

2017 NURU ETHIOPIA IMPACT REPORT



RAY MARSHALL CENTER FOR THE STUDY OF HUMAN RESOURCES

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EXECUTIVE SUMMARY

INTRODUCTION

In 2013, Nuru Ethiopia (NE) set out to provide meaningful choices that empower communities to lift themselves out of poverty in a sustainable way. The integrated Nuru model seeks to address four key areas of need: 1) food insecurity, 2) inability to cope with economic shocks, 3) unnecessary disease and death, and 4) lack of quality education for children. Between 2013 - 2015, NE developed the Agriculture, Financial Inclusion, Healthcare, and Education impact programs to design solutions for these areas of need by using the Program Planning Process¹ (PPP). To track program impact, the NE Monitoring and Evaluation (M&E) team collects yearly evaluation data to support all data-driven decision making. In 2016, Nuru International partnered with the Ray Marshall Center (RMC), an applied research and policy institute, to better understand program outcomes and impacts. This report provides results for Rural Livelihoods² (RL), Healthcare (HC), and Education (ED).

RURAL LIVELIHOODS

In 2017, RL achieved impact in several indicators including: increased crop yields over baseline, increased agricultural profit, high cash savings behavior, and high value body condition ratings for the goats and sheep. There are, however, two areas that require more attention in the coming year. First is to increase the profitability of crop and LD activities, which will help Nuru households make active and informed choices about their diversified livelihood strategies. Currently, households are making about \$60 from NE crop and LD activities, not enough to ensure households can make meaningful choices. Next is improving households' ability to minimize exposure to shocks and to recover quickly after exposure. At only \$4.46 in average annual savings through Nuru-supported cooperatives; this is not enough to absorb even the lowest cost emergency shock, crop loss (\$10). Key findings of the 2017 impact report include:

- Nuru farmers saw a 42% increase in crop yields over baseline compared to Comparison farmers.

¹ The PPP is a training-based, facilitated, co-creative approach to developing the programmatic intervention between the local community, Nuru Ethiopia and Nuru International teams.

² In 2016, the Agriculture and Financial Inclusion Programs combined to make the Rural Livelihoods Program.

- Nuru households were 214% more profitable than non-intervention farmers when they invested in Nuru crop-based services and products.
- 96% of Nuru households saved in cash, rather than other less liquid assets like animals.
- Nuru women savers are two times more likely to save their liquid cash assets with secure and credit-building financial institutions.
- 89% of goats and sheep achieved a body condition³ of “fat” or “average,” which is synonymous with high value.

HEALTHCARE

The Healthcare (HC) Program achieved impact for two out of the three scorecards - Overall Scorecard and Safe Pregnancy and Childbirth Scorecard. Most of the monitoring targets were met and then exceeded as 2017 progressed. Overall, the behavior change supported by tailored interpersonal communication within the care groups for Nuru households continue to show progress. The Safe Water, Sanitation and Malaria Prevention Scorecard, however, saw no change for the intervention group and a small decline over baseline for the Comparison group. Safe water is an areas that Nuru is planning to focus on more in the second half of 2018. Key findings of the 2017 impact report include:

- Nuru households adopted 59% of the eight healthy behaviors, an increase of 31% over the baseline.
- Nuru households’ overall adoption rates continue to surpass the Comparison cohort’s by 24 percentage points.
- 86% of Nuru households delivered newborn babies in a health facility in 2017. This is over double their baseline and is substantially higher than the Comparison group (56%).
 - Complementary feeding remains an area of focus. Adoption rates remain low despite doubling since baseline.

EDUCATION

The Education Program’s literacy intervention made positive impact towards literacy and across the core components of reading. However, considering the majority of Nuru children are still struggling to read letters, there is still much room for growth. Key findings of the 2017 impact report include:

³ Rating system for livestock.

- On the Uwezo assessment, 9% more Nuru farmer children improved at least one reading level from 2016 to 2017 than the children from the Comparison area.
- Over the course of one year of Nuru’s education intervention, Nuru farmer children grew at a faster rate on progress towards literacy metrics of the Uwezo assessment than non-Nuru Children. Additionally, Nuru children had higher gains in reading skills at each grade level from Grades 1-2.
- On Early Grades Reading Assessment (EGRA) sub-tasks Nuru famer children grew at slightly higher rates when it came to letter identification, while the majority of children in both-Nuru and non-Nuru areas were not able to read words or paragraphs.

RURAL LIVELIHOODS

INTRODUCTION

The NE RL Program aims to build the capacities, assets, and income of farmer households to achieve sustainable agricultural production and to cope with shocks. To accomplish this aim, NE supports activities that impact crop yield, food security and household income, as well as increasing access to and use of formal financial services and improving financial literacy. Agricultural Extension and Rural Livelihoods (AERL) field officers and Cooperative field officers provide technical training, extension services and cooperative support structures through formal partnerships with the Government of Ethiopia's primary cooperative institutions. AERL field officers focus on agricultural training and extension with farmers. Cooperative field officers are responsible for coaching and training primary cooperative management teams and leading financial inclusion activities with women cooperative members.

OBJECTIVE

This report is the first RL follow-up assessment that integrates the impact results of all agriculture and financial inclusion activities at NE. The following presentation of individual level data provides an update on the progress Nuru farmer households are making towards improving crop production, increasing household income, improving savings and loan behavior, and coping with shocks. The available evaluation and monitoring data were used to generate recommendations for the program.

The Nuru Monitoring and Evaluation (M&E) team supports this work by conducting an annual assessment towards the evaluation question: ***What is the impact of the Nuru Ethiopia Rural Livelihoods Program?***

METHODOLOGY

In April 2014, NE conducted a baseline study of its first cohort of farmer households (intervention group) and non-intervention households (Comparison group) across seven kebeles within Boreda Woreda, Gamo Gofa Zone, Southern Nations, Nationalities, and Peoples' Region (SNNPR). In 2016, two more kebeles from the Kucha Woreda were added as the Agriculture-Only study group. The study design intends to capture attributable impact by comparing the results of the intervention to a non-intervention comparison, and to an intervention that applies only the agriculture portion of programming.

Each year, the NE M&E team hires and trains a team of temporary enumerators to collect impact data on the following indicators (Table 1):

1. Crop equivalent yield
2. Agricultural income
3. Savings behavior and access to financial services
4. Coping with shocks
5. Loan behavior
6. Income generating activities (IGA)

Table 1. Survey timeline and sample sizes

Cohort	# of Farmers	# of Enumerators	Training Dates	Yield and survey collection dates
Nuru	1,798			
Ag Only	348	30	May 2017	June - Dec 2017
Non-Nuru	639			

Crop Equivalent Yield

For purposes of comparability across Nuru and non-Nuru farmers and versus baseline, Nuru Agriculture and M&E employs a single composite indicator of crop performance: Crop Equivalent Yield (CEY). The CEY calculation converts the performance of select crops into one standard unit of maize kilograms per acre. This is done using the farm gate prices per kilogram of haricot beans and maize. Finally, M&E transforms all crops into maize via the price ratios of haricot beans versus maize. One way to interpret this calculation is to ask: *If farmers only grew maize this season, how much maize would they have produced?*

In 2017, there was a methodological change in measuring farmers' land sizes. Previously, the M&E team paced each field to obtain crop areas.⁴ As Nuru farmer numbers increased, pacing became prohibitively time-intensive and expensive for the small NE M&E team. To address this, the M&E team stopped pacing Nuru intervention farmers and instead uses loan package details to calculate land sizes based on the amount of seed provided and seed spacing. Since Nuru farmers are trained on and apply a standard planting spacing, calculating cropped area based on the planting rate of seeds per area was

⁴ Pacing methodology measures the distance in a field.

determined to be an equivalently precise method to pacing. The pacing methodology remains in use for the Comparison group.

Agricultural Profits

Revenue, costs and profits are calculated only for the particular crop production farmers engage in as part of the Nuru package. Revenue is calculated by multiplying the average crop equivalent yield by the average farm gate price for maize. The intervention and Comparison groups have particular methods to establish the costs they incurred in farming their particular plots. The cost for Nuru farmers is the loan price for the improved farm inputs (seed and fertilizer) provided by Nuru cooperatives. The cost for the Comparison group, on the other hand, is calculated using the cost of farm inputs from local suppliers and takes into account farm input adoption rates gathered from survey responses. With the support of Nuru extension services, Nuru farmers deploy all improved inputs, while not all Comparison farmers use improved seed and fertilizer. Under ideal growing conditions, an increased investment in improved inputs should lead to increased productivity. Finally, net profit or loss is calculated by subtracting the costs from revenue.

Monitoring

In addition to yearly impact evaluations, the NE RL team collects monitoring data throughout the year (Table 2). While evaluations focus on a sample of farmers, program teams monitor the entire Nuru farmer population. The monitoring data provides NE country teams quarterly data for real-time data driven decision making.

Key takeaways:

- RL surpassed targets in the following areas: Percent increase in crop yield compared to baseline, average deposit amount per person, average loan size per client this quarter, and the financial inclusion loan repayment rates.
- RL fell slightly short of targets in the following areas: Number of farmers and savers, and acres farmed.
- RL was substantially short of targets in the following areas: Agricultural input loan repayment rate, and total cumulative deposits.

Table 2. 2017 Monitoring Results

Indicator	Performance	Target	Actual
Number of Nuru farmers		4,000	3,435
Total number of acres farmed		5,000	3,872
Average loan per farmer (USD)		NA	\$66
Agricultural input loan repayment rate		97%	43%
Percent increase in crop yield compared to baseline		32%	42%
Number of Nuru savers		2,000	1,440
Average deposit amount per person (USD) per quarter		\$2.86	\$3.14
Total deposits (USD) cumulative		\$22,857	\$6,424
Number of livelihood diversification loans issued this year (cumulative per year)		200	229
Average loan size per client this quarter (USD)		NA	\$67
Livelihood diversification repayment rate		95%	96%

RESULTS & DISCUSSION

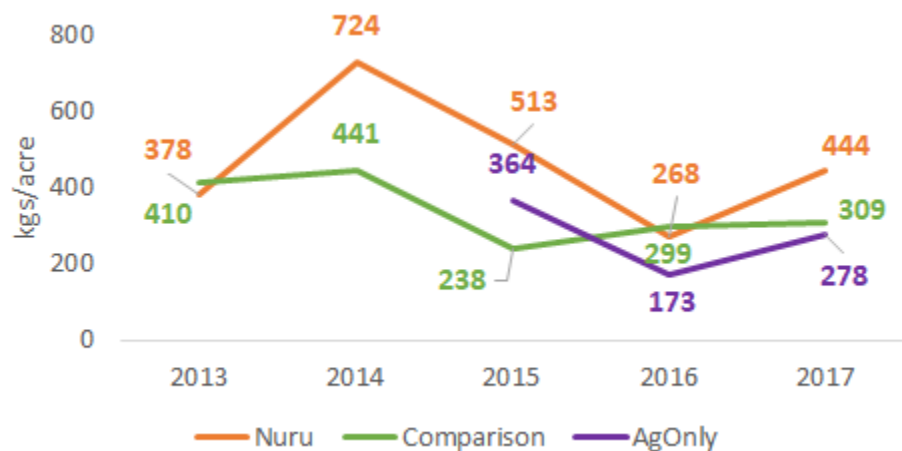
Crop Yield

Nuru farmers invested their time, resources and energy in Nuru agricultural training, services and products, in addition to the full suite of integrated Nuru development services. They increased their crop yields by 42% over baseline compared to non-intervention farmers, using difference in difference methods. After a season of inconsistent rainfall, drought and the emergence of Fall Armyworm (FAW), all three study cohorts saw higher yields in 2017 compared to 2016. However, Nuru farmers receiving the integrated intervention services from Nuru Ethiopia had the greatest overall yield of CEY maize at an average of 444 kgs/acre, which can be compared with the other cohorts in Figure 1. The percentage change from 2016 to 2017 for each cohort is listed below:

- **Nuru** integrated intervention farmers increased their crop yield by 66%.
- **Ag Only** intervention farmers increased their crop yield by 61%.

- **Comparison** farmers increased yields by 3%.

Figure 1. Kgs/acre crop equivalent yield comparison 2013-17



A core part of the agricultural activities is establishing access and use of improved inputs. M&E collects data on these activities which help inform the state of program impact. The adoption rates of improved inputs by the Comparison farmers allows for a useful inference to be made regarding the availability and accessibility of those inputs for all farmers in established Ethiopian input markets within Nuru’s operating area (Table 3). According to 2017 survey data, while Comparison farmers are applying DAP and urea at 98%, they are planting improved maize (78%) and beans (50%) seed at lower rates. Many Comparison farmers are still using saved bean seeds from previous years which have reduced vigor, yield potential and lower germination rates.

The adoption of improved maize seed has increased substantially, nearly 30% since the 2013 baseline. Moreover, the adoption of DAP and urea fertilizers has nearly doubled from 2013 to 2017. Though access to improved bean seed still requires greater attention, the accessibility of fertilizers and improved maize seed has greatly increased since 2013. As a result of these trends, Nuru Ethiopia has shifted its energy and resources in 2018. The program no longer directly supplies farm inputs of seed and fertilizer on loan, and instead secures access to these inputs through linking local farmer organizations with the Government of Ethiopia. This frees up resources that will be used to expand efforts in two key ways that will help improve impact: 1) the program will intensify agricultural extension and training, and expand these efforts to include all active cooperative members; and 2) RL will begin to conduct joint Training of Trainers (ToT) with the local Government of Ethiopia development agents to strengthen the enabling environment in Gamo Gofa Zone.

Table 3. Adoption rates of improved inputs

Non-Intervention Comparison Farmer Adoption Rates of Improved Inputs					
Year	2013	2014	2015	2016	2017
DAP	50%	60%	81%	77%	98%
Urea	50%	60%	77%	73%	98%
Maize seed	49%	72%	65%	82%	78%
Bean seed	43%	11%	35%	60%	50%

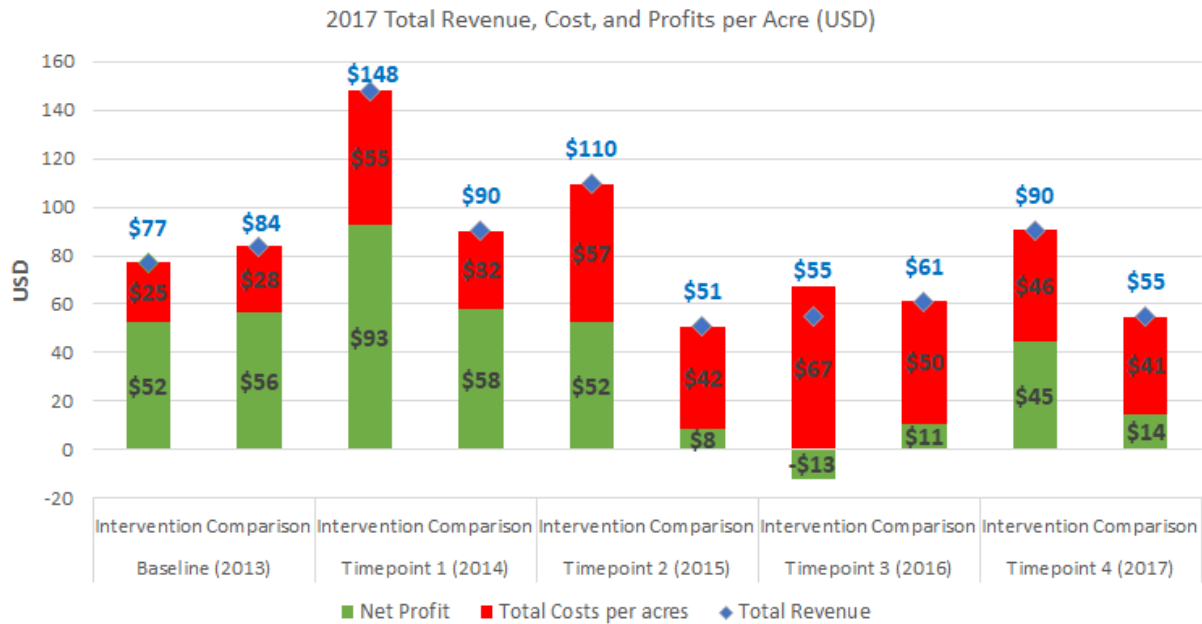
Income Model

In 2017, NE farmers were 214% more profitable than non-intervention farmers when they invested in Nuru services and products (Figure 2). The extra \$31 of income generated by Nuru farmers is an improvement over the challenges from 2016, and offers households an opportunity to recover from consecutive years of below average rainfall and drought conditions across southern Ethiopia. However, it is not the optimal outcome from the agricultural activities supported by Nuru Ethiopia since baseline, considering that 2017 profits are 13% less than baseline for intervention farmers. Moreover, maize and bean farming has a substantially greater potential in terms of agronomically feasible yields and profitability.

A key variable in the income model is the “price per kg” of maize. In 2017, Nuru-supported cooperatives were able to offer their farmers a higher price point for maize than the local market,⁵ which was the result of improved cooperative management and the maturity of Hidota Cooperative Union. The Union had the capacity and management skills to offer higher market prices in December and January, and then store the high quality maize in Purdue Improved Crop Storage (PICS) bags until seasonal prices for maize increased in May, June and July. The PICS bags help to control moisture and weevil damage to maize that is a historic barrier to smallholder farmers taking advantage of seasonal price fluctuations in maize markets. The primary and union cooperative structure allows for extra value to be transferred to farmers.

⁵ Cooperative buying price 5.5 ETB (\$0.20 USD) per kg; local market price 4.8 ETB (\$0.17 USD) per kg.

Figure 2. Income Model Comparison 2013-17



Savings Behavior and Access to Financial Services

In 2017, both Nuru women savers and non-intervention comparison women continued to increase their cash savings behavior (not including assets or livestock) with intervention households nearing 100% (Figure 3). Nuru women savers are twice as likely to save their liquid cash assets with secure and credit building financial institutions. However, from 2016 to 2017, Nuru participants decreased participation in formal financial institutions by 23%.

Formal financial institutions are defined as associations that are legally recognized like the Commercial Bank of Ethiopia, microfinance institutions (MFIs) and cooperatives. Formal financial institutions provide greater savings security and the opportunity to build credit. Informal community institutions like *iddir*⁶ and *equub*,⁷ on the other hand, are not legally recognized and though they also provide access to loans, their security and lending habits are less reliable than formal financial institutions.

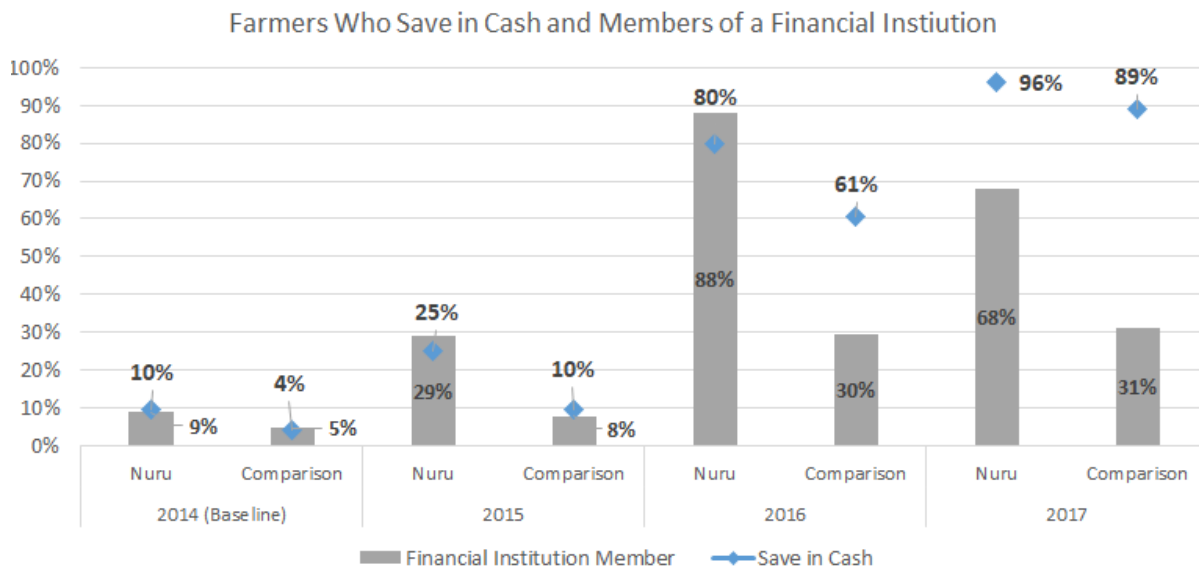
Evaluation survey results provide strong evidence that Nuru women savers are building their financial literacy by saving in cash and building trust in formal financial institutions (Figure 3). However,

⁶ Iddir is an informal insurance network of households to help each other cover costs such as funeral expenses.

⁷ Equub is an informal credit and savings collective.

the absolute savings of Nuru women savers through their cooperatives indicates that the amount being saved is not sufficient to cope with the common shocks experienced in rural areas (Figure 4). Based on monitoring data, on average each Nuru household saved about \$4.46 through their cooperative throughout all of 2017. This amount is not sufficient to cover the most common shocks experienced by Nuru savers. It should be noted that Nuru women savers do not save all their cash through their cooperatives.

Figure 3. Percentage of farmers who save in cash and deposit to financial institution⁸



Two areas of further exploration that would contribute evidence regarding the capacity of households to absorb financial shocks through savings are: 1) activities to increase cooperative and/or formal financial institution cash savings, and 2) better understanding how much cash women save through other formal financial institutions (banks and MFIs). Nuru Ethiopia has re-focused financial inclusion activities in 2018 to incentivize formal institutional savings by linking savings frequency and value to qualifying for a livelihood diversification loan product.

⁸ In 2015, the survey question “Do you save in cash?” was updated to clearly differentiate between cash savings and physical assets. Additional probing questions contributed to the sharp increase in the 2016 results. 2016 results are based on analyses conducted by Nuru.

Coping with Shocks

Participants did not hold sufficient savings with cooperatives to solely cope with any shock or emergency identified by respondents. The most frequent emergencies, crop loss and livestock death, are also the least expensive, costing farmers \$10 and \$41, respectively, while on average each Nuru household saved only \$4.46 through their cooperative. The current savings with cooperatives comprise a small buffer for participants as they cope with a shock.

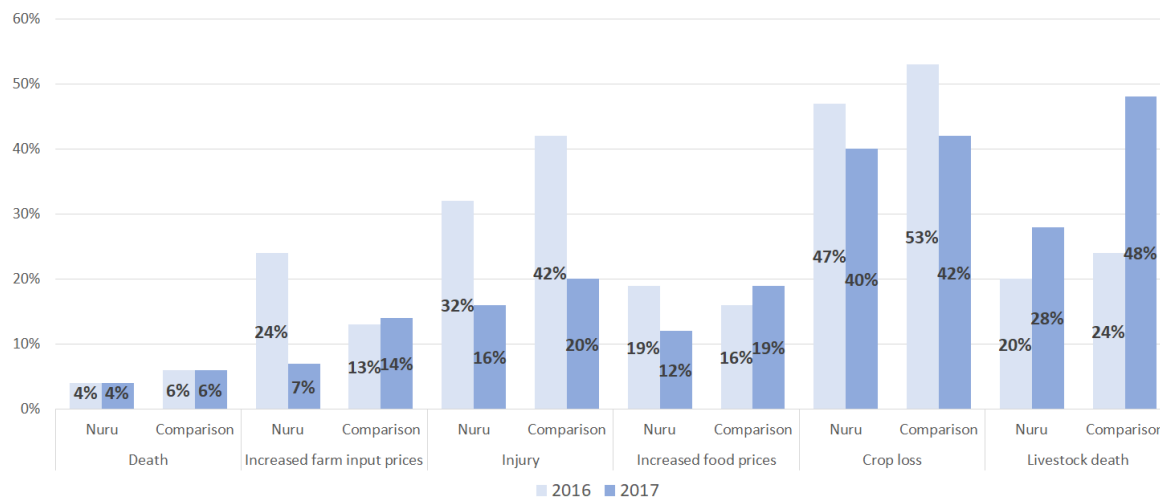
Table 4. Average cost of emergencies for all farmers

Emergency	2016	2017
Death	\$129	\$103
Increased farm input prices	\$50	\$56
Injury	\$44	\$57
Increased food prices	\$33	\$57
Crop loss	\$22	\$10
Livestock death	\$20	\$41

Since 2016, both Nuru savers and the Comparison cohort reported either similar or decreased occurrence of emergencies, namely death, injury and crop loss (Figure 4). Crop loss occurrence - a top shock for Nuru and non-intervention groups - experienced slight decreases of 15% for the Nuru group and 21% for the Comparison group, from 2016 to 2017. There is a likely correlation between drought conditions and the emergence of FAW with crop loss continuing to be the most common shock faced by households in the NE operating area. Nuru households experienced fewer shocks related to increased food and farm input prices as compared to 2016 and the Comparison group.

Livestock death is the only emergency that saw an uptick in occurrence for both groups, a 40% increase for Nuru households and a 100% increase for the Comparison households. This is a trend of heightened importance for NE considering the program invests in livelihood diversification (LD) activities focused on goat and sheep fattening. Similarly to crop loss, livestock death can be attributed to drought and FAW, since the primary feedstock for many households are seasonal grasses that are negatively impacted by both drought and FAW. Moreover, drought has limited the availability of surface water for animals and households. This shock highlights the importance of LD activities that aim to improve animal best management practices and management of improved grass species less susceptible to drought.

Figure 4. Emergencies Coped with the Past Year 2016-17



Livelihood Diversification

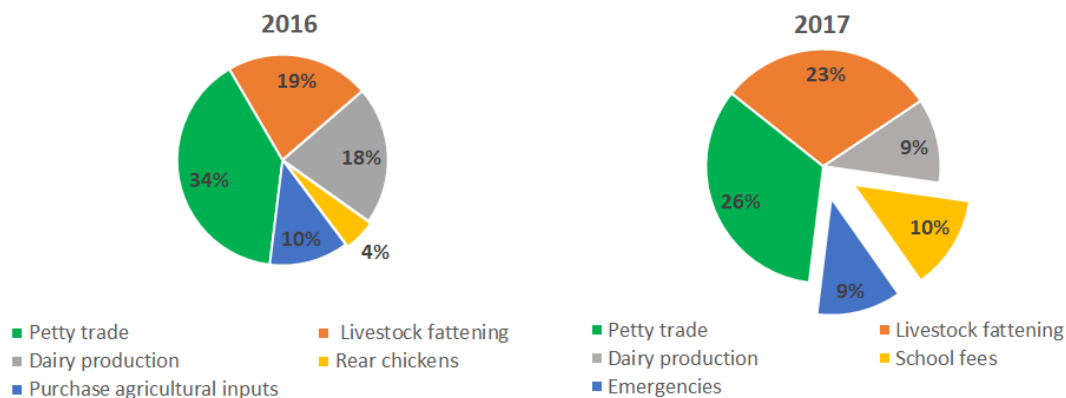
In 2017, the NE RL Program piloted a Livelihood Diversification (LD) loan product that was integrated with best management practice training and extension for goat and sheep fattening. Since 2015, NE has provided loans to women household members for unspecific income generating activities (“IGA loans”) as a means of diversifying household income. In 2015, the annual household survey conducted by NE confirmed that at least 85% of the NE supported farmer households were using the IGA loans for livestock related activities. The interest in loans for livestock, and with the intent of creating more effective impact by combining microfinance with with training and extension, led to re-design of the program’s approach to these loans. After a co-design process was completed in 2016, three NE-supported cooperatives offered households LD loans in 2017. In 2018, Nuru women savers will qualify for LD loans only if they display consistent (bi-weekly) savings behavior and reach a minimum bi-weekly savings threshold of \$0.75 USD (20 ETB). This will generate a minimum annual savings of about \$20 USD or enough savings to cope with two crop loss shocks.

The 2017 LD loan pilot represents a successful community-led and designed adaptation in response to below average IGA loan repayment rates and an inability to attribute impact outcomes to the application of those IGA loans. In short, NE was not able to identify if IGA loans had any material impact on household coping strategies (income and savings) or resilience to future shocks with the exception of the loans being repaid, which was occurring at subpar rates. The LD loans were co-designed with these challenges in mind, and was not only successfully implemented, reaching 229 women savers, but attained a loan repayment rate of 96%. Other successful impact outcomes of the intervention are:

- High approval levels: 91% of participants would consider recommending the LD shoat pilot to farmers in their local Nuru-supported cooperatives.
- Healthy body conditions of livestock: 89% of goats and sheep purchased on loan by participating women achieved a body condition (rating system for livestock) of “fat” or “average”, which are categorizations that are synonymous with good health and high value.
- Increase in economic value: 46% increase in the number of small ruminants categorized as “fat” over a 6 month period, which means the economic value of the animals increased over time.
- Profit Margin: An average profit margin, or extra household income, of \$15 USD was generated from a loan of \$67 USD. This is a key area of improvement for the LD loan marketing activities in 2018.⁹

IGA loans continued intermittently at the other 18 NE-supported cooperatives. Figure 5 compares the most common types of activities employed by Nuru women savers with NE IGA loans between 2016 and 2017. The top three responses are still livestock related activities (32%) and petty trade (26%), but chicken rearing and agricultural inputs were replaced by non-income generating activities like school fees (10%) and medical or other emergencies (9%). This is another justification for more loan products that require women savers to buy into training and extension that improves the value of their income generating efforts. Nonetheless, with a 96% repayment rate, loan products may also provide an effective means of coping with emergency situations.

Figure 5. Uses of IGA Loans 2016 vs 2017

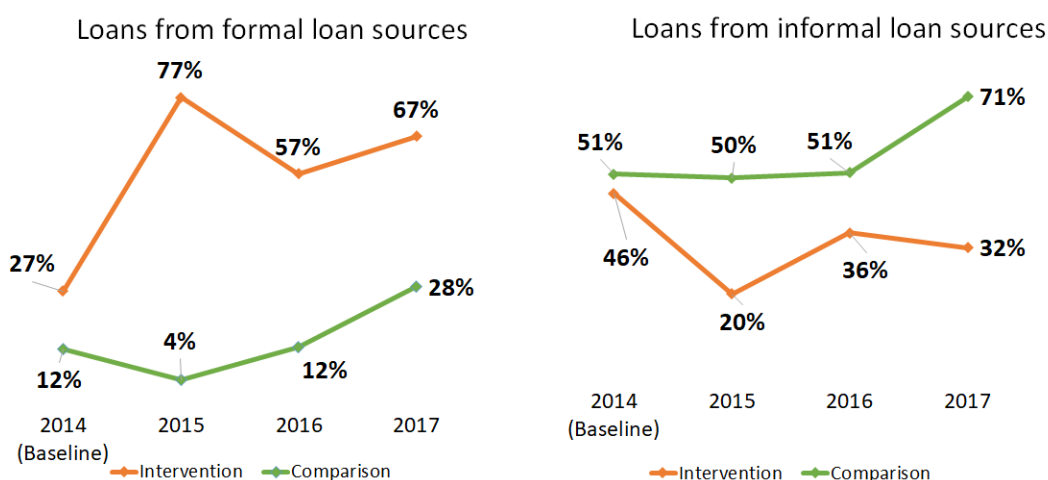


⁹ For more information regarding the LD loan pilot, please read the “Improved Feed, Fattening and Markets for Small Ruminants in SNNPR, Ethiopia: A pilot project review 2017-18” https://drive.google.com/open?id=1qcLFhKB3v_REi4J-A0uDtZknteY-eW2X

OTHER LOAN SOURCES AND BEHAVIORS

Nearly three quarters of non-Nuru farmers obtained their loans from informal sources (71%), and only 28% relied on formal sources such as the government, microfinance, cooperatives, and other financial institutions. 32% of Nuru households obtained their loans from Nuru cooperatives. In contrast, two-thirds of Nuru farmers obtained their loans from formal sources and only a third obtained their loans from informal sources. For the Comparison group, the most popular loan sources are iddir (36%) and family/friends (29%).

Figure 6. Percentage of loans from formal sources vs informal sources



CONCLUSIONS AND RECOMMENDATIONS

In 2017, RL achieved impact in several indicators including: increased crop yields over baseline, increased agricultural profit, high cash savings behavior, and high value body condition ratings for the goats and sheep. There are, however, two areas that require more attention in the coming year. First is to increase the profitability of crop and LD activities, which will help Nuru households make active and informed choices about their diversified livelihood strategies. Currently, households are making about \$60 from NE crop and LD activities, not enough to ensure households can make meaningful choices. Next is improving households' ability to minimize exposure to shocks and to recover quickly after exposure. At only \$4.46 in average annual savings through Nuru-supported cooperatives; this is not enough to absorb even the lowest cost emergency shock, crop loss (\$10).

Based on these results, recommendations and next steps include:

- Increasing savings behavior by linking savings frequency and value to loan qualification at primary cooperatives.
- Improving the quality, value and marketability of crops and livestock produced by cooperative members (farmers and savers) to increase absolute income.
- In 2018, NE initiated a ToT strategy for agricultural trainings and extension to build stronger and more sustainable partnerships with local Government of Ethiopia agents. This effort represents an attempt to further strengthen the enabling environment in the NE operating area.
- Exploring new strategies for quantifying annual cash savings that includes all formal financial institutions that service savers, not just the cooperatives.

HEALTHCARE

INTRODUCTION

With the intent of improving maternal and child health, the Nuru Ethiopia Healthcare (HC) Program works with Nuru farmer households to promote the adoption of eight healthy behaviors. The chosen healthy behaviors have been proven by technical research to decrease unnecessary disease and death, particularly for mothers and young children. The Nuru HC Program utilizes evidence from the World Health Organization, which identifies the need to focus on maternal and child health (MCH).¹⁰ USAID's best practices on how to efficiently and effectively improve MCH through behavior change also guides the HC Program implementation.¹¹

Nuru Ethiopia delivers healthcare services via tailored interpersonal communication and the cooperative care group model. The tailored interpersonal communication approach employs observation and in-depth discussions to understand the specific needs of each household and where they fall in the stages of change continuum (precontemplation, contemplation, preparation, action, and maintenance phases). Small women's groups and elected volunteer leaders are trained to provide Nuru family households with information about maternal and child health behaviors and ways to put them into practice. Community-based activities are undertaken in partnership with the government including improving community health workers capacity and connection to the community, improving access to water, and partnering with the community and government to construct maternal waiting homes and nutrition counseling corners in health facilities.

OBJECTIVE

The evaluation question guiding the assessment of the Healthcare Program is : ***What is the impact of the Nuru Ethiopia Healthcare Program on Nuru farmer households?*** NE Healthcare impact is assessed by measuring the adoption rate in three areas:

- Healthcare Overall Healthy Behaviors
- Safe Pregnancy and Childbirth

¹⁰ WHO. Children: reducing mortality. Updated October 2017. Retrieved 2018 June 25 from <http://www.who.int/mediacentre/factsheets/fs178/en/index.html>

¹¹ USAID: Acting on the Call: Ending Preventable Child and Maternal Deaths, June 2014; Technical Approaches to Proven Interventions by USAID, Ensuring Healthy Behaviors p107-110. Retrieved 2017 January 17 from https://www.usaid.gov/sites/default/files/documents/1864/USAID_ActingOnTheCall_2014.pdf

- Safe Water, Sanitation and Malaria Prevention

METHODOLOGY

Scorecards

NE M&E and HC developed three scorecards to measure household health behaviors (Table 5). NI M&E’s approach to counting the number of healthy behaviors a person engages in is a modified version of the Center for Disease Control and Prevention’s methodology which shows that people live longer as they engage in a greater number of healthy behaviors.¹² With the exception of handwashing, each healthy behavior is scored on a binary scale. In other words, there is a total possible score of 1 for each behavior successfully adopted. The Overall Healthy Behaviors Scorecard represents the summation of the other two scorecards. The analysis section that follows presents scorecard averages and incidence rates for the eight specific indicators.

Table 5. Nuru Healthcare Scorecards

Overall Healthy Behaviors Scorecard (8 out of 8 healthy behaviors)	
Safe Pregnancy and Childbirth Scorecard (5 out of 8 healthy behaviors)	4 or more ANC visits
	Delivery in a health center
	Immediate breastfeeding
	Exclusive breastfeeding
Safe Water, Sanitation, and Malaria Prevention Scorecard (3 out of 8 healthy behaviors)	Contemplentary breastfeeding
	Appropriate handwashing with soap
	Safe drinking water
	Sleep under LLIN

Monitoring

In addition to yearly impact evaluations, the NE HC team collects monitoring data (Table 6) throughout the year. While evaluations focus on a sample of farmers, program teams monitor the entire

¹² See https://www.cdc.gov/media/releases/2011/p0818_living_longer.html for further detail.

Nuru farmer population. Overall, the HC team exceeded all monitoring targets with the exception of the number of trainings for community health workers. Nuru aims to strengthen existing government systems by directly training government community health workers. The original training schedule of 5 training events for community health workers per quarter could not be met due to government-imposed scheduling changes, and so 4 of the 5 training events were completed per quarter on average.

Table 6. 2017 Monitoring Results

Indicator	Performance	Target	Actual
Total Nuru women participating in cooperative care groups		1,600	1,877
Percent of women who are on track to attend at least 4 antenatal care visits per quarter		70%	93%
Percent of deliveries in a clinic per quarter		60%	82%
Number of trainings given to community health workers per quarter		5	4

RESULTS & DISCUSSION

Scorecard: Overall Healthy Behaviors

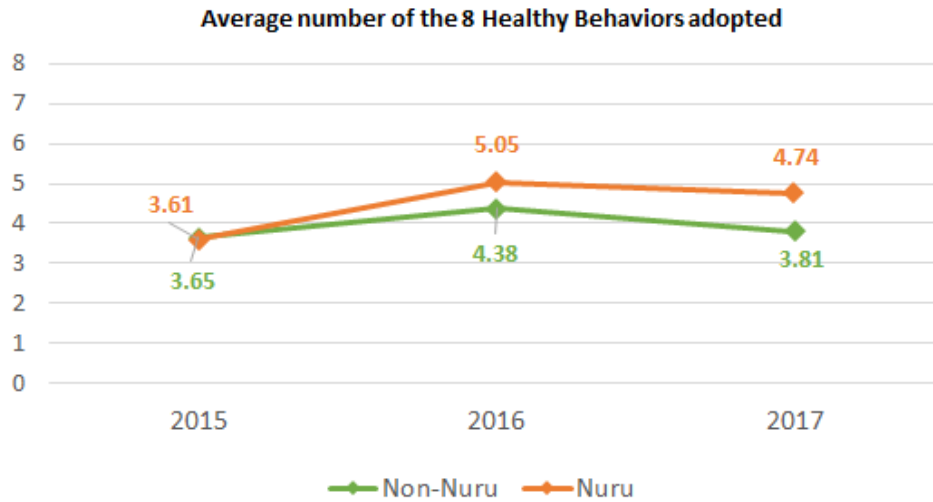
The Overall Healthy Behaviors Scorecard (Figure 7) shows that the Nuru intervention group made significant gains in healthy behavior adoption as compared to their own baseline and to the Comparison group. In 2017, on average, Nuru households adopted 59% of the eight healthy behaviors, an increase of 31% over the baseline and a difference of 24% over the Comparison group. The adoption rate among Nuru households decreased from 63% in 2016 to 59% in 2017. The number of households served almost doubled in 2017, which may account for this slight decrease.

Both study groups benefited from the community-level Nuru activities including health staff training, government integrated supportive supervision accountability, maternal waiting homes creation, water source repair, Essential Nutrition in Action (ENA)¹³ demonstrations on complementary feeding, and nutrition counseling corners creation. The intervention group, however, also participated in cooperative-based care group. Activities like peer to peer support and tailored interpersonal

¹³ WHO Essential Nutrition Actions: Improving maternal, newborn, infant and young child health and nutrition http://www.who.int/nutrition/publications/infantfeeding/essential_nutrition_actions/en/

communication (TIC) provide targeted support to help overcome barriers and drive demand for the community level services.

Figure 7. Average number of the 8 healthy behaviors adopted



Scorecard: Safe Pregnancy and Childbirth

The intervention group increased safe pregnancy and childbirth behaviors by 51% over baseline (Figure 8). In contrast, the Comparison group had a relatively small increase over baseline of 6%. All five indicators had a significant increase over baseline for the intervention group (Figure 9). The Comparison group, meanwhile, had an increase over baseline for some behaviors (delivery in a health center, immediate breastfeeding and complementary breastfeeding) but no change or a decrease over baseline for other behaviors (ANC visits and exclusive breastfeeding).

A combination of factors likely contributed to the positive impact trend across this scorecard for both groups, specifically the community-focused activities that had a spillover effect for the Comparison cohort. Maternal waiting rooms constructed in Nuru communities alleviated transportation barriers to health facilities for women who live a long distance away or for women battling complicated deliveries. Nutrition counseling corners and training on pre- and post- natal care assists also contributed to improve maternal and child health. The Ethiopian Ministry of Health, the local community, and Nuru collaborated strongly on these interventions. Nuru also worked with the government to improve the training for health center staff involved in maternity.

Figure 8. Average number of the 5 Safe Pregnancy and Childbirth behaviors adopted

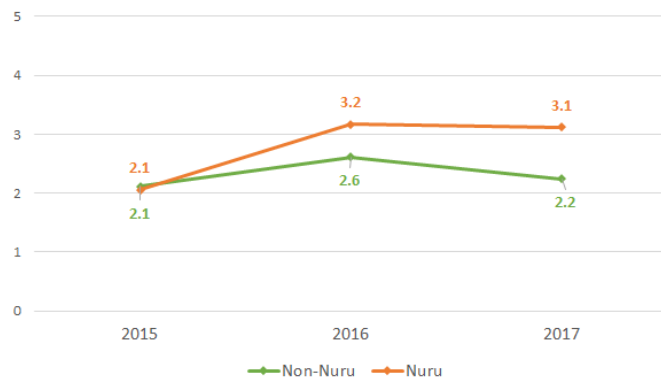
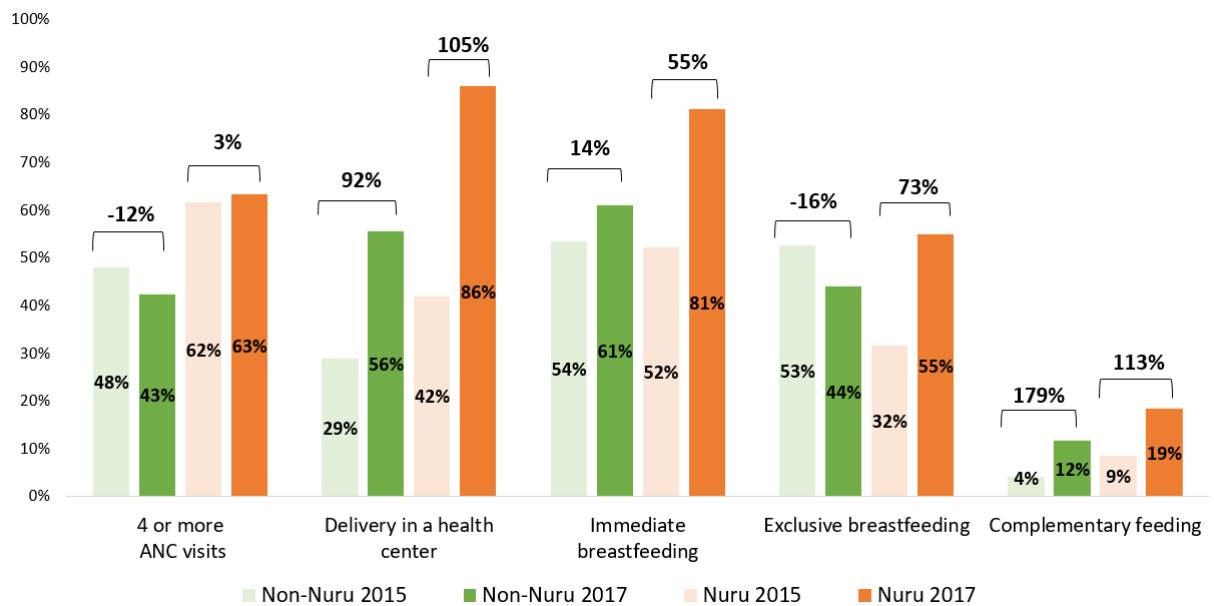


Figure 9. Scorecard: Safe Pregnancy and Childbirth



Prenatal Care: On track for four antenatal care visits (ANC) during pregnancy

The Nuru group saw a small increase (3%) over baseline as more expectant mothers prioritized ANC visits, whereas the Comparison group saw a 12% decrease from baseline. The intervention group had significantly higher rates of ANC visits than the Comparison group at both baseline and follow-up, but the gap between the two groups has increased over the intervention implementation period.

Safe Delivery: Giving birth in a health facility

Typical challenges for safe childbirth in Ethiopia are centered around transportation difficulties. To help women overcome the transportation challenge, Nuru is working on a major initiative with local

communities and the Ethiopian government to establish maternal waiting homes located next to health facilities. These waiting homes are available for women who live far away or have complex pregnancies. Given the challenges in Ethiopia with maternal death, it is encouraging to see both the intervention and Comparison group make significant and large increases over baseline in their percentage of mothers giving birth in a health facility (105% and 92% respectively). The intervention group had significantly higher rates of delivery in a health center than the Comparison group, at both baseline and follow-up. The gap between the two groups has increased over the intervention implementation period.

Immediate Breastfeeding

Immediate breastfeeding behavior adoption often parallels safe delivery in a health facility if the health facility is following best practices. Immediate breastfeeding is measured as a one time activity that gives the baby nutritionally important, habit forming, and autoimmune boosting colostrum. There are significant and large increases over baseline in the uptake of this behavior for both the intervention and Comparison groups (55% and 14% respectively). The intervention group had very similar rates of immediate breastfeeding as the Comparison group at baseline, but the gap between the two groups has increased over the intervention implementation period.

Nuru community interventions that facilitate immediate breastfeeding include training Ministry of Health staff, ensuring cascading of this training to lower level health staff, constructing maternal waiting homes and creating hands-on counseling corners with behavior change communications materials.

Exclusive Breastfeeding

Exclusive breastfeeding and complementary feeding are successively more difficult behaviors than immediate breastfeeding. Exclusive breastfeeding happens over 6 months and therefore has many more possible challenges. For this indicator, the Nuru group was significantly behind at baseline (40% lower than the Comparison group) but has made significant strides with a 73% increase over baseline. The intervention group now has significantly higher rates of exclusive breastfeeding compared to the Comparison group (25% higher). The percentage of mothers that stay with exclusive breastfeeding is still low at 55% or less, but it is encouraging to see the large gain for the treatment group.

Appropriate Complementary Feeding

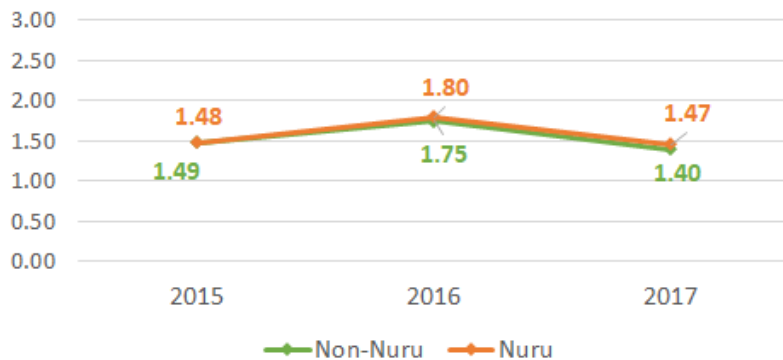
Across the study, the percentage of mothers using appropriate complementary feeding practices is at 20% or less which is low overall, and is concerning for under 5 nutrition. However, both groups did have large and significant increases in this behavior. Complementary feeding requires access

to a variety of foods beyond breast milk and is therefore a more complex behavior to affect. In addition, this indicator is tracked over a longer period of time. In 2017 the Nuru Healthcare team added an activity for Essential Nutrition in Action practical demonstrations in every kebele. This community-based activity was established based on recommendations from the 2016 healthcare evaluation report.

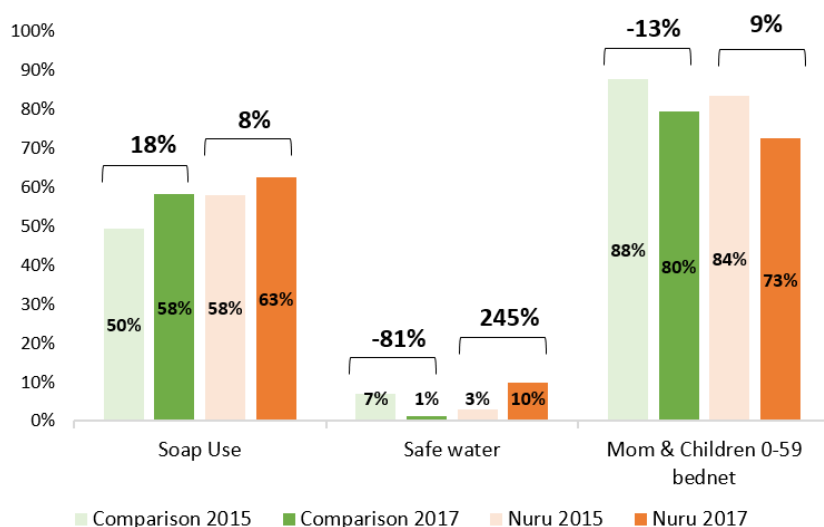
Scorecard: Safe Water, Sanitation, and Malaria Prevention

Overall, there was no change in the safe water, sanitation and malaria prevention scorecard for the intervention group and a small decline over baseline for the Comparison group (Figure 10). The treatment and the Comparison groups had similar scores for this scorecard at both baseline and follow-up. There was an increase in the adoption of washing hands with soap in both groups (Figure 11). Rates of drinking clean water were low overall. However, there was a large increase over baseline for the intervention group, while the Comparison group saw a decline. Adoption of sleeping under mosquito nets was high overall. These behaviors are both complex to measure as noted below.

Figure 10. Average number of Safe Water, Sanitation, and Malaria Prevention behaviors adopted



Nuru activities in 2017 touched on these behaviors, but did not focus on them as strongly as the safe pregnancy and childbirth activities. In 2018, the plan is to give more focus to malaria as is seasonally appropriate in the geographic areas where malaria incidence rates are higher. Safe water is an area that Nuru is planning to focus on more in the second half of 2018. In 2016 and 2017, Nuru worked on expanding access to water, which is not measured in the evaluation data. Handwashing with soap is challenging in the Ethiopian context and is an area that needs more attention in the future.

Figure 11. Scorecard: Safe Water, Sanitation, and Malaria Prevention

Sanitation: Washing hands with soap at all appropriate times

Both the intervention and the Comparison group had a significant increase over baseline, 8% and 18% respectively, in the adoption of washing hands with soap. The intervention group had significantly higher handwashing rates than the Comparison group, at both baseline and follow-up. Hand washing is key to health, but deceptively difficult to maintain. Research shows that if everyone washed their hands appropriately, it could prevent 1 million deaths a year globally.¹⁴

Safe Water: Treating drinking water

The intervention group had a significant increase over baseline in the use of safe drinking water whereas the Comparison group had a significant decrease. Both groups come in with very low percentages, under 10%. At baseline, the Comparison group had significantly higher safe drinking water rates than the intervention group, but the reverse was true at follow-up. Drinking clean potable water and handwashing with soap are important for the prevention of diarrheal disease,¹⁵ which is the second highest cause of death in children under five.

Nuru Ethiopia works to improve demand and access to potable drinking water in two ways: 1) through repair of existing water sources with community leadership, and 2) with point of source water purification called Waterguard. The evaluation data measures how people treat the water they drink.

¹⁴ Curtis V, Camicross S. Effect of washing hands with soap on diarrhoea risk in the community: A systematic review.

¹⁵ Lancet Infect Dis. 2003;3(5):275-81. https://www.cdc.gov/healthywater/hygiene/fast_facts.html

Access to water sources is monitored but not evaluated. The Waterguard activity which provides access and creates demand for the chlorine-based additive was introduced in late 2016. It is not immediately popular, however, as Ethiopians are accustomed to water treatment at the reservoir level rather than on the household level. Also, there is a cultural bias to believe piped water is safe regardless of the source. Initiatives are planned for 2018 to increase both demand and access to Waterguard.

Malaria Prevention: Use of long lasting insecticide treated mosquito nets (LLIN)

There were moderate decreases over baseline in LLIN behavior for both the intervention group and the Comparison group. At both baseline and follow-up, the Comparison group had significantly higher rates of LLIN behavior compared to the intervention group.

There are still documented issues with malaria. The industry norm is to measure use of LLIN, but many Ethiopians prefer indoor residual spray above bed nets. The desired outcome is to reduce malaria infection, and so the intervention discusses prevention methods including LLIN, indoor residual spray and clearing the environment of mosquito breeding sites. However, malaria is still challenging to control. Culturally, many families believe it is like the common cold, a normal part of life. In 2018 Nuru is planning to do more with malaria prevention, like supporting the government with Indoor Residual Spraying, in new scaling areas where malaria rates are even higher.

CONCLUSIONS AND RECOMMENDATIONS

In 2017, the Nuru Ethiopia Healthcare Program achieved its goal of increasing healthy behavior adoption rates to mitigate preventable disease and death in mothers and young children. Most of the monitoring targets were met and then exceeded as 2017 progressed. Overall, the behavior change supported by tailored interpersonal communication within the care groups for Nuru households continue to show progress.

While Nuru households demonstrated significant increases over baseline in all 5 indicators and demonstrated greater adoption rates than the Comparison group in the Safe Pregnancy and Childbirth Scorecard, the Safe Water, Sanitation and Malaria Prevention Scorecard saw no change for the intervention group and a small decline over baseline for the Comparison group. Safe water is an areas that Nuru is planning to focus on more in the second half of 2018. Nuru has been working in 2016 and 2017 on access to water which is not measured in the evaluation data. Handwashing with soap is challenging in the Ethiopian context and is an area that needs more focus in the future.

Based on these results, recommendations and next steps include:

- Focusing on complementary feeding and nutrition, build the program's ENA demonstration capabilities locally, drive demand for nutrition counseling corners and address household barriers through care group conversations.
- Supporting government-run indoor residual spray activities seasonally, specifically where the malaria incidence rates are highest.
- Addressing safe water by working to create MOU connections between the Union and the cooperatives for Waterguard distribution and conduct trainings on demand creation and accountability systems.
- Conducting a spring capping pilot to gather information on water source demands and cost-effective water source development.
- Prioritizing messaging around hand washing with soap/ash at key times. This habit is particularly challenging in Ethiopia, but it is also proven to save many lives and reduce the disease burden significantly.
- Updating the water and malaria strategy as the team scales to Zala. For example, begin tracking indoor residual spraying and measuring water access.

EDUCATION

INTRODUCTION

The Nuru Ethiopia Education Program aims to increase child literacy levels to second grade reading levels among Nuru farmer children in early primary school (Grades 1-4). Grade 2 level literacy is generally defined where children can fluently read and comprehend basic text. For the 2016-2017 school year, Nuru offered services to 21 primary schools and 12 Nuru farmer cooperatives, serving almost 6,000 children in grades 1-4.

The core components of the Nuru Ethiopia Education model are:

- Teacher training on the best practices in teaching literacy in the schools located in Nuru farmer cooperative areas, along with regular follow-up observations and feedback to teachers and administrators
- The establishment of school libraries in the schools where teacher training is conducted
- Training for district and school officials on leadership and management techniques
- The establishment of book banks, or mini-libraries, at Nuru farmer cooperatives where children of cooperative members can practice reading outside of school walls
- The co-construction of sex-segregated latrines to increase girls attendance in school.

This model is based on [Save the Children's Literacy Boost](#) model. The overall focus and goal is to improve the reading skills of students in Nuru target areas, specifically focused on the five core components of literacy: letter identification, phonemic awareness, fluency, vocabulary and comprehension.

OBJECTIVE

This report serves as the follow-up time point to the 2016 baseline. Nuru conducted a baseline literacy assessment of a sample of its service areas in Ethiopia in 2016. The follow-up assessment was conducted in 2017 after approximately one year of Education Program services. The following presentation of individual level data collected at the household level intends to provide an update on the progress Nuru farmer children are making in literacy compared to a non-Nuru sample of children over one year of the Education Program in Ethiopia.

Nuru M&E supports this work by conducting an annual review of progress toward the program’s impact goal to address the evaluation question: *What is the impact of Nuru Ethiopia’s Education Program on progress toward literacy and the core components of reading?*¹⁶

METHODOLOGY

Nuru Ethiopia M&E conducted a baseline assessment of literacy in Ethiopia in August 2016. The M&E team returned to try to capture the same children in August 2017 to assess their growth over one year of Nuru’s intervention. August was chosen as a time when children were out of school for “summer” break between school years. The baseline and follow-up assessments were carried out at the household level with an attempt to capture all households of Nuru cooperative members that had children who had completed grades Kindergarten and first grade in 2016. In addition, the same household level assessment was carried out in areas that were used as comparison areas for Nuru’s other non-educational services.

The findings presented in this report highlight those children who initially completed Grades Kindergarten and first grade in August of 2016 and then followed up with them after they completed who completed Grades 1-2 in 2017. The numbers of children assessed in Nuru and Non-Nuru households is depicted in Table 7.

Table 7. Survey timeline and sample sizes

Sample	# of children surveyed in 2016/17	# of children surveyed in 2017	# of enumerators	Dates of training	Dates of data collection	Data entry and quality control
Nuru	314	269	35	July 2017	Aug 2017	Aug 2017
Comparison	216	129				

The growth of the children on literacy domains from the Uwezo and EGRA assessments in Nuru areas vs the children in non-Nuru areas were captured and compared to each other. The difference in literacy growth rates will be assessed as Nuru’s impact. This is often referred to as a difference in difference approach and allows for the comparison of results when groups start at different places.

¹⁶ The evaluation survey is available upon request

¹⁷ These numbers reflect the matched respondents between 2016 and 2017.

Table 8. Grades completed

Sample Group	# of children that completed kindergarten ¹⁸	# of students that completed first grade
Nuru	141	128
Comparison	37	92

Uwezo

The Uwezo Literacy Assessment was developed by a regional initiative between Kenya, Tanzania and Uganda called Uwezo, which strives to improve the competencies in numeracy and literacy among primary school aged children.¹⁹ NE M&E originally chose this tool to use for the baseline assessment because Nuru had used Uwezo in Kenya for assessing literacy and it was a relatively quick and easy tool to use.

In August 2017, at follow-up, the Uwezo assessment was used to assess the growth of children on two main indicators: 1) progress toward literacy, a composite measure scaled 0-5, which reflects the average literacy level of students according to the Uwezo assessments, where 0 = None, 1 = Letter, 2 = Word, 3 = Paragraph, 4 = Story and 5 = Literate, and 2) the percentage of children who moved up a level on the Uwezo from one year to the next.

EGRA

As a part of the evaluation strategy starting in 2016, NE M&E began using the Early Grade Reading Assessment (EGRA) for measuring literacy. [The Early Grades Reading Assessment \(EGRA\)](#) is currently the most commonly used early grades (grades 1-4) literacy assessment in the world. EGRA was developed in 2006-2007 by early grade reading experts at RTI and USAID in consultation with reading scholars at universities and early grade reading experts from a host of other organizations around the world. EGRA has been used by over 30 organizations in over 70 countries and translated into 120 languages.

¹⁸ Kindergarten completed in 2016

¹⁹ Primary school aged children are between 6 and 16 years old in this context. For more information on Uwezo, please visit www.uwezo.net

Typically EGRA has six main components, but this study highlights three components that were selected for their comparability to Nuru's past assessment, Uwezo, and for time purposes. In future years, Nuru may include more EGRA components, in addition to these three. The three main components of literacy assessed were: Letter Name Identification, Familiar Word Reading, and Oral Reading Fluency. From those domains, three main indicators were used to assess baseline results. Those indicators are:

- Percentage of letters correctly identified in one minute
- Percentage of words correctly read in one minute
- Number of correct words per minute (cwpm) read in a short story

For the first two domains, children were given lists of 50 letters and 50 words and asked to identify or read as many as they could. Enumerators timed them while recording their results and stopped them after one minute was complete. For the third indicator, children were given a story and asked to read it all of the way through. Enumerators recorded how many words children read correctly in one minute, but children were allowed to finish the story if it took them longer than one minute. Only words read correctly in the first minute were recorded for analysis.

In future evaluations, NE M&E will use the EGRA assessment due to its wide use in the education sector, ability to compare results to other organizations and countries, and ability to provide more precise estimates of literacy levels. The Uwezo assessment was used in 2017 to gather a 2nd timepoint of data, but it will might be phased out to prevent administering two separate assessments at once.

RESULTS

The results portion of this report is broken down into two sections: 1) The results of the Uwezo assessment which depict growth of students from 2016-2017 and 2) The results of the EGRA assessment for 2016-2017. The students tracked in these analyses completed Kindergarten and Grade 1 in 2016 and Grades 1-2 in 2017.

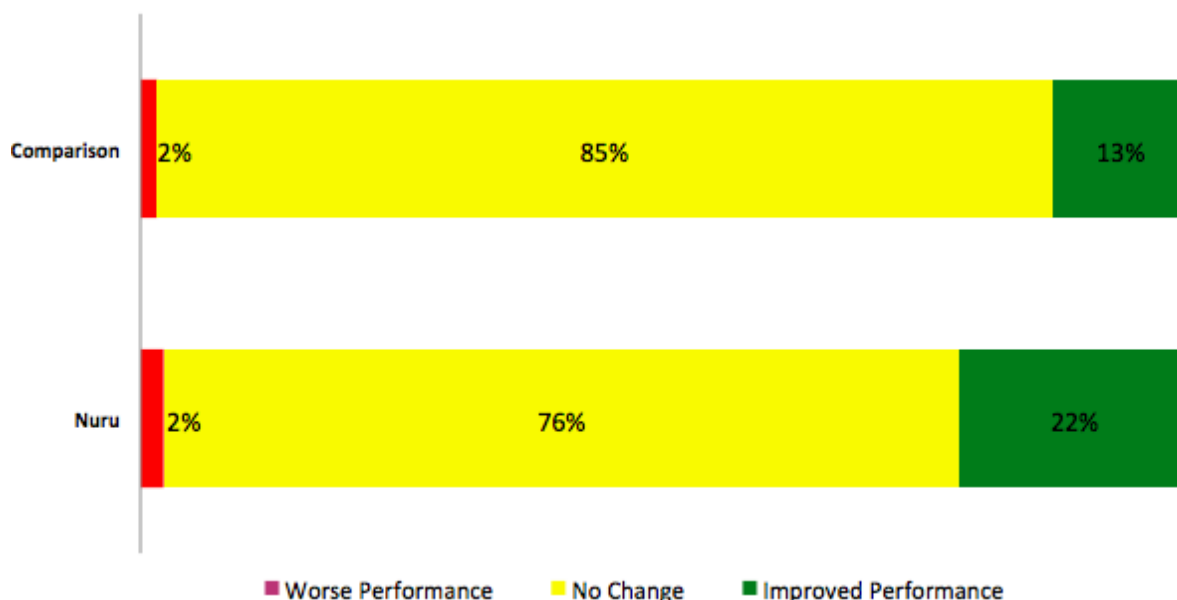
Results: Uwezo 2016-2017

The results of the Uwezo assessment are often broken down into levels: Nothing, Letter, Word, Paragraph, Story and Literate. Students are characterized by the highest level they were proficient at on the Uwezo exam. For example: If the student is able to read the two short paragraphs of the Uwezo

assessment fluently with minimal errors, but not able to read the full story given to them after that, they will be marked as having attained the paragraph level. At baseline in 2016, the highest level attained on the Uwezo was recorded for both Nuru and Non-Nuru students. For the 2017 follow-up assessment, the highest level attained on the Uwezo for each of the same students with the goal of understanding how many students moved up a level, stayed the same, or performed worse than in 2016 (Figure 12).

Figure 12 shows the percentage of students in the Nuru-service areas versus the children in the non-Nuru comparison areas. Overall, approximately 22% of the children in Nuru service areas increased at least one level on the Uwezo assessment, while only 13% of children in the comparison areas increased one level. The difference of 9% is reflected as impact of the Nuru Education Program over one year of the program. While the majority of students, 76%, stay at the same level in Nuru areas, a small percentage (2%) of children perform worse and their literacy levels drop from 2016 to 2017. Overall, more children in Nuru areas are improving their reading levels than non-Nuru areas.

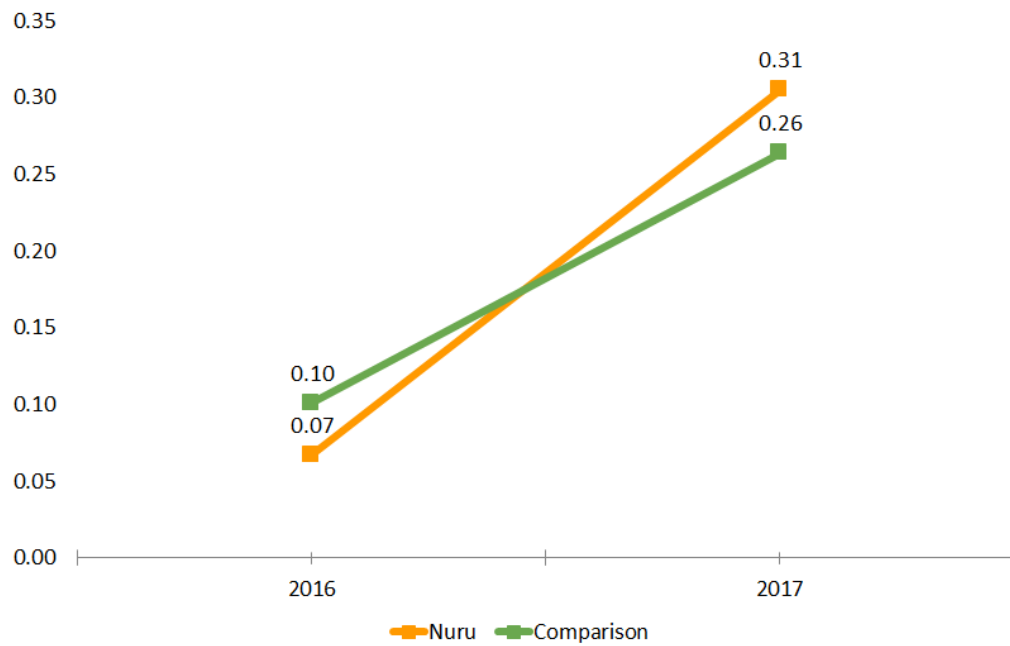
Figure 12. Change in Literacy Levels 2016 - 2017



In addition to how many students improve their literacy levels, Nuru also looked at the average literacy level students achieved. At baseline in 2016, children in Nuru areas averaged approximately 0.07 on a scale of 0-5, while non-Nuru students averaged 0.10 (Figure 13). In practical terms, this meant that the majority of students in both groups were not even able to recognize letters, the initial level on the Uwezo assessment, where children are asked to identify 4 of 8 letters presented. At follow-up in 2016, Nuru students averaged 0.31 compared to only 0.26 for Comparison students. Nuru students grew by

0.24 points, while Comparison students grew by 0.16 points, a difference of 0.09 points. While this difference was small, children in Nuru areas were growing at a faster rate than non-Nuru areas. Overall, children in both Nuru and comparison areas were averaging well below the “Letter” level on Uwezo.

Figure 13. 2015 - 2016 Progress Towards Literacy All Grades



Literacy Scores: 0 = None, 1 = Letter, 2 = Word, 3 = Paragraph, 4 = Story, 5 = Full Literacy

While overall literacy levels are still low, children in the Nuru areas are trending up over time. The Comparison group is growing as well, but at a slightly slower level. It is important to note that one explanation for the Comparison group’s growth is spillover. Nuru works with Woreda (district) officials that oversee all of the schools and cluster supervisors who have some Nuru intervention schools and some Comparison schools. The exact spillover effects cannot be determined, but anecdotally, the Woreda is implementing some of the best practices Nuru is teaching at other non-Nuru intervention schools.

Nuru saw challenges with its out of school reading activities in 2016-2017. Volunteers did not show up regularly and when they did, instruction and supervision of children engaged in reading activities was not high quality. As a result, Nuru decided to shift strategy to support after school reading sessions held at schools led by trained teachers. This activity is scheduled to start in January 2018, and will emphasize the practice of reading. Additionally, Nuru saw that families were not involved in children’s reading. Nuru Education will also implement behavior change workshops with mothers of

school children beginning in 2018. Themes will emphasize the importance of sending children to school, allowing more time for homework and reading practice at home, creating a home literate environment, and giving supplemental reading charts to each Nuru farmer household.

When the aggregate results are broken down by grade level, students in Nuru areas outperform students in non-Nuru areas at each set of grades (Figure 14). Students in Nuru areas who moved from grade K to 1 from 2016 to 2017 grew by a slightly larger margin, .07 points, than the Comparison group.

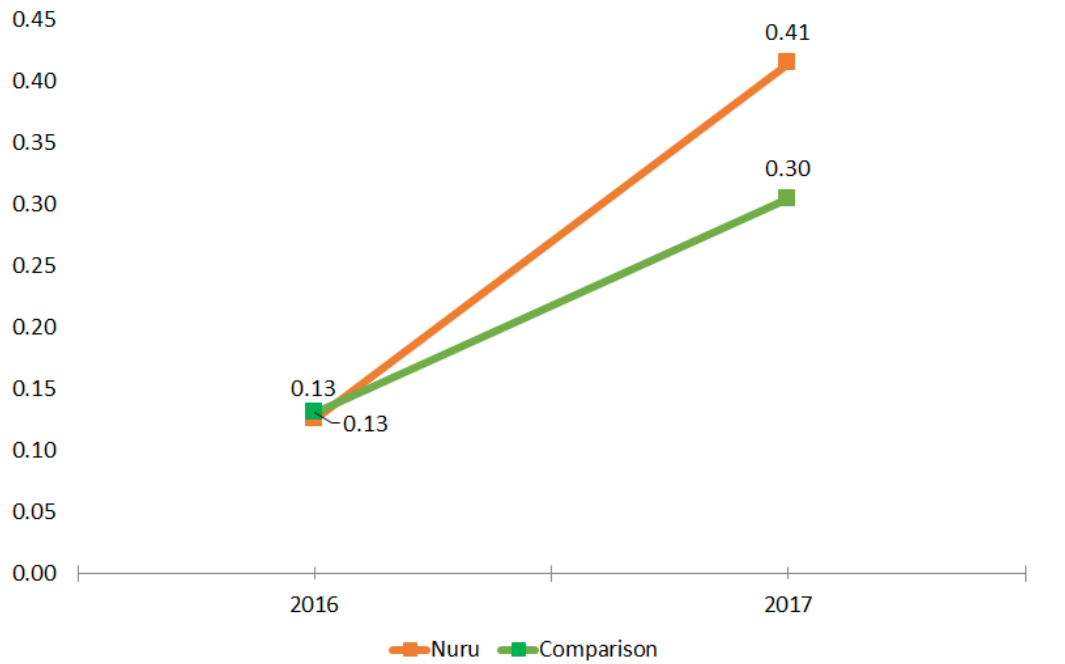
Figure 14. Progress Towards Literacy Grade K-1



Literacy Scores: 0 = None, 1 = Letter, 2 = Word, 3 = Paragraph, 4 = Story, 5 = Full Literacy

In Figure 15, students who complete Grade 1 at baseline in 2016 and Grade 2 at follow-up in 2017 grew by .28 points in Nuru areas vs .17 in comparison areas. This difference of .09 points can be seen as Nuru’s impact as both groups started at the same level.

Figure 15. Progress Towards Literacy Grade 1 - 2

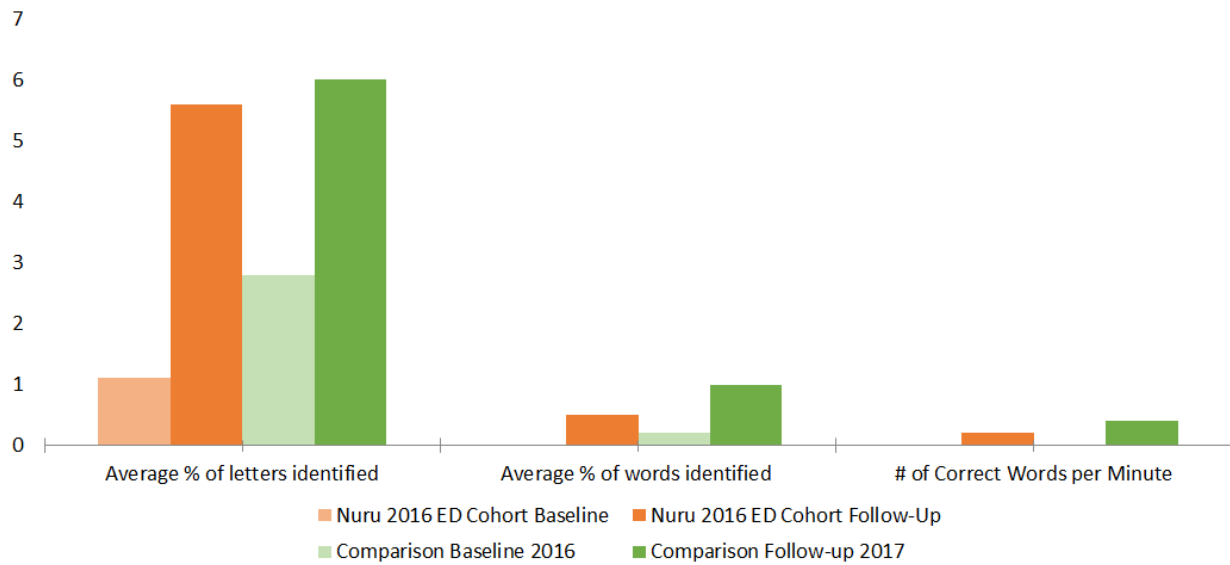


Literacy Scores: 0 = None, 1 = Letter, 2 = Word, 3 = Paragraph, 4 = Story, 5 = Full Literacy

Results: EGRA 2016-2017

As noted in the methodology section, 2016 was the first year that subtasks of the Early Grade Reading Assessment (EGRA) were administered by Nuru in Ethiopia. Nuru also followed up using those EGRA subtasks in 2017. On the domain for average percentage of letters identified (out of 50), Nuru students grew by 4.5%, while Comparison students grew by 3.2% (Figure 16). Gains on the percentage of letters identified and correct words per minute were not significantly different from the Comparison group with the vast majority of children not able to read any words. While Nuru’s students growth was small, it is important to remember that over 94% of children at baseline in Nuru’s group were not able to identify letters. That percentage of zero scores has decreased by 18% for Nuru children over the course of one year compared to only a 7% reduction in the Comparison group. Nuru students are making more progress than Comparison students, but there continues to be a need for more emphasis at the basic letter identification level given the very low levels of literacy of the catchment area.

Figure 16. 2016 - 2017 EGRA Sub-task Results



CONCLUSION AND RECOMMENDATIONS

While there is still much room for growth, with the majority of Nuru children only reading below letter level, Nuru’s literacy intervention is making positive impact. Students showed progress towards using reading as a skill to learn new things which could open up opportunities in the future and prevent the cycle of intergenerational poverty.

Still, Nuru recognizes some limitations to this study. As in any longitudinal study over the course of time, retention of participants is a challenge. Nuru had some challenges in retaining initial participants, though sample sizes are still large enough to compare Nuru students to non-Nuru students. Additionally, the results of this analysis only compares average scores across Nuru farmer children and non-Nuru farmer children. Control variables and other factors are not included, which may have some effect on the overall assessment of impact. As mentioned earlier, there is likely to be spillover from the Nuru intervention into the comparison areas due to working with Woreda (district) officials who are implementing some of Nuru’s best practices across the entire area. It is not possible to estimate this spillover effect on the Comparison group’s growth, but it should nevertheless be noted.

Based on these results, recommendations and next steps include:

- Including Kindergarten teachers in the teacher training sessions each month at schools to help establish some of the foundational skills such as letter identification at an early age.

- Transitioning from out of school reading camps to support tutorial sessions during school free periods and after school to emphasize core reading skills.
- Adding a behavior change communication components to parent meetings through cooperative activities with women such as healthcare care groups and saver meetings to continue to emphasize the importance of children attending school and reading outside of school walls.
- Creating reading rooms for some schools to ensure greater use of books during school time.

An additional recommendation based on the data from this report is that Nuru Ethiopia focus its efforts on how to effectively teach letter identification and word decoding skills due to the lack of these basic literacy skills in the catchment area.