

# Human Development Cash Transfer in Madagascar

## Background

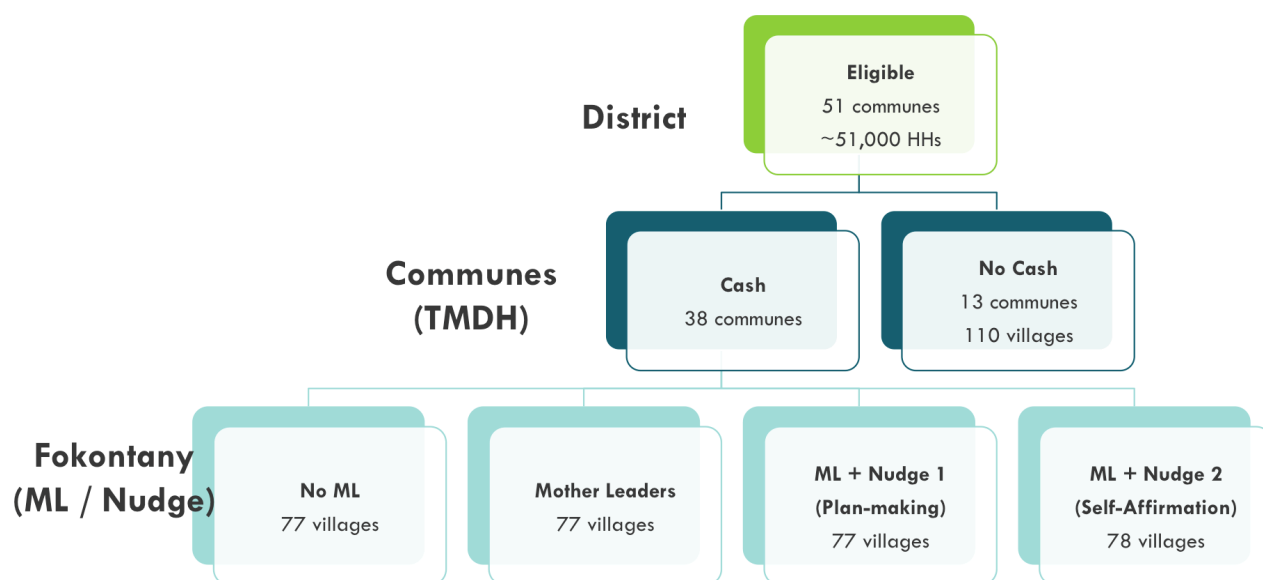
ideas42 is running an impact evaluation of a conditional cash transfer program in Madagascar for 51,000 households from 2016-2019. It is a multi-level cluster randomization design. We have completed a baseline survey across 51 different regions of Madagascar. This document is an overview of the process we used for generating our baseline sampling criteria based upon which we provided our local survey firm, CAETIC Développement with the list of households and locations to cover.

## Current Impact Evaluation Design

This is a three-level cluster randomization design. There are three intervention effects we want to measure:

1. The effect of the **Cash Transfer** (commune level)
2. The additional effect of the **Mother Leader (ML) group program** (village level)
3. The additional effect of the **Nudges** (village level)

The outcomes of interest are various measures in household consumption, early childhood cognitive development, child health, and school attendance/readiness. We are measuring these outcomes through a household consumption survey and an early childhood cognitive development measure instrument.



The above schema shows how the interventions have been assigned at different clusters; cash is randomly assigned at the commune-level (think of these as US state counties). Among cash-recipient communes, villages are randomly assigned to receive:

- (1) only cash
- (2) cash + ML groups
- (3) cash + ML groups + Nudge 1
- (4) cash + ML groups + Nudge 2

## Statistical Power and Sample Size

There are approximately 51k households in the entire program, including those in the no cash pure control group. We are powered at 80% to detect a minimum effect size of 0.176 SD by sampling 1480 households per

treatment arm (74 villages per arm, 5 Mother Leader group per village, 4 households per ML group)<sup>1</sup>. **This gives us an endline of 7400 households.**

We conducted a proxy means test in all the intervention areas that identified as eligible only households in the bottom 30<sup>th</sup> percentile of income that have children ages 0-10. We randomly sampled from eligible households in each of the control and treatment groups, thus achieving balance across the sampled group.

In order to ensure we are also sufficiently powered to detect an effect for households with children ages 3-6 (a target age group for one of our multiple funders), we plan on “oversampling” in our current minimum endline  $n$  of 7400 by 10%. **For example, we plan to conduct the endline survey with app. 8222 households (7400 is approximately 90% of 8222)**

### Baseline Approach

4,485 households were sampled for the baseline survey. For the MDAT, 3366 households were eligible (have at least one eligible child) and surveyed using MDAT. The endline will be the full 8222 households, but the baseline enabled us do basic randomization checks and provides some information on the vulnerable population for the government before the 3-year experiment ends. Given these constraints, our approach to baseline sampling was as follows:

1. **Sampled from all 309 treatment villages (surveyed 7-8 randomly selected eligible households per village)**
2. **For pure control, randomly sampled 65 villages total. This meant sampling 5 villages from each of the 13 control communes, with 9-10 people from each village.** This is because cash is evaluated at the commune level – there are 110 control villages, and we did not necessarily need to go into all of them. Since there are 13 control communes, we needed to sample from about 5 villages from each commune, with 9-10 people from each village. That is roughly 600 people from 65 total villages. Other important notes are that four of the 13 control communes had only five eligible villages. One of the communes only had three villages, so five villages per commune was the only realistic sampling ceiling.
3. **We randomly selected 3000 eligible households and only did the MDAT (the early childhood cognitive development measure instrument) for households that had children ages 2-6.** That said, once we had the household list for the baseline, we could pre-select with which of the children in a given household we could conduct the MDAT.

Absent respondents/refusals/not found:

For absentee respondents/refusals/not found, field enumerators had a backup list of randomly selected households from which could replace the absentee household. Field followed order of the randomly generated backup list systematically to prevent the introduction of any bias into the sampling process.

Variables in the dataset used to identify the various levels of stratification:

- i0\_2 - District
- i0\_3 - Commune
- i0\_4 - Fokontany

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<sup>1</sup> Please let us know if you'd like to see our power calculations – we can provide select outputs and Stata code.