



USAID
FROM THE AMERICAN PEOPLE

IMPLEMENTATION FIDELITY MONITORING REPORT

IMPACT EVALUATION OF THE CAMBODIA INTEGRATED
NUTRITION, HYGIENE, AND SANITATION PROJECT



DECEMBER 21, 2016 (REVISED MARCH 8, 2017)

This publication was produced for review by the United States Agency for International Development. It was prepared by Management Systems International, a Tetra Tech company, for the E3 Analytics and Evaluation Project.

COVER PHOTO

Caption: Children expressing their enthusiasm for growing tall during a community-led total sanitation event by the NOURISH project in Siem Reap, Cambodia.

Credit: Marie Cusick, NOURISH Project

IMPLEMENTATION FIDELITY MONITORING REPORT

IMPACT EVALUATION OF CAMBODIA INTEGRATED NUTRITION, HYGIENE, AND SANITATION PROJECT

Contracted under AID-OAA-M-13-00017

E3 Analytics and Evaluation Project

Prepared by:

Irene Velez

Dr. Joe Brown, Principal Investigator

Oliver Cumming

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

Acronyms	v
Introduction	1
Overview of the Methodology	1
NOURISH Implementation Status	2
Exposure Threshold Status	4
Tables	
Table 1: NOURISH Roll-Out Schedule.....	2
Table 2: Year 2 Roll-Out Status Summary.....	2
Table 3: Year 2 Roll-Out Status of Nutrition Interventions, by Treatment Group.....	3
Table 4: Year 2 Roll-Out Status for Sanitation Interventions, by Treatment Group.....	4
Table 5: Threshold Exposure Points.....	4
Table 6: Year 2 Threshold Exposure Points Summary.....	5
Figures	
Figure 1: Year 2 Nutrition Exposure Points Status.....	5
Figure 2: Year 2 Sanitation Exposure Points Status.....	6
Figure 3: Sanitation Only Group – Village-level Increase in Sanitation Coverage.....	7
Figure 4: Sanitation Only Group – Average Increase in Sanitation Coverage by Commune.....	7
Figure 5: Nutrition + Sanitation Group – Village-level Increase in Sanitation Coverage.....	8
Figure 6: Nutrition + Sanitation Group – Average Increase in Sanitation Coverage by Commune.....	8

ACRONYMS

BSC	Business Service Center
CCT	Conditional Cash Transfer
CLTS	Community-Led Total Sanitation
cRCT	Cluster Randomized Controlled Trial
E3	Bureau for Economic Growth, Education, and Environment (USAID)
IE	Impact Evaluation
MSI	Management Systems International
NOURISH	Cambodia Integrated Nutrition, Hygiene, and Sanitation Project
ODF	Open Defecation Free
SBCC	Social and Behavioral Change Communications
VHSG	Village Health Support Group
WASH	Water, Sanitation, and Hygiene
USAID	United States Agency for International Development

INTRODUCTION

The impact evaluation of the Cambodia Integrated Nutrition, Hygiene, and Sanitation (NOURISH) project is commissioned by the Office of Water in the United States Agency for International Development's Bureau for Economic Growth, Education, and Environment (USAID/E3). The E3 Analytics and Evaluation Project designed and is implementing the evaluation.¹ The evaluation incorporates a cluster randomized controlled trial (cRCT) with a factorial design to rigorously test how effective integrating sanitation and hygiene with nutrition services is in reducing stunting and improving related key child health outcomes, as well as whether this integrated approach is more effective than standalone nutrition or water, sanitation, and hygiene (WASH) interventions.

The purpose of this report is to monitor the degree to which the NOURISH interventions are being implemented as originally intended as of the completion of Year 2 of the project. Given NOURISH's detailed Monitoring and Evaluation Plan, which tracks the delivery of outputs and intermediate outcomes on a monthly basis, this report is a supplement to that robust internal monitoring plan, with a focus on the impact evaluation. In particular, this report monitors two key aspects: (1) fidelity to the evaluation design with respect to the pace of roll-out of core interventions per the original timeline and assigned communes, and (2) tracking the exposure thresholds agreed upon ex-ante in collaboration with the NOURISH implementing partner and USAID.

OVERVIEW OF THE METHODOLOGY

Implementation fidelity can facilitate the pathway between interventions and their intended outcomes and may impact how far an intervention actually affects outcomes. Measuring implementation fidelity can provide a more thorough understanding of an intervention's contribution to outcomes. Otherwise, it cannot be determined whether a lack of impact is due to poor implementation or inadequacies inherent in the interventions themselves. Furthermore, given that the recent evidence on the health benefits from improvements in WASH conditions is mixed due to improper adherence of the planned interventions,² lack of usage of the facilities,³ and design and measurement problems of the evaluations,⁴ measuring implementation fidelity is particularly relevant to this impact evaluation.

Implementation fidelity is being monitored along the causal pathway linking the interventions to the primary outcome, with a focus on the delivery and uptake of core interventions. Beginning in October 2016, the NOURISH implementing partner compiled monitoring data quarterly in accordance with the threshold exposure points that were agreed ex-ante. The evaluation team proposes to conduct an independent assessment of these exposure points in October 2017 (end of Year 3). Moreover, questions will be added to the evaluation endline survey to corroborate previously reported data.

¹ The E3 Analytics and Evaluation Project team consists of a team lead, Management Systems International (MSI), and team partners Development and Training Services (dTS) and NORC at the University of Chicago.

² Schmidt, W. P. (2015). Seven trials, seven question marks. *The Lancet Global Health*, 3(11).

³ Clasen, T., Boisson, S., Routray, P., Torondel, B., Bell, M., Cumming, O., ... & Ray, S. (2014). Effectiveness of a rural sanitation programme on diarrhoea, soil-transmitted helminth infection, and child malnutrition in Odisha, India: a cluster-randomised trial. *The Lancet Global Health*, 2(11).

⁴ Dangour A.D., Watson L., Cumming O., Boisson S., Che Y., Velleman Y., Cavill S., Allen E., and Uauy R. (2013). Interventions to Improve Water Quality and Supply, Sanitation and Hygiene Practices, and their Effects on the Nutritional Status of Children. *Cochrane Database of Systematic Reviews*, Issue 8.

NOURISH IMPLEMENTATION STATUS

In the cRCT evaluation design, target communes were randomly assigned to three treatment groups (*Nutrition only*, *Sanitation only*, and *Nutrition+Sanitation*) and a control group. Each treatment group is exposed to a specific NOURISH component or combination of components, while the control group remains unexposed to the project. Random assignment of the four groups was conducted at the commune level; all villages under each treatment commune receive the assigned NOURISH component for their respective commune.

NOURISH agreed to roll out project activities in 39 communes, following the randomized assignment conducted in September 2015, over the course of two years (Years 2 and 3). The remaining 19 control communes will remain unexposed to the interventions for the duration of the evaluation. The pace of roll-out, determined by NOURISH's staff capacity, was set to 12 communes for Year 2 and the remaining 27 communes for Year 3. In June 2016, NOURISH notified the evaluation team that three communes from the original list of 39 treatment communes would have to be excluded due to objections from the provincial government and a perceived overlap with other programming. The current implementation schedule is shown in Table 1.

TABLE 1: NOURISH ROLL-OUT SCHEDULE

Group	Year 2	Year 3 (cum.)
Nutrition Only	1	11
Sanitation Only	4	13
Nutrition + Sanitation	7	12
Total	12	36

Given the recent completion of Year 2 on September 30, 2016, this report focuses on the 12 Year 2 treatment communes. The following three tables illustrate the roll out of the core nutrition and sanitation interventions as well as the coverage of these interventions across the communes in each respective treatment group. Table 2 summarizes these two factors for each treatment group. Most core interventions have been rolled out, however coverage has been uneven in the *Nutrition+Sanitation* group due to a lag in implementation in the Pursat province.

TABLE 2: YEAR 2 ROLL-OUT STATUS SUMMARY

Group	# of Y2 Communes	Core Interventions Rolled Out	Coverage of Y2 Communes
Nutrition Only	1	All, except for integrated vouchers*	Full coverage
Sanitation Only	4	Mostly, except for ODF external verification and establishment of BSC	Full coverage
Nutrition + Sanitation	7	Partial	Communes in Pursat (3/7) not fully exposed

* Integrated vouchers will only be distributed in the Nutrition + Sanitation communes.

The following two tables provide more details on the roll out and coverage of the core nutrition and sanitation interventions. Roll out of nutrition interventions is on track, except for a change in the planned implementation of the integrated vouchers, as shown in Table 3. Vouchers will only be distributed within the *Nutrition+Sanitation* communes, and excluded from the *Nutrition only* communes. However, within the *Nutrition+Sanitation* communes, vouchers will not be distributed in Pursat due to the provincial government’s refusal to approve the conditional cash transfer (CCT) program, which is the distributing mechanism for the vouchers. The roll out of the nutrition activities within the seven *Nutrition+Sanitation* communes has not been uniform. The four communes in Siem Reap have been exposed to almost all interventions, except for one where the CCT program has been slower to enroll beneficiaries. However, the three communes in Pursat have only been partially exposed to these interventions.

TABLE 3: YEAR 2 ROLL-OUT STATUS OF NUTRITION INTERVENTIONS, BY TREATMENT GROUP

Nutrition Interventions	Nutrition-Only Communes	Nutrition + Sanitation Communes
Training of community agents and caregiver group facilitators in Integrated Nutrition	Completed	Completed in Siem Reap; Incomplete in Pursat
Community Dialogues on Integrated Nutrition (13 behaviors)	Completed roll-out and ongoing	Completed roll-out and ongoing in Siem Reap; Incomplete in Pursat
Monthly GMP with home visits to first 1,000 day families	Completed roll-out and ongoing	Completed roll-out and ongoing in Siem Reap; Incomplete in Pursat
Caregiver group course on integrated nutrition	Completed roll-out and ongoing	Completed roll-out and ongoing in Siem Reap; Incomplete in Pursat
CCT program	Completed roll-out and enrolled beneficiaries	Incomplete roll-out in Siem Reap; Not rolled out in Pursat
Integrated vouchers	Not rolled out	Incomplete roll-out in Siem Reap; Not rolled out in Pursat
SBCC	Completed	Completed

Similarly, the roll out of sanitation interventions is on track, except for the external open defecation free (ODF) verification and the establishment of business service centers (BSCs), as shown in Table 4. As of September 2016, seven villages have self-declared to be ODF, which is lower than the NOURISH Year 2 target of 50 villages. Three are expected to be externally verified and declared ODF in October 2016, and 10 additional villages are expected to be declared ODF in the first quarter of Year 3. The establishment of BSCs has also been slower than expected, but NOURISH is expecting to sign three memoranda of understanding in the beginning of Year 3. While the roll out of the sanitation activities has been uniform in the *Sanitation only* communes, this is not the case in the *Nutrition+Sanitation* communes. The four communes in Siem Reap have been exposed to all interventions, while the three communes in Pursat have only been partially exposed to these interventions.

TABLE 4: YEAR 2 ROLL-OUT STATUS FOR SANITATION INTERVENTIONS, BY TREATMENT GROUP

Sanitation Interventions	Sanitation Only Communes	Nutrition + Sanitation Communes
Training of CLTS facilitators	Completed	Completed
Establishment and training of village sanitation committees	Completed	Completed in Siem Reap; Incomplete in Pursat
CLTS triggering and post-triggering events	Completed	Completed in Siem Reap; Incomplete in Pursat
School and Community WASH	Completed	Completed
SBCC	Completed	Completed
Quarterly progress meetings to monitor the sanitation uptake	Completed and reported	Completed and reported in Siem Reap; Incomplete in Pursat
External ODF verification and ODF commune ceremonies	Not yet, starting in October 2016	Not yet, starting in October 2016
Support the establishment of business service centers	In progress, not yet completed	In progress, not yet completed

EXPOSURE THRESHOLD STATUS

Since the roll out of project activities in new areas takes time, the evaluation team – in collaboration with NOURISH – has defined threshold points to identify communes as being “exposed” to the project. Once these threshold points are reached, the 24-month period towards endline measurement will start. These exposure points, shown in Table 5, were selected to link outputs to intended outcomes.

TABLE 5: THRESHOLD EXPOSURE POINTS

Nutrition	Sanitation
All community agents and caregiver group facilitators trained	CLTS triggering event completed
Three consecutive months of community nutrition services	Village sanitation committees established and trained
Three consecutive months of active caregivers groups	Three months of regular follow-up and monitoring through village sanitation committees
First 50 CCT beneficiaries enrolled	20 percentage point increase in improved sanitation coverage

The first two nutrition exposure points and the first three sanitation exposure points are derived from the core interventions presented in the previous section. However, they go beyond the previous section description in that they measure sustained delivery of at least three months. The last two nutrition exposure points focus on the uptake of core interventions, which might be external to the implementer, but need to be monitored to better disentangle the effect on outcomes. The last sanitation exposure point, a 20 percentage point increase in improved sanitation coverage, goes beyond uptake since an improved sanitation facility is not directly provided by NOURISH; instead, it requires commitment or change in behavior from the community members. This improved sanitation coverage exposure point was selected specifically because previous sanitation trials assessing health impacts may have failed to show impact since the change in improved sanitation coverage was not sufficient.

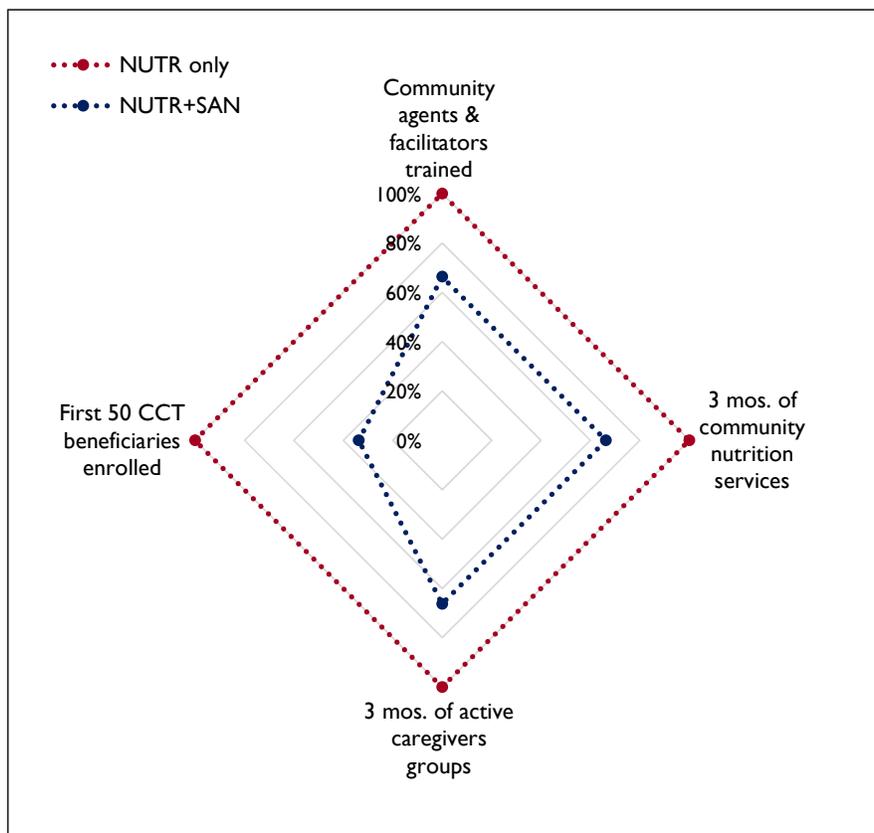
The remaining section tracks whether the nutrition and sanitation threshold exposure points have been reached across communes in each treatment group, as of the end of Year 2. Table 6 summarizes the treatment groups status, showing the *Nutrition only* commune has reached all four of the nutrition exposure points, *Sanitation only* communes have reached three of the four sanitation exposure points, and *Nutrition+Sanitation* communes have not fully reached any of the eight exposure points due to a lag in implementation in Pursat.

TABLE 6: YEAR 2 THRESHOLD EXPOSURE POINTS SUMMARY

Group	# of Y2 Communes	Threshold Exposure Points Reached
Nutrition Only	1	4 / 4
Sanitation Only	4	3 / 4
Nutrition + Sanitation	7	0 / 8

The following two figures provide more details on the status of each exposure point in Year 2. Figure 1 shows the nutrition exposure at 100 percent in the *Nutrition only* commune for all four exposure points and at 66 percent in the *Nutrition+Sanitation* group for 3 of the 4 exposure points. The fourth exposure point (CCT enrollment) is only at 34 percent as enrollment has been slower than anticipated, but also because the CCT program has not been rolled out in Pursat due to provincial government refusal.

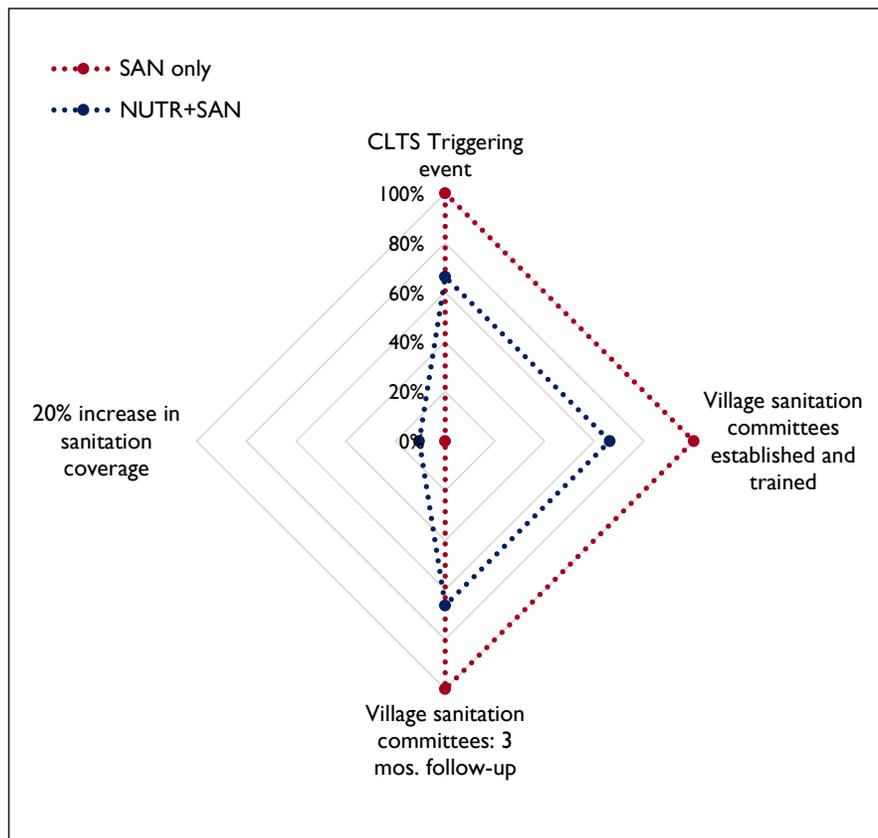
Figure 1: Year 2 Nutrition Exposure Points Status



Similarly, Figure 2 shows the sanitation exposure in the *Sanitation only* group is at 100 percent for the first three exposure points and at 66 percent in the *Nutrition+Sanitation* group. However, the fourth

exposure point (20 percentage point increase in sanitation coverage) is lagging almost completely across both treatment groups.

Figure 2: Year 2 Sanitation Exposure Points Status



The following four figures show more detail on the improved sanitation coverage target, with most of the communes well below the 20 percentage point target. Figures 3 and 4 show the progress made by the *Sanitation only* group; no villages within the four communes have reached the target. The average increase in sanitation coverage for the *Sanitation only* group is 6 percentage points. Figures 5 and 6 show the progress made by the *Nutrition + Sanitation* group; while 9 villages have reached the target, the average increase in sanitation coverage for the *Nutrition + Sanitation* group is 11 percentage points.

This exposure point is the hardest to reach, since it is out of the direct influence of the implementer. Unless Year 3 shows acceleration on this indicator, the start of the 24-month period for endline measurement may be delayed.

Figure 3: Sanitation Only Group – Village-level Increase in Sanitation Coverage

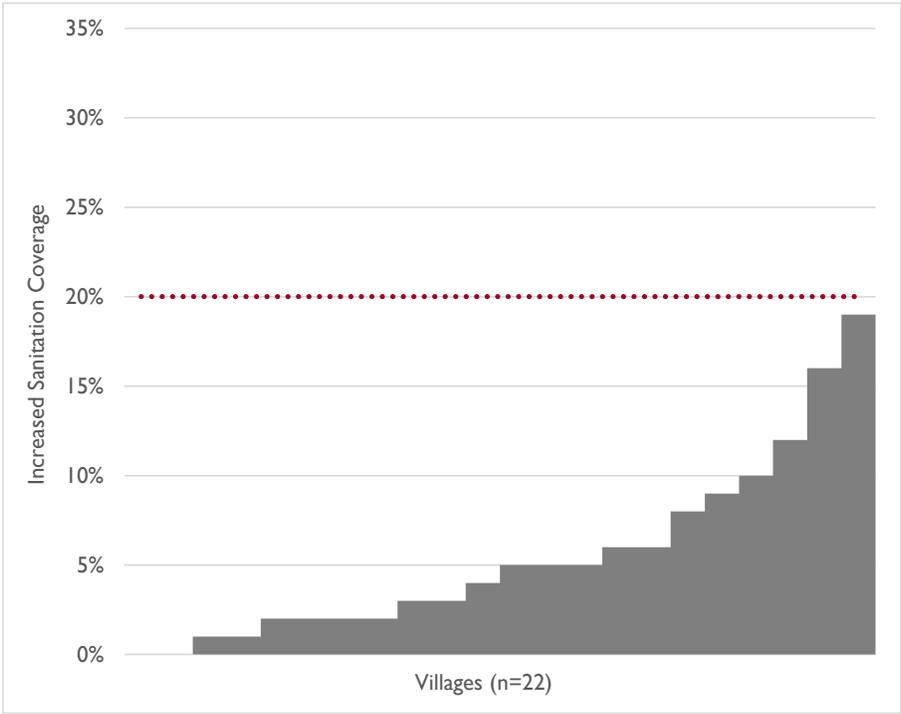


Figure 4: Sanitation Only Group – Average Increase in Sanitation Coverage by Commune

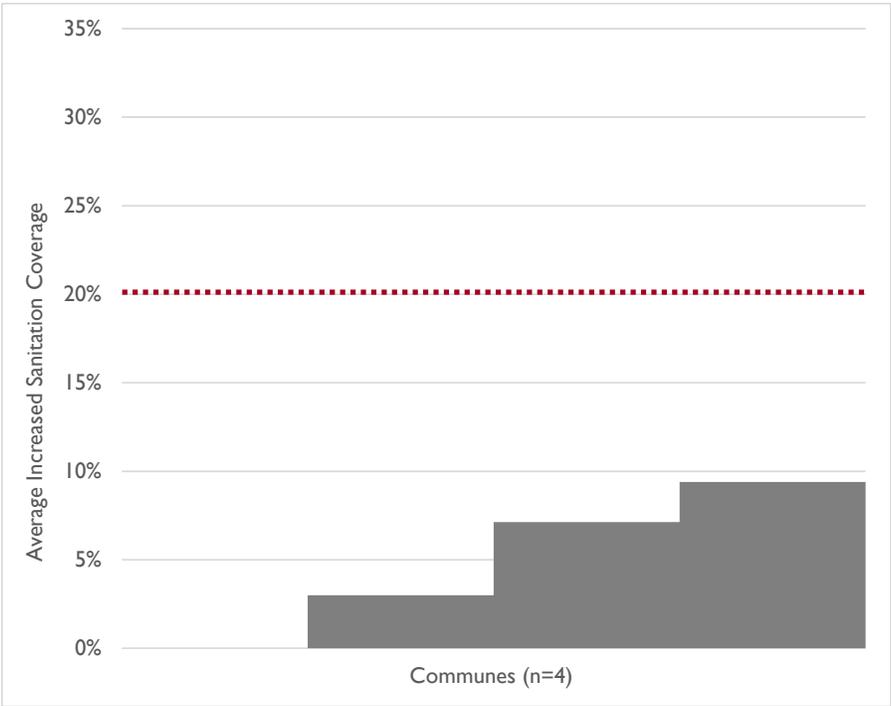


Figure 5: Nutrition + Sanitation Group – Village-level Increase in Sanitation Coverage

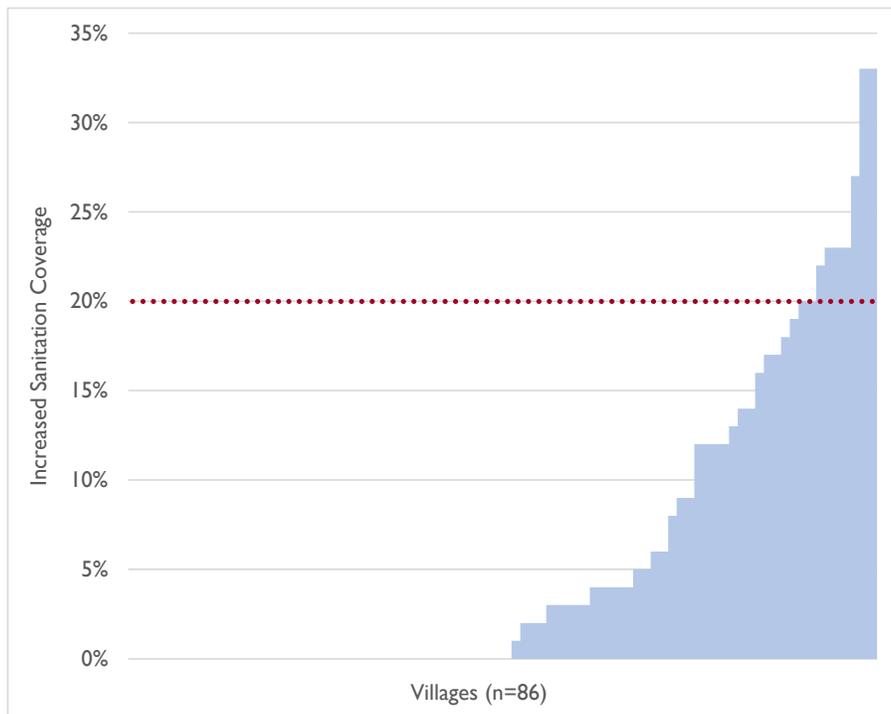
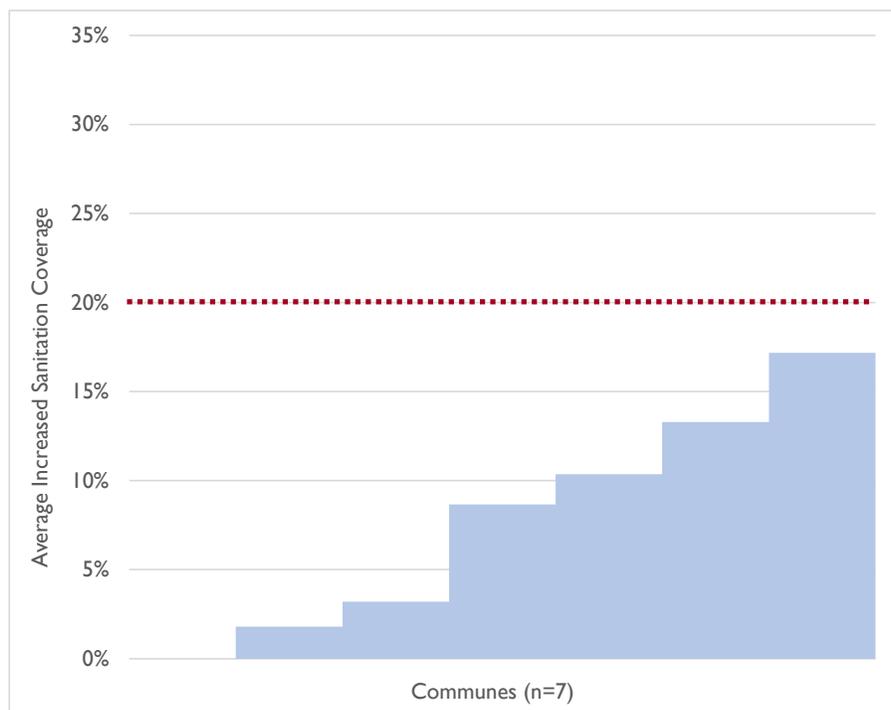


Figure 6: Nutrition + Sanitation Group – Average Increase in Sanitation Coverage by Commune



U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20004
