |
| Region IX - Zamboanga Peninsula | 6.0 | 5.6 | 6.8 | 7.0 | 6.9 | 7.0 | 6.2 | 5.7 | 7.1 | 5.8 | 5.4 | 6.4 |
| Region X - Northern Mindanao | 8.3 | 7.2 | 10.2 | 10.7 | 10.1 | 11.6 | 9.6 | 8.5 | 11.5 | 7.0 | 5.9 | 9.0 |
| Region XI - Davao | 5.0 | 5.1 | 4.7 | 4.7 | 5.0 | 4.4 | 4.4 | 4.8 | 3.9 | 5.4 | 5.4 | 5.3 |
| Region XII - SOCCSKSARGEN | 5.1 | 5.4 | 4.7 | 5.7 | 5.8 | 5.6 | 4.6 | 4.3 | 5.1 | 5.4 | 6.0 | 4.3 |
| Region XIII - Caraga | 3.4 | 3.8 | 2.9 | 3.4 | 4.7 | 1.7 | 3.7 | 4.1 | 3.0 | 3.3 | 3.4 | 3.0 |
| Autonomous Region in Muslim Mindanao | 1.9 | 2.2 | 1.4 | 0.3 | 0.4 | 0.2 | 0.9 | 1.0 | 0.6 | 2.9 | 3.2 | 2.2 |

*Source:* NSO and ILO, *2011 Survey on Children*

## Appendix 3: Comparison of Study Barangays to Overall Philippines by Region

| | Region 1 | | Region 2 | | Region 3 | | Region 4A | | Region 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Household Characteristics** | **Sample Barangays** | **Total Population** | **Sample Barangays** | **Total Population** | **Sample Barangays** | **Total Population** | **Sample Barangays** | **Total Population** | **Sample Barangays** | **Total Population** |
| Fraction owning land house is on | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.41 | 0.37 | 0.406 | 0.00 | 0.00 |
| Household size | 6.35 | 6.18 | 6.03 | 5.99 | 5.87 | 6.07 | 6.13 | 6.099 | 6.84 | 6.81 |
| Number of kids aged 10-17 | 2.31 | 2.18 | 2.11 | 2.10 | 2.07 | 2.15 | 2.18 | 2.17 | 2.45 | 2.44 |
| Fraction with an overseas worker | 0.06 | 0.10 | 0.11 | 0.09 | 0.13 | 0.09 | 0.09 | 0.10 | 0.04 | 0.03 |
| Fraction that are female | 0.50 | 0.49 | 0.49 | 0.49 | 0.50 | 0.49 | 0.49 | 0.50 | 0.49 | 0.49 |
| Fraction with married heads | 0.83 | 0.83 | 0.90 | 0.88 | 0.82 | 0.83 | 0.80 | 0.81 | 0.82 | 0.83 |
| Fraction that are entirely Catholic | 0.79 | 0.80 | 0.71 | 0.74 | 0.81 | 0.83 | 0.84 | 0.87 | 0.94 | 0.93 |
| Years of Education (>18 Years of Age) | 7.19 | 7.12 | 6.69 | 6.47 | 7.22 | 7.04 | 7.25 | 7.16 | 6.63 | 6.70 |
| Fraction of households that are urban | 0.45 | 0.13 | 0.000 | 0.11 | 0.84 | 0.51 | 0.71 | 0.58 | 0.29 | 0.14 |
| Number of Households | 15,940 | 1,050,605 | 8,065 | 727,327 | 30,437 | 2,238,994 | 43,847 | 2,833,479 | 28,440 | 602,131 |