

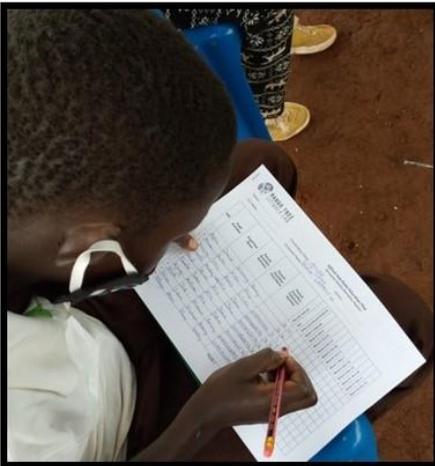


# MANGO TREE LITERACY LAB

## Report on the EdTech Hub Sandbox:

Radio Program for Early Primary Literacy in the Lango Sub-region

September – December 2020



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## 1. THE ORIGIN OF MANGO TREE'S RADIO PROGRAM

As schools in Uganda closed down in late March due to Covid-19, Mango Tree Literacy Lab (MTLL) had to reconsider our 2020 work plan. When the Ministry of Education and Sports (MoES) published its *“Framework for the Provision of Continued Learning During the Covid-19 Lockdown in Uganda”*<sup>1</sup> and began radio education programs in the Lango Sub-region, we decided to develop our own radio education programming focused on literacy instruction for children in P1-P3, an area of the curriculum that the MoES was not able to address because it required creating materials in multiple local languages. With no dedicated funding for this, we partnered with Radio Q FM, a local radio station, who generously agreed to provide us with one hour every Saturday for no charge.

In May 2020, Mango Tree, together with Ichuli Institute, responded to a call by the EdTech Hub for non-internet education innovations that addressed the Covid-19 crisis. Upon selection to participate, we ran a “Sandbox” (short experimental pilot) in the four districts of Alebtong, Dokolo, Kole and Otuke, in the Northern Uganda Lango sub-region from September to December.

### **The hypothesis driving this Sandbox was:**

*“If we deliver radio content alongside a supportive human infrastructure and simple supplemental materials, then we can cost-effectively teach literacy in local languages and English to primary-age children when they are not in school, so that they achieve meaningful literacy competencies.”*

To test this hypothesis, we involved a wide variety of stakeholders in the administration of this program, including education sector professionals at the district level, teachers’ college, primary schools, parents, community, and the learners themselves, who were the end beneficiary of this project. In Section 2, we describe our model in detail, focusing on its three main components: A. radio programming; B. supportive infrastructure of community actors; and C. supplementary materials.

To validate our hypothesis, we used learner assessment tools, videos, and other qualitative and quantitative tools, collecting data over the 3-months pilot period. In Section 3, we describe our key findings structured in accordance with the six critical beliefs underpinning our hypothesis.

Lastly, in Section 4, we conclude by outlining some of our key takeaways and next steps.

## 2. PROGRAM STRUCTURE

From the beginning, we understood that radio instruction alone was unlikely to bring about significant learning gains for students in Northern Uganda. With this in mind, we supplemented high quality radio instruction with a supportive human infrastructure of community actors, and supplementary materials to guide both community facilitators and learners. Below we describe each of these three pillars of the model.

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<sup>1</sup> Retrieved from: <https://inee.org/resources/framework-provision-continued-learning-during-covid-19-lockdown-uganda>

## A. Mango Tree Radio Content

The institutional values of Mango Tree Literacy Lab (MTLL) and Ichuli are to support national policies, so our pedagogical approach to radio instruction was framed by the Ugandan National Primary Curriculum and the recently introduced National Literacy Model for Early Primary learners. We began by selecting the national competences for local language and English literacy that we felt could be taught effectively through radio instruction.

Our content covered literacy competencies from the first term of Primary 1. The content was delivered over twelve one-hour radio programs that were broadcast on consecutive Saturdays from 12-1 pm. We organized the twelve radio programs into two series of six shows: five pre-recorded shows delivering literacy content, followed by a sixth show which featured feedback from the listening audience - captured through pre-recorded audio content gathered from listeners, parents, co-teachers and others in the field. The sixth show of both series also included learning assessments of individual listeners at their respective centres.

Episodes included 45 minutes of instructional content due to commercial breaks. These breaks divided instruction into four segments. The first segment was fifteen minutes long (from 12:00-12:15) and the remaining three segments were each ten minutes long, with five-minute commercial breaks between segments. Breaks were used as an opportunity for the co-teachers to actively engage listeners on the content presented in the previous segment.

Here is an outline of the radio program segments:

**Segment 1 - Reading and writing competences:** This segment is based on the national literacy model's "Literacy Hour" but compacted into fifteen minutes of direct instruction with controlled, call-response participation by the listeners. Each week introduces a new letter. Listeners learn the name and sound of the letter, how to write the big and small forms and blend the letter sounds to form words.

**Segment 2 - Storytelling:** This segment focuses on listening and speaking competences and is based on the Oral Literature (OL) and News lessons in the national curriculum. During OL weeks, the radio teacher reads a story. The focus is on building listening comprehension and vocabulary. During News weeks, the radio teacher tells a personal story based on a theme from the curriculum while modeling speaking competencies. After listeners hear the radio teacher's story, they write their own real-life story using pictures and then tell their story to their friends, co-teachers, and family members.

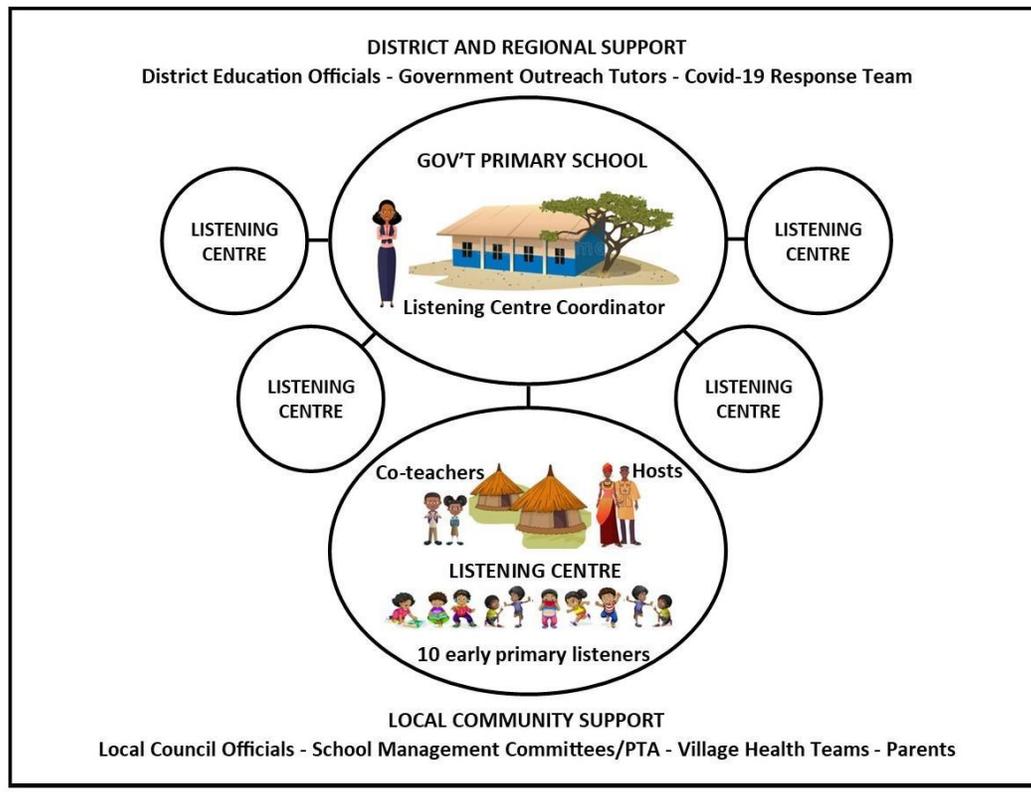
**Segment 3 - English language competences:** In Primary 1 in Uganda, English is oral only with a focus on developing vocabulary and simple conversational structures.

**Segment 4 - Games and activities:** The radio teacher shares games and activities the children can do both during and after the radio show that provide additional practice using the skills learned during the first three segments. The radio teacher also shares simple instructional materials the co-teachers and listeners can make to support learning specific competences.

## B. Supportive Community Infrastructure

At the top of our infrastructure model were district leaders, selected from the education department to supervise our work. Government outreach tutors from the regional primary teachers' college were also selected to provide weekly supervision at the primary school level. The COVID-19 task force for each district was also involved to ensure the model was COVID-19 secure and to support and direct the village health teams who were supervising the individual listening centres.

### *Mango Tree Community Infrastructure*



The government primary school was the hub of our model. In each school, an early primary teacher with demonstrated ability in teaching literacy was selected as the Listening Centre Coordinator (LCC). Together with the head teacher, LCCs identified families with working radios who would be willing to host a group of about ten children at their home for the Saturday radio show.

We also asked the LCC to go to the Local Village Council and Village Health Team to seek their support of the listening centre. The School Management Committees and PTAs, as well as individual parents, were also involved to various degrees in supporting the listening centres.

With these supportive systems established at both the district and village level, each identified Listening Centre selected two volunteer Co-teachers to supervise and support the listeners, both during the radio show and through additional tutoring throughout the week. Co-teachers included

other classroom teachers at the school, parents, caregivers, and secondary school students. The majority of the Co-teachers, however, were upper primary school children from the school.

LCCs met with all their co-teachers each Friday for about 90 minutes to prepare them for the Saturday radio show content and to lead a community-of-practice training session where co-teachers supported each other to develop their skills as literacy tutors.

### **C. Simple Supplemental Materials**

Our model included three types of supplemental materials.

**Participation Agreements:** Over our 10 years of experience, we learned to always outline what we are providing to project participants and what we expect from them in return. Participation agreements were signed by all project stakeholders, from district officials to parents, to ensure positive accountability and alignment of expectations.

**Implementer Handbooks:** District Officials, Listening Centre Coordinators, Listening Centre Hosts, and Co-teachers each received a guidebook that gave them all the information they needed to effectively implement their role in the project. These were distributed at orientation workshops at the beginning of the Sandbox along with the participation agreements.

**Instructional Materials for the Listeners:** These included workbooks on handwriting and visual discrimination as well as local language storybooks and government literacy textbooks. Supplemental resources were also provided to co-teachers including a chalkboard, materials for making flashcards, and other literacy materials. Lastly, listener assessments that were administered by co-teachers at weeks six and twelve and sent home so parents might understand their child’s progress in obtaining key literacy competences, were part of the kit. The instructional materials for listeners were distributed to listening centres the week prior to the first broadcast.

#### **Mango Tree Infrastructure by the Numbers**

- 4 Pilot Districts in the Lango Sub-region
- 1 District Education Point Person per district (4 District Education Officials total)
- 1 Covid-19 Task Force Member per district (4 Covid-19 Task Force Members total)
- 1 Government Outreach Tutor per district (4 Outreach Tutors total)
- 5 Pilot Primary Schools per district (20 Pilot Schools total)
- 1 Listening Centre Coordinator per school (20 Listening Centre Coordinators total)
- 5 Listening Centre Hosts per school (100 Listening Centre Hosts total)
- 2 Co-teachers per listening centre (200 Co-teachers total)
- 10 Listeners per listening centre (1000 Listeners total)

### 3. KEY FINDINGS

Throughout the Sandbox process “critical beliefs” have been identified and tested in order to assess the validity of our model. These are essentially *assumptions* which, if validated via evidence gathered, will enable us to feel a higher level of confidence in our program. This section summarizes some of the most compelling findings from the Mango Tree Radio Program pilot, organized according to critical beliefs.

#### **CRITICAL BELIEF 1:**

Parents want their children to access educational opportunities while out-of-school and will encourage them to listen to the radio program and provide support if clearly directed.

#### **Summary of findings:**

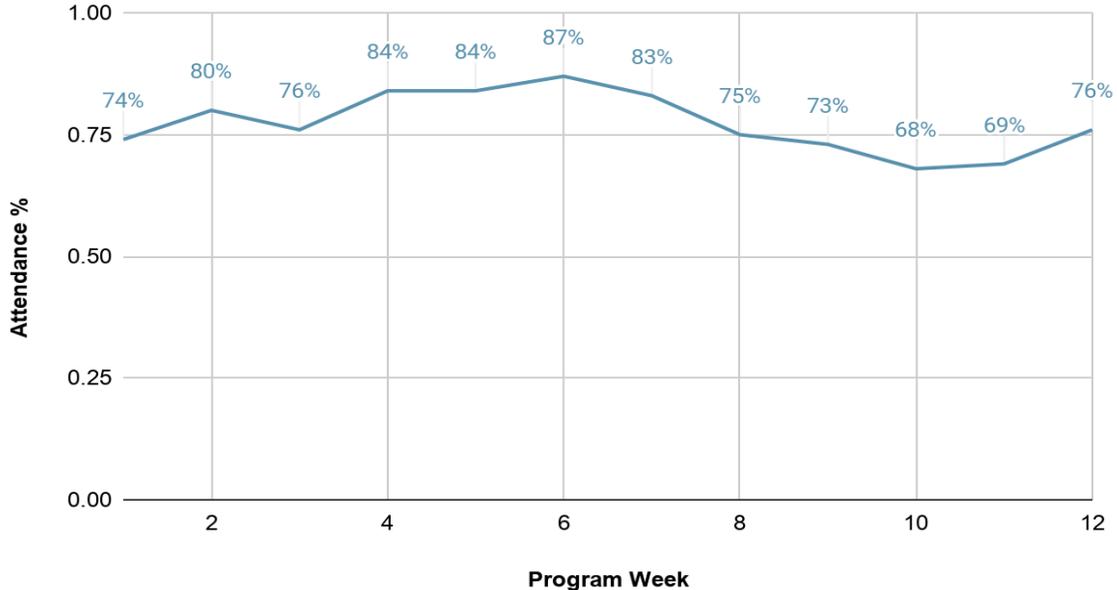
Parents have shown a great willingness to support their children while out of school by ensuring they consistently attend listening centres, providing scholastic materials, and often attending the radio shows themselves.

Our findings show that parents were very engaged and interested in their children’s access to education during this lockdown period. This is evident from the following key findings:

#### **Learning Centre counted on strong attendance, both of learners and parents:**

During the course of the twelve weeks when the radio program was broadcasted, learners’ attendance at listening centres has been consistent, with an average attendance of 77.4% by registered learners. This high attendance level is illustrative of parents’ willingness to let their children travel to listening centres and their support of children’s learning during school closures.

**Graph 1: Trends in learners' attendance through the 12 weeks of the pilot**



In addition to pupil attendance, parents engaged in listening centre activities more than originally expected, and their engagement increased over time. Parental attendance during radio shows was on average 23.5% at week six and grew to 35% at week 12, a sign of their increased interest and support of the program.

Beyond parents, our original critical belief underestimated the extent to which other caregivers and community members would engage in learner centres. Our attendance tracking showed that a wide variety of stakeholders would regularly attend these sessions, including older siblings, aunts, uncles, and cousins, interested neighbors, and others. Learning centres did in fact become a community attraction.

**Beyond ensuring attendance, parents also provided support and encouragement.** Our parent surveys highlight the many ways in which parents have supported learners to engage with learning centres, including:

- helping to maintain hygiene, ensuring COVID-19 practices, and maintaining discipline.
- providing pens, pencils, exercise books, papers, and book bags for the learners.
- demonstrating an interest in their children's progress, writing encouraging comments in textbooks, and asking for report cards after learning assessments. Some even suggested that meetings should be held at the village level to provide caregivers guidance on how best to support their children in reading while at home.

## **CRITICAL BELIEF 2:**

Children in early primary (ages 6-8) have the attention span to listen to a one-hour radio program (4 lessons of about 10-15 minutes) if we utilize best practices in radio pedagogy and leverage facilitation from Co-teachers.

### **Summary of findings:**

An overwhelming majority of learners are engaged in actions as directed by the co-teacher throughout the one-hour radio program, with 88% of learners actively engaged in listening and writing tasks. Co-teacher facilitation proved largely effective.

**Learning centre observations point to a high level of engagement by learners.** On average, 88% of learners were engaged in listening and reading tasks across the four lesson segments (as opposed to being distracted or disinterested), with engagement generally peaking at around 90% in the first segment and declining to an average of 85% by the fourth segment. This high level of engagement is a testament to the engaging nature of the radio program and the effectiveness of Co-teacher facilitators.

**In general, co-teachers were observed to be capable facilitators which contributed to high engagement.** Observations found that most Co-teachers established positive relationships with learners and demonstrated positive teaching practices, including pairing learners so they might practice new skills, helping individual learners who seemed to be falling behind, providing learners with additional practice exercises, modeling expected actions, identifying errors and how to correct them, and utilizing instructional materials (flashcards and picture cards) effectively. While some co-teachers performed poorly, at times not following radio instruction or ignoring distracted learners, in general their facilitation was observed to be positive.

**While engagement was high, Listening Centre Coordinators did provide some recommendations on how instruction and time on task could be improved:**

- Some expressed that the content covered across four segments was too much to cover in one hour, and suggested paring down the amount of content per episode.
- Additionally, it was suggested that co-teachers should receive a copy of each week's radio script.
- Due to the limited time, it was also challenging for co-teachers to make full use of the supplementary materials provided to learners. To take full advantage of the resources, listening centre coordinators encouraged the co-teachers to create additional lessons outside of the radio program. Co-teachers embraced this idea, as it gave them an opportunity to demonstrate their teaching skills. (In future, Mango Tree plans to compile the supplemental listener materials into one workbook to accompany the radio show.)

### CRITICAL BELIEF 3:

Early literacy competencies like letter name knowledge, decoding, listening comprehension, and handwriting can be taught over the radio if we provide appropriate human and material support.

#### Summary of findings:

Across weeks 1-12, learners have exceeded their competencies in name writing and letter name knowledge, they can properly handle print materials and are comprehending stories that they listen to. Majority of co-teachers are present at the listening centres, engaged with these learners, and found the materials to be really helpful.

As we set out to pilot this model, we believed that early literacy gains would be possible if learners engaged with our radio lessons and if they were provided with consistent support from Co-teachers and materials. As we have demonstrated above, both the attendance and facilitation from Co-teachers have led to meaningful engagement in instructional content. But has that led to tangible improvements in learning?

To assess the effectiveness of our model, we conducted pre- and post-assessments at weeks 2 and 12 of the program.

**Listening Centre learners are improving in key literacy competencies from radio instruction.** The findings show that learners have progressed relatively well across the 12 weeks of the pilot in the different competencies.

**Table 1: Comparison between the listeners' pre-test and the post-test performance**

Assessment (items assessed)	Average Correct	Average Score	Average Score Increase
Name writing: spelling and letter formation (12)	7.5	62.5%	+16.1
	9.4	78.6%	
Letter name knowledge (50)	16.0	32.0%	+27.6
	29.8	59.6%	

<b>Print awareness (5)</b>	3.6	72.5%	<b>+12.7</b>
	4.3	85.2%	
<b>Listening comprehension (3)</b>	2.0	65.4%	<b>+9.2</b>
	2.2	74.6%	

The results from each competency are broken down below in more detail.

**Name Writing:** a 12-point rubric was used to evaluate listeners’ ability to write and spell their name correctly with a score of 8 points considered “competent” for P1 learners. At the beginning of the pilot, the average score (7.5 points) indicated a majority of listeners had not attained competency. By week 12 the average score increased to 9.4 points, indicating that many listeners improved their ability to write their name with competence.

**Letter Name Knowledge:** at the beginning of the pilot, learners identified 32% of the letters, meaning that they could only correctly identify 16 out of 50 letters by name, but by week 12, the average had significantly increased to 59.6%, meaning that they could on average correctly identify 30 out of 50 letters by name, nearly doubling the number of letters they could identify.

**Print Awareness:** in the post-test, over half (53.4%) of learners assessed could correctly identify *all* five print awareness components, an increase of 25 percentage points from the pre-test scores (28.3%).

**Listening comprehension:** the ability to answer comprehension questions from a story told aloud increased by about 10% over the course of the 12-week pilot.

These results are extremely encouraging, showing that in a short number of weeks, basic learning gains can be reached through the Mango Tree radio program.

#### CRITICAL BELIEF 4:

Community members outside of the target listening centre learners, including listening centre Co-teachers, schoolteachers, and caregivers, even if not directly involved in the pilot, will gain additional knowledge and skills to support early literacy instruction.

#### Summary of findings:

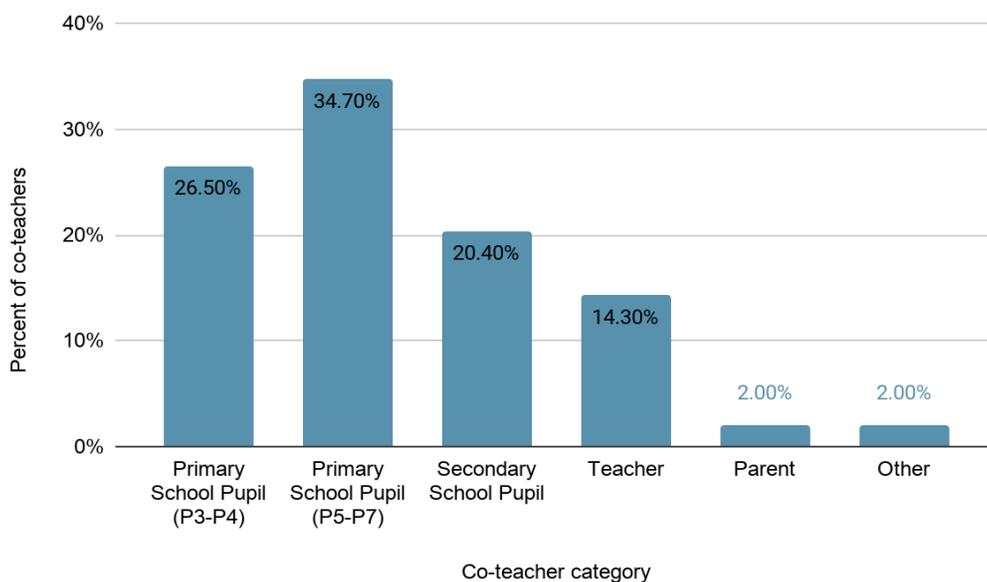
Co-teachers directly involved in learning centres (many of them primary school learners themselves) saw significant increases in their own literacy competencies. The impact of the program on schoolteachers' and caregivers' competencies were not able to be measured at this time.

Early in the design of this pilot, we wondered whether co-teachers, teachers, and caregivers in each of the target communities might themselves also gain skills and knowledge about early literacy by listening to the radio show. While we do have anecdotal comments from parents, teachers and district education officers that they listened and really valued the radio programs, we were unfortunately not able to fully investigate whether teachers and parents gained additional knowledge from radio programs due to the tight timeline of the Sandbox. We did however assess Co-teachers (many of them primary and secondary school students themselves) on a number of early literacy outcomes, and found promising results.

#### Co-teacher demographics

As Graph 2 (below) illustrates, our model's Co-teacher cohort was composed of a number of different community stakeholders. It is notable that over 60% of the co-teachers coming from primary grades.

**Graph 2: Category of Co-teachers**



## Co-teachers literacy assessments

The Co-teacher assessment was originally formulated as an orientation screening tool to ensure that the selected candidates had the literacy skills to handle the task. We quickly realized that we could use the same tool to measure literacy gains during the Sandbox. The table below shows that there has been a marked improvement in the Co-teachers' literacy competencies from week 1 to week 12 across spelling, reading, writing, letters, and English comprehension. It is worth noting that most of the Co-teachers are students and thus were also affected by the school closures. These gains show that the program also benefited the Co-teachers. This is as a direct result of the support and mentorship of the Listening Centre Coordinators.

**Table 2: Comparisons between pre-test and post-test performance of co-teachers**

Assessment (items assessed)	Average Correct	Average Score	Average Score Increase
Spelling (5)	4.0	80.7%	<b>+10.9</b>
	4.6	91.6%	
Reading Comprehension (30)	22.9	76.3%	<b>+12.7</b>
	26.7	89.0%	
Creative Writing (12)	7.9	66.0%	<b>+7.7</b>
	8.8	73.7%	
Letter Name Knowledge (50)	40.6	81.2%	<b>+14.3</b>
	47.8	95.5%	
English Comprehension (10)	9.3	93.3%	<b>+5.2</b>
	9.9	98.5	

These results hint at the potential of Mango Tree's radio program to impact the broader community beyond P1-P2 learners, serving as an opportunity for primary and secondary school learners to reinforce their literacy skills and gain leadership experience as well. An investigation of the broader community impact is still of interest to the Mango Tree team.

### **CRITICAL BELIEF 5:**

Government (and relevant education stakeholders) will be a supportive, cooperative, willing, and engaged partner during the pilot process.

#### **Summary of findings:**

Stakeholders at the top government authority at district level, education department heads, college principals, and coordinating centre tutors are willing and engaged during the pilot. These are government organs and positions that are the main support structure for teaching and learning at the district level.

A wide range of local government officials were involved throughout the implementation of program. Below we list relevant governments who together with other community stakeholders (LCCs, Co-teachers, and Host Families) form Mango Tree Radio Program's broader human infrastructure, which we deem crucial to the success of the model.

**Resident District Commissioner (RDC) (4):** these representatives from local government head the COVID-19 taskforce in every district and played a crucial role in granting the teams authority to work in communities under the Covid-19 SOPs.

**District Education Officer (DEO)/District Inspector of Schools (DIS) (4):** these government officials lead each District's Education Department. They played very important roles in sensitization, technical guidance, monitoring, reporting, and giving feedback about listening centres.

**Coordinating Centre Tutor (CCT) (4):** these teacher tutors usually provide technical supervision in school classrooms. In our program, they helped in the identification of participating schools, recruited LCCs, monitored listening centre implementation and provided useful feedback on program implementation.

**Village Health Teams (VHTs) (100):** in charge of monitoring the health situation at the village level. The VHTs monitored the listening centres to ensure that all listeners and families were adhering to COVID-19 SOPs.

**Local Council Chairperson (LC1) (100):** Administrative head of the village, the LC1s helped identify listening centres, ensured safety of learners at the listening centre and helped Hosts and Co-teachers adhere to the COVID-19 SOPs.

Planned engagements with the government officials in charge of the districts, education sector, teacher education, monitoring health and safety at the village levels were all successfully conducted with attendance at nearly 100 percent throughout the Sandbox. Their high level of engagement is not only a validation of our critical belief, but testament to their level of cooperation, support, and willingness throughout the pilot process. There are, of course, always ways to improve. For instance:

**Ensure inclusion of village-level secretary of education:** while LC1s and VHTs were very receptive and supportive of the program, in the future, provision should be made for the inclusion of the LC1 vice-chairperson who is also the secretary for education at the village level.

**More outreach at the village level:** LCC's suggested that more focus should be put on the lower-level cadres rather than the top district officials.

## **CRITICAL BELIEF 6:**

Building on our relationships with our target communities, we believe we can create a supportive human infrastructure (inclusive of government officials, teachers, parents and volunteer co-teachers) to effectively facilitate learning through engagement with the radio program.

### **Summary of findings:**

MTLL effectively brought together a network of community stakeholders to support Listening Centres, including capable LCCs who were crucial to the identification, recruitment, and training of co-teachers. This network ensured the model's impact and also surfaced many lessons.

In addition to the government stakeholders named in the previous section, community members which were crucial to the Listening Centres' success include:

**Listening Centre Coordinators (LCC) (20):** LCCs are community teachers who were each in charge of five listening centers around their schools. In this role, LCCs recruited and guided the co-teachers (conducting weekly training, and monitoring listening sessions), mobilized the school community, identified homes to host the radio lessons shows and conducted data collection on Mango Tree's behalf.

**Co-teachers (200):** responsible for facilitating radio lessons, co-teachers are the direct link between the learner, the lesson, and the materials. They engage learners before, during and after the radio lesson show.

**Host families (100):** parent volunteers, hosted the listeners and the radio lesson show at their homes, and kept learning centres hygienic and COVID safe.

As noted in previous sections, the high level of engagement by Listening Centre learners is directly connected to the facilitation provided by Co-teachers, and support brought of the broader human infrastructure developed by MTLL. In addition to the learning gains already reported, a number of other additional data points are worth noting.

**High co-teacher engagement:** during the radio lesson observation, it was noted that at least two co-teachers were present at the Listening Centre 88.2% of the time.

**Ad hoc Listening Centres:** in some villages, it was reported that some LCCs and parents created their own listening centres (without supplemental materials) to meet demand in their communities.

**LCCs noted that the lessons were well aligned with the syllabus** especially as it relates to basic reading and writing competencies.

Some additional insights regarding components of the radio program which contributed to these gains (or places where improvement was possible) were captured through our focus group discussions.

**Co-teachers greatly appreciated how the guidebook aided their facilitation.** The inclusion of reflection journals within the guidebook was also greatly appreciated. However, some (especially the younger co-teachers) noted that guidebooks were confusing and difficult to navigate.

**LCCs suggested that the full stories told during each week of radio programming should be put into the handbook** to enable the LCCs and Co-teachers familiarize themselves with them.

**Additional resources for LCCs:** in order to do their work well, LCCs reported they would benefit from a work plan which would help them in better coordination. They also requested a communication allowance to help in mobilization as well as transport facilitation or to be availed with bicycles since some of the listening centres are very far apart.

**Addressing Co-teacher turnover:** concerns were raised about co-teachers who are secondary students and thus will resume school soon and not be able to participate. LCCs suggested that in the long-term, nursery school and unemployed teachers should be brought into the program as co-teachers, and that Co-teachers be given a more tangible token of appreciation for the work well done.

#### 4. CONCLUSION

In our hypothesis, we posited that...

*“If we deliver radio content alongside a supportive human infrastructure and simple supplemental materials, then we can cost-effectively teach literacy in local languages and English to primary-age listeners when they are not in school so that they achieve meaningful literacy competencies”.*

Beyond the critical beliefs summarized in this report, the data above has shed some light on several key questions, with broader potential implications.

##### **Can the radio program on its own facilitate learning?**

At this point, we do not believe that radio *alone* can foster learning outcome improvements, at least not for young learners. The evidence summarized above has demonstrated that learning is not only about listening to a radio teacher and following their instructions; the human element coupled with simple but effective instructional tools is essential for real gains in children’s literacy competences. Learners need individual guidance. They need repetition and practice beyond the one-hour radio show. They need engaging multisensory experiences that bring literacy to life. And finally, they need regular assessment to measure progress and hold the program accountable. The evidence has shown us that measurable gains in key literacy competencies can be obtained in radio instruction for early primary learners when they have appropriate content developed especially for the radio, a supportive human infrastructure and appropriate supplemental resources for instructors and learners.

### **Can Co-teachers teach learners? Can anyone be a teacher?**

This model sought to identify who can facilitate learning for early primary children. As described above, Co-teachers ranged from caregivers, community members, trained teachers, and even primary and secondary school students. Indeed, peer-to-peer learning has been advocated for in many studies as a key to fostering learning. The results we report seem to indicate that both pupil and co-teacher benefit from engagement in this model. As we transition from this period of school lockdowns to a radio education model that provides remedial support to learners returning to the classroom after a year-long break, we are looking at two possible models:

**Pupils in upper primary** have demonstrated that they can be effective peer tutors with the proper tools and instruction. Keeping the co-teachers under the roof of the primary school provides significant advantages for program delivery and training. It also has the additional benefit of developing both the academic and leadership skills of the peer tutors, as our data indicates.

**Parents and community members with basic literacy skills** also proved to be effective co-teachers during our sandbox and are interested in being more engaged in the learning process. Could there be an advantage to taking the model outside the boundaries of the school and create a radio education model that empowers community members to provide demonstrably effective tutoring services for a small profit? We would continue to provide the weekly radio program and the necessary supplemental materials. Some of these supplemental resources could be sold to parents who want their child to receive the tutoring services. This model might prove to be more sustainable. It also has the advantage of circumventing the challenges of operating inside a large government bureaucracy.

### **Can listeners learn outside a traditional school setting?**

The school in its real sense is not only a building. It is made up of learners, teachers, and the recognition that learning can take place and is taking place in that environment. Most of the current rural primary schools in Uganda were once without the infrastructure that we now call a classroom, but learning went on well and current leaders and academicians have passed through this system. The fact that radio listeners attended the listening centres in their school uniforms, with the bags, books, pens, and pencils is evidence enough that parents, teachers, and above all the learners themselves have acknowledged that learning is taking place, and this was their school during the lockdown. So, we believe a “classroom” is not necessarily a room, but anywhere learners come together under instruction and guidance to learn.

### **In summary**

Our hypothesis holds true that learners can achieve meaningful literacy competencies outside a school setting through a cost-effective delivery of radio instruction.

### **And finally, what's next?**

Our first goal is to complete a full year of testing and refining our model with our existing pilot schools. During this time, we will determine whether to move forward with a school-based model, a small enterprise model, or a hybrid model that incentivizes primary schools to be more entrepreneurial. In 2022, having made final revisions to our model, we will scale up in selected schools in all nine districts in the Lango Sub-region which will also mean expanding the number of radio stations we're working with.

In 2022, we would like to begin engagement with NGOs working in the language communities to our east and west. We want to find Ugandan partner organizations that are interested in initiating early literacy radio education pilots in their language communities in 2023-2024. And as always, we'll share our process and products with government and civil society organizations working in language communities throughout Africa that want to replicate or adapt ideas from our model for their programs.

Throughout this process we'll work closely with Ichuli Institute to rigorously evaluate our model to generate evidence on how to effectively teach literacy through the radio.