

Project factsheet information

Project title	Let's Read!: A Mobile-First Distributed Translation Tool and Reader for Ethnic Minority Languages (Formerly My Community Reader)
Grant recipient	The Asia Foundation Q House, Convent Building, Suite 6D 38 Convent Road Bangkok 10500 Thailand www.asiafoundation.org
Dates covered by this report	01 – 09 – 2016 / 31 – 08 – 2017
Report submission date	31 – 08 – 2017
Country where project was implemented	Thailand
Project leader name	Tom Parks – thomas.parks@asiafoundation.org
Team members (list)	Arpaporn Winijkulchai - arpaporn.winijkulchai@asiafoundation.org John Karr – john.karr@asiafoundation.org Ben Lokshin – ben.lokshin@asiafoundation.org Melody Zavala – melody.zavala@asiafoundation.org Kyle Barker – kyle.barker@asiafoundation.org
Partner organizations	Foundation for Applied Linguistics (FAL) Inter Mountain Peoples Education and Cultures in Thailand Association (IMPECT) / Karen Network for Culture and Environment (KNCE) Smart Ideas
Total budget approved	30,000 AUD
Project summary	<p>Although national governments in Asia are increasingly adopting mother tongue policies for early grade education, communities are unable to put policies into practice because few mother tongue reading resources actually exist. As a result, ethnic minority children continue to learn to read in languages which have no connection to their home and community. This disconnect often results in low levels of learning and motivation, and high dropout rates from school.</p> <p>The Let's Read! project is addressing these issues through the creation of an innovative, distributed translation platform that allows for minority language groups to create open source digital libraries. This project uses the power of technology to connect and promote collaboration amongst speakers of underserved languages.</p> <p>Working in Northern Thailand with the S'gaw Karen language community, The Asia Foundation is creating a scalable model of technology and local community interventions that can be adapted to the local context of any number of other minority language groups throughout the region.</p> <p>Through the first year, the core technology of the platform has been built and tested within local communities. A coalition of local implementing partner organizations in Northern Thailand has been formed and a translator community of S'gaw Karen speakers from various villages has been created. The reader app has also been built, allowing communities to access the translated books through a simplified yet powerful tool.</p> <p>The initial set of international books has been translated by community members. Additional locally created books have been converted to EPUB format and brought into the Let's Read! Library as well. Reading programs within selected S'gaw Karen communities have been created, with implementation having started in June 2017 and running through December 2017.</p>

Table of Contents

Project factsheet information	1
Table of Contents	2
Background and Justification	3
Project Narrative	3
Problem Statement	3
Objectives	3
Partnerships	4
Indicators	9
Project implementation	10
Project Management and Sustainability	12
Project Management Overview	12
Sustainability and Capacity Building	12
Project Outcomes and Impact	14
Project Outcomes	14
Project Impact	14
Overall Assessment	15
Recommendations and Use of Findings	16
Bibliography	16
Additional material	17

Background and Justification

Although national governments in Asia are increasingly adopting mother tongue policies for early grade education, communities are unable to put policies into practice because few mother tongue reading resources actually exist. As a result, ethnic minority children continue to learn to read in languages which have no connection to their home and community. This disconnect often results in low levels of learning and motivation, and high dropout rates from school. This is a situation that particularly affects the S'gaw Karen community in northern and western Thailand, with an estimated population of around 200,000.

For this proof-of-concept project, The Asia Foundation will build, test, and deploy a novel, scalable, end-to-end localization tool designed to be used by a community of users to translate majority language texts into EPUB-formatted minority language books. The Let's Read! project (initially titled the My Community Reader project) will contribute to a significant expansion of the available library of mother tongue children's books, create digital versions of these books, establish an open online library of minority language content, and deliver a mobile app capable of searching and reading titles on local Android devices.

The success of this project will rely on the ability to engage from the outset with ethnic minority civil society organizations, education officials, and regional language specialists to: 1) formulate the project in a manner that addresses local needs and is sensitive to the special circumstances of minority language communities; 2) draw on community members to create, source, and vet story content and illustrations; 3) crowdsource translations; and 4) promote the adoption of the free storybook reader app. In addition, the platform generates both EPUBs and PDFs suitable for local printing, which enables activities facilitated by The Asia Foundation partners to involve parents, communities, and children whether or not they participate in formal schooling.

Project Narrative

Problem Statement

Asia is home to over two thousand minority languages whose speakers are among the region's most marginalized populations. It is now widely understood that mother tongue-based education, in which students begin their education in the same language that is spoken in their home and community before transitioning to a more widely used national language, is the key to unlocking literacy and improving educational outcomes and economic opportunities (UNESCO, 2005).

Although national governments in Asia are increasingly adopting mother tongue policies for early grade education, communities are unable to put policies into practice because few mother tongue reading resources actually exist. As a result, ethnic minority children continue to learn to read in languages which have no connection to their home and community. This disconnect often results in low levels of learning and motivation, and high dropout rates from school. This is a situation that particularly affects the S'gaw Karen minority language community in northern and western Thailand.

Objectives

The overall objective of this proof-of-concept project is to establish a suite of innovative tools and community practices that provide minority language speakers with children's books in their first language.

The specific objectives of the project are to:

- Develop a portable suite of translation tools (framework, content management system, global online library, and mobile app solution) usable in any minority language context where Unicode-compliant scripts are available.
- Deploy and test the translation suite in Thailand's hill tribe areas to translate a selection of open source children's books into S'gaw Karen dialects.

- Establish a local community of practice and translation partnerships in Thailand with local stakeholders, universities, and CSOs to enhance immediate program impacts and facilitate long-term sustainability of the tool in minority communities.
- Learn, document, and share lessons learned about the mobile first translation tool, open source digital library, and story reader app.
- Learn, document, and share community engagement and partnership experiences that aid and constrain the project.

Partnerships

In order to achieve the objectives of this project, partnerships have been a key component from the beginning. The Asia Foundation has worked closely with partners on the technology development, translator community creation, and the implementation of reading programs in S'gaw Karen communities.

Technology Partner

After an extensive search, a technology group based in Kathmandu, Nepal, called Smart Ideas, was selected to help The Asia Foundation build the technology platform of this project. This platform included the content management system, a tool to disaggregate text and images from uploaded EPUB files, translator tool, a global, public facing online digital library, and Android reader app.

The development of the framework for the platform started in September 2016 with The Asia Foundation's technology team meeting with the Smart Idea's team to convey the objectives, concepts and initial requirements for the platform and project.

The conceptual framework for the platform was shared with our implementing partners and members of the S'gaw Karen community in Chiang Mai, Thailand in September to receive their input and feedback.

Through October and November 2016, Smart Ideas concentrated on building the tools that would allow the platform to ingest EPUB formatted files and disaggregate the text and images on a page by page basis, and then store these separately in a content management system. By the end of November, a working version of this system was completed and work on the translator tool began.

The concept for the translator tool is to pull the image and text for each page of a book from the content management system and to display those to the user (translator) along with an input field for their translation. Multiple users (translators) could work on the same book, submitting their own, unique translations for each. The system would aggregate each of these unique, submitted translations for review by an editor.

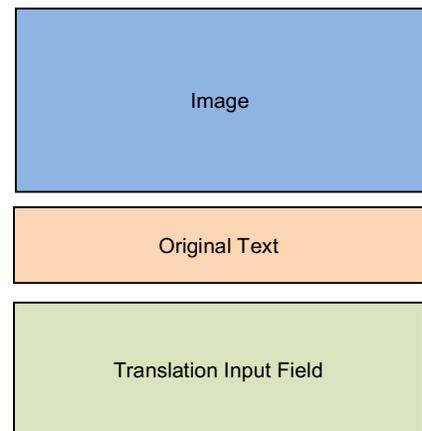


Fig. 1 – Basic layout of a translator's view of the translator tool

Three levels of access for the translator was initially built; translator, editor and superuser. While translators would only see the translations that they're working on, editors would see all of the submitted translations aggregated together for a given page. The editor would then decide which submitted translation best represented the story and the language. The editor would also have the ability to use the majority of a translation but make changes to the word choice in order to have consistency throughout the book. Once an editor chose a translation for each page of the book, the book would be ready to publish back into the digital library in the new language.

This format would allow multiple members of the community to work on the translation of a book at the same time. The translation of a book would not be dependent on a single person to complete from start to finish. And, it would allow the editors multiple versions and word choices to work with.

The Asia Foundation met with both of our local community partners, the Foundation for Applied Linguistics (FAL) and the Karen Network for Culture and Environment (KNCE), in Chiang Mai, Thailand in December to provide them a working beta version of the translator tool. Members of the S'gaw Karen community who were part of these groups were invited to join to provide their feedback. During the meeting with both groups in the room, the group specifically worked on translating a story from Thai to the S'gaw Karen using the Lixwa script.

The overall feedback from this session was very positive. The design and concept of the tool was found to be very intuitive and easy to use. Along with minor issues that were discovered during this testing session, the main areas of feedback centered around how we could better replicate online within the platform the type of dialogue that we were seeing amongst the group physically in the room together during the workshop. Fixes to the translator tool were implemented at the end of December and beginning of January.

Smart Ideas and The Asia Foundation worked on the development of the public facing web app and Android reader app in January and February 2017. The goal was to create a simplified, intuitive platform that would be relatively easy for minority language communities, possibly with limited exposure to technology, to use and adopt. The design elements were kept basic but functionality such as changing font size, switching languages, and zooming into illustrations were prioritized to provide a rich user experience. Features that allow for wider adoption, such as downloadable PDFs, EPUBs and offline storage of books within the reader app, were added to account for those communities that are in limited or completely non-digital environments.

The web app, at letsreadasia.org, and the Android reader app both went live to the public at the end of February 2017.

Based on feedback provided by the translation community, new features that allow editors to more easily communicate with each other online and voice their opinions to form a consensus were implemented in the August 2017. These features, such as up-voting and the ability to comment at the page level while linking directly to a specific submitted translation suggestion have created a more robust and inclusive environment that allow differing opinions to be represented.

The Asia Foundation will continue to gather feedback from future translation events in order to make sure that the translation process is as efficient and inclusive as possible, while maintaining a high quality end product.

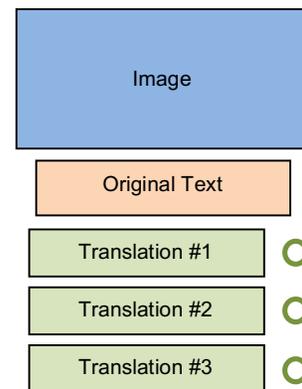


Fig 2 – Basic layout of Editor's view of translator tool

Community Partners



During the summer of 2016 The Asia Foundation reached out to and spoke with numerous organizations in Thailand, and specifically Northern Thailand, to understand which organizations work with the S'gaw Karen communities, work on educational issues (specifically but not necessarily exclusively with multi-lingual education), and have a wide network of communities that they work with. Two organizations fit this criterion particularly well; the Foundation for Applied Linguistics (FAL) and the Karen Network for Culture and Environment (KNCE) which is part of the Inter Mountain Peoples Education and Culture in Thailand Association (IMPECT), both organizations are based in Chiang Mai, Thailand.

September Meetings

In September 2016, The Asia Foundation met with both FAL and KNCE to bring each of them on board to the project, share initial mock-ups of the translator tool for their feedback and work on a commitment to the project implementation timeframe. From these meetings, FAL, with the support of The Asia Foundation, agreed to work on creating a standardized translation guideline, work on the creation of an introductory workshop for translators and identify potential translators from the various S'gaw Karen communities that they work within. KNCE agreed to work on the creation of reading programs using the Android reader app and printed material from the tool and identify potential translators from the various S'gaw Karen communities that they work within.

During this time, The Asia Foundation was able to get clarity on the various challenges to working with the S'gaw Karen languages. Since the language has traditionally been an oral language, for the past century, three different scripts have been used to represent the language. These scripts include Standard Thai, Roman and Lixwa. While the first two scripts are Unicode compliant, and thus reliable to use in technology programs, the Lixwa script is less standardized and still awaiting standardization by The Unicode Consortium. While awaiting approval from the Unicode Consortium, one interim solution that The Asia Foundation implemented was to create a virtual S'gaw Karen/Lixwa keyboard at the URL www.lixwa.com. This allows users to directly type into a webpage, allowing the user to choose from a variety of known Lixwa keyboard layouts, and then copy & paste the resulting text.

During discussions with FAL, KNCE and other organizations that work with minority language communities, each group provided feedback that having books from other cultures outside of their own was desired as long as stories created by or easily identifiable to the local culture were also in the library and at least equally represented. Thirty such “non-local” open source books were identified for initial inclusion from sources such as Pratham's Storyweaver, African Storybook Project and Book Dash. Most of these books involved stories with animals or common themes to many different cultures.

December Meetings

The next meeting of the three organizations occurred in December 2016. During this meeting a beta version of the translator tool was shared, the first translator workshop was discussed and The Asia Foundation conducted a short capacity building workshop with FAL staff to help them convert existing local language books into a digital, EPUB format.

During the demonstration of the beta version of the translator tool, members of FAL and KNCE used the tool to create a translation of a sample book from Standard Thai to S'gaw Karen. The group was able to view the tool from the perspective of what the standard translator access would look like as well as what the editor access would look like. This was a milestone moment for the project, as this was the first time that all of the organizations were able to realize and see the potential of the project in a tangible way. There was a wonderful discussion among the S'gaw Karen speakers of the group on the best way to capture the essence of the story.

The overall response from FAL and KNCE to the demonstration was very positive. Feedback was gathered from the session and integrated into the next round of technology development for the translator tool, along with minor bugs that were discovered during the demonstrations.

FAL and KNCE each brought a list of 10-15 people in the various S'gaw Karen communities that they work within that they identified as good candidates to be translators for the project. While none of the candidates had

translator experience, the criteria that was used to identify each was: ability to speak, read and write in both Standard Thai and at least one script of the S’gaw Karen language, a minimal level of comfort using technology (either a smart phone or laptop computer) and motivation to see an increase in the number of children’s storybooks in S’gaw Karen. Plans were discussed and finalized to conduct a two-day translator workshop at the end of January 2017.

Additional discussions with KNCE centered around the creation of a reading implementation survey that was to be conducted in ten of the S’gaw Karen communities that the organization works within. Since many of these communities are located in remote areas of the mountains in Northern Thailand, specific information on language usage, technical capacity and community dynamics can be difficult to gather. A general format for this survey and specific questions were agreed upon. A small team from KNCE will visit each community, asking questions to a large community gathering, conducting specific interviews with families and children, and also smaller focus group discussions. A timeframe of late January and early February for a KNCE team to carry out the survey was also agreed upon.

The Asia Foundation also conducted a short capacity building workshop with FAL staff to equip them with the knowledge to be able to convert existing local language books that FAL had already created into digital, EPUB formatted books. The idea was for FAL staff to then convert some of their locally created, S’gaw Karen language stories into EPUB format and upload these into the newly created Let’s Read! library. Three members of the FAL staff who already had a familiarity in code and the use of HTML and CSS languages were provided templates and short lessons on how to create the digital books. From the workshop, three local S’gaw Karen books were successfully converted into EPUB format. In addition, FAL staff were taught and successfully audio narration to each of the three EPUB books so that they can complete this conversion in the future as well.

January Translator Workshop

The first translator workshop was successfully held at FAL on January 26th and 27th. Twenty-four members of 20 different S’gaw Karen villages throughout Northern Thailand came to the FAL in Chiang Mai to participate in the two-day workshop. Since this type of distributed translation, working with a group of non-professional translators in the S’gaw Karen minority language had not occurred before, the expectations for the number of books that would be fully completed during the workshop was kept relatively low. Rather, the objectives for the workshop were to; 1) introduce the translator tool and have the group be comfortable with using the tool, 2) have the group understand what a good translation of a children’s storybook does and does not consist of, and 3) have a plan of action and commitment from the group to continue the translation process using the tool after they have returned to their communities.

FAL led the workshop and gave an introduction on best practices for translating children’s storybooks. Most of this capacity building centred around capturing the essence and intent of the story rather than translating words verbatim. Other issues that were discussed was the level of word choice and the creation of words that may not exist in the S’gaw Karen language.

The Asia Foundation and FAL together introduced the translator tool to the group and discussed how to access it (via smartphones or laptop), find books, enter translations and submit translations. During the first day, people worked individually and in small groups to begin translating books and get used to the tool. Each person was given Translator access, which only allowed them to view books and input translations. A smaller group of 6-8 people were identified during this first day as “highly proficient” translators who could be given Editor access rights during the second day.

During the morning of the second day, the workshop was split into two groups. One group continued to work on translating the books and the second group was shown how to use the Editor function of the tool. As was expected based on our initial testing of the Editor tool in December, there was quite a bit of discussion between editors during this session. This feedback led to the development of enhanced communication and consensus building features that were added to the editors’ view of the translator tool in the summer of 2017.

By the end of the workshop, 10 of the 30 stories had at least one script of the S’gaw Karen language translated and represented. Although there are an initial 30 books in the library, since the S’gaw Karen uses three different scripts, there are a potential of 90 unique book-language combinations. In total, complete translations were submitted for 24 of these possible 90 translations.

Translation Finalization

Translators were assigned the remaining books to work on over the three-week period following the workshop after they returned to their homes. The editors also assigned books to review and approve. The group worked on the translations using laptop computers and smartphones. Within a six-week period, the Let’s Read! library had grown from an initial 30 storybooks in one language to more than 150 books available in three languages (English, Thai & S’gaw Karen) and the three different scripts of S’gaw Karen (Roman, Thai and Lixwa).

In February and March 2017, The Asia Foundation and FAL worked together to digitize 50 children’s storybooks that FAL had previously created with local S’gaw Karen writers and illustrators. FAL staff were provided training on how to create basic EPUB file type books from scanned images and text. These 50 books, in the S’gaw Karen language, were added to the digital library by April 2017, bringing the total number of available books to over 200 in less than three months.

Community Implementation

A key component to the sustainability of the project is the usage of the library by S’gaw Karen and other minority language communities. Throughout the spring of 2017, The Asia Foundation worked closely with IMPECT and KNCE to design implementation programs that would help raise awareness of this newly created resource and to continue to help create a culture of reading. The programs were designed based on the perception surveys and feedback that IMPECT collected from ten S’gaw Karen villages in January 2017. This information was valuable in understanding what type of activities would have a higher probability of succeeding, whether to focus directly on reading or the underlying perceptions about reading and whether the communities had the infrastructure to handle a fully digital implementation program or whether a combination of print and digital would be necessary.

Reading programs began in ten S’gaw Karen villages in June 2017 and are scheduled to continue through December 2017. One of the activities include a weekly “learning room” that a S’gaw Karen language expert will facilitate, which is open to the community to read books, listen to stories and have as a community resource. Other activities will include the integration of the digital library and printed books into the local community schools, the creation of reading posters and pilot project that will closely follow the usage of the reader app with a few selected families within the communities.

At the time of this report, the interim reports from the implementation program have not been completed. However, early feedback from the project has indicated that villagers’ perception towards the usage of smartphones as an education tool has begun to shift from negative to positive. This is in large part because the communities have begun to see the digital library as way to preserve their cultural and linguistic heritage among the youth. Community members have been excited to see the increased use of the S’gaw Karen language and to see that children’s storybooks are available.

Along with these early successes, the community implementation has run into challenges. Most of these challenges involve the difficulty of effectively communicating with and getting resources to the remote, mountainous areas where many of the ten villages are located. Because of this, the full integration of these activities into the communities has taken time. However, IMPECT has a long history of working within these communities, so we’re optimistic that a consistent and methodical approach to the activities will allow the digital library resource to take root within the community and create a long-term impact.

Indicators

Please use the table below to share your project indicators...

Indicators	Baseline	Progress assessment	Course of action
<i>How do you measure project progress, linked to the your objectives and the information reported on the Implementation and Dissemination sections of this report.</i>	<i>Refers to the initial situation when the projects haven't started yet, and the results and effects are not visible over the beneficiary population.</i>	<i>Refer to how the project has been advancing in achieving the indicator at the moment the report is presented. Please include dates.</i>	<i>We understand change is part of implementing a project. It is very important to document the decision making process behind changes that affect project implementation in relation with the proposal that was originally approved.</i>
Development of portable suite of translation tools	No suite of translation tools exists	Completed. As of Feb. 10, 2017, the suite of translation tools, including the distributed translation tool, content management system, global online library, and Android mobile app have been created.	No further action required. Initial set of tools created.
Deployment and testing of the translation suite in Northern Thailand's hill tribe areas	No deployment of translation tools exists	Completed/Ongoing. First round of beta testing of the translator tool occurred in Dec. 2016. Closed beta testing occurred in Jan-Mar. 2017 Deployment of updated translator tool occurred in Aug. 2017 First round of beta testing of the Reader App occurred Mar-June 2017. Updates have been deployed on a rolling basis.	Translator tool & Reader App <ul style="list-style-type: none"> The Asia Foundation will continue to do user testing and engage in feedback loops to meet the needs of the intended user groups. No further specific action required. The translation suite has been deployed and tested.
Establishment of a local community of practice and translation partnerships in Northern Thailand	No local community of practice and translation group of local village members existed prior to the project	Completed/Ongoing. Creation of initial translator group occurred in Jan. 2017. This group has stayed engaged through the implementation of program activities and will be involved in the second translation workshop scheduled for Sep. 2017. The translation platform was opened to the public in July 2017. Partners continue to work on expanding the translator community and reader network.	Translator Community <ul style="list-style-type: none"> The Asia Foundation has continued to identify and engage with additional organizations that work with the S'gaw Karen community to expand the reach of the digital library Sep. 2017 – Conduct 2nd translator workshop No further specific action required. Translation groups and partnerships have been established.

Project implementation

Project activities	Input	Outputs	Timeline	Status
Actions taken, work performed.	Financial, human and material resources	Result and/or deliverable produced as a direct result of the project activity. Outputs are under direct control of the project team.	Dates where the listed activity was developed.	Indicate when the activity started, on-going or completed.
<i>Example: Online application developed, tested and launched.</i>	<i>Example: Consultant hired for 3 months. Laptop with software needed available.</i>	<i>Example: The application v 1.0</i>	<i>Example: 15/03- 15/05: app development. 16/05 - 30/05 tests conducted. 1/06-15/06 Rollout.</i>	<i>Example: Completed.</i>
Create tool to desegregate text and images from an EPUB file. Store in database to be retrieved on demand	Hire technology development team. Communicate initial framework and concept	Tools that convert text and illustrations into ebooks	Sep – Dec '16	Completed
Create content management system to manage various tools	Hire technology development team. Communicate concept and vision	Content management system	Sep – Dec '16	Completed
Initial translation tool development	Hire technology development team. Provide framework for tool	A mobile-first, distributed translation tool Translator tool v 1.1	Sep-Nov '16 – Tech development Dec '16 – Initial beta version, v 1.0 Jan '17 – Updated version, v 1.1	Completed
Initial android reader app development	Hire technology development team. Provide initial mock-ups	A simplified reading platform Android reading app v 1.0	Nov – Dec '16 – App development Jan – Feb '17 – Testing	Completed
Finding and converting to EPUB appropriate material for the library	Staff time	30 “non-local” language books in EPUB format	Sep-Nov '16 – Finding books Dec-Jan – Converting books	Completed
Community of Translators workshop	20-25 S'gaw Karen community members Location for workshop Translator guidelines Workshop agenda Wi-Fi connection FAL staff time The Asia Foundation staff time	10 translated stories Familiarity with translator tool Understanding of children's storybook translations Plan to complete remaining books and commitment to community	Oct-Jan '17 – General planning for the workshop Jan '17 – Finalizing of the translator guidelines, workshop agenda and work plan Jan '17 – Finalizing of the community members to attend workshop Jan. 26-27, 2017 - Workshop	Completed

	S'gaw Karen keyboards and fonts			
Completion, publishing of translation of initial 30 "non-local" books	Work plan for Community of Translators Time of Community of Translators	Completed translations for the 30 stories into the three different scripts each.	Jan '17 – Started translations, 24 completed. Feb '17 – Completion by Community of Translators Mar. '17 – Stories reviewed and approved by editors, published to library	Completed
Locally created books published in digital library	Story assets (digitized images and text) for 50 locally created S'gaw Karen stories FAL staff time	50 locally created books published into the digital library.	Jan – Mar '17 – Work on converting EPUBs Apr '17 –50 locally created stories, uploaded to library	Completed

Communication and dissemination

From the list of outputs above, please specify what dissemination efforts were made with special attention to those intending to reach target groups by gender, age, ethnic and socio-economic profiles to impact marginalized and disadvantaged groups. If your organization has a communication strategy for this project, please describe how it is implemented, funded and measured.

The Asia Foundation has worked closely with our local partners in Chiang Mai throughout this project to make sure that we're building a suite of tools that address the needs of the minority language communities. During meetings with our partners from September 2016 to January 2017, we've asked for feedback on the design and approach of the project and have implemented those responses into our designs. We will continue to seek out feedback as the project progresses.

Project Management and Sustainability

Project Management Overview

The general administration of this project has been very good. The project has stayed close to the original timeframe laid out at the beginning of the project. The technology development team has delivered strong initial versions of the translator tool in terms of both functionality and usability. This has led to less time needed to test and de-bug the tool.

Working with our implementing partners, FAL and KNCE, in Chiang Mai, Thailand has been a very positive experience as well. The only slight delays experienced so far have been due to trying to schedule meetings, workshops and implementation timelines that will fit each of The Asia Foundation, FAL, KNCE and the technology development schedules. Given the inherent difficulties with this type of scheduling, even this has gone remarkably smoothly.

Sustainability and Capacity Building

There has been a focus throughout this project on building capacity in the communities and the organizations that we work with along with developing a suite of translation tools that will be suitable in any minority language context.

Foundation for Applied Linguistics has a strong history of working with local communities to deliver a variety of language related activities. The Asia Foundation has helped FAL to continue this work and help their employees to build capacity by having FAL manage many of the details of the translator workshop. The Asia Foundation has strict reporting guidelines and helps partner organizations adhere to these guidelines. Working with FAL has also allowed FAL to continue to build relationships and understanding of the linguistic needs of not only the minority language communities of Northern Thailand but to also further FAL's networks and credibility with other organizations that are working within the multi-lingual education space such as UNESCO, Pestalozzi Children's Foundation and local private donors as well. This type of programming experience may lead to funding opportunities in the future

The Asia Foundation has also provided capacity training to FAL to convert many of their locally created stories from physical books to digital EPUB versions. Rather than outsourcing this process to another organization with more experience, the capacity building training provided by The Asia Foundation will now allow FAL to be a local resource to other organizations, authors and the community as a whole for the creation of EPUBs. Also, any organizations that might have a stake in seeing their books in the library can turn to FAL to either create for them or help them learn how to create EPUBs.

It is The Asia Foundation's hope that by working with KNCE, and their implementation of reading programs using this digital library within these minority language communities, they will be seen by locals as an authoritative figure for multi-lingual educational issues. By folding these reading programs into existing cultural and environmental programs, both will be more effective and sustainable. These long term, sustainable programs will also give KNCE greater standing to working with and obtain funding from multi-lateral organizations.

We believe by working directly with members of the S'gaw Karen community to create a group of translators, the digital library will be far more likely to be used and sustained as the communities own members are the ones helping to create the library. This will lend not only legitimacy to the library but also create strong advocates for the use of the library within their own community. The members of the translator community are also contributing to a lasting library that will help preserve and continue the language into the future.

The reading implementation program will also help create sustainability by involving communities to both the product (books) and the process (translation). The more the community uses the books, the more likely they will

contribute to and support the translation tool. As early indications have shown, scepticism of using smart phones and technology as educational tools has been alleviated, to a certain degree, by having community members directly interact with the platform. Experiencing the library firsthand, allows communities to see how the goals of the communities and the project, such as language preservation and mother-tongue education, are the same. Also, by opening the library to local organizations to upload their own, locally relevant books, the project hopes to gain further usage and make it a part of the local communities.

Project Outcomes and Impact

Project Outcomes

As reported in the Project Implementation section, the technology related outcomes have been achieved. The Asia Foundation has successfully been able to work with a technology development team to build a tool that allows for the desegregation of the text and images from an EPUB file and store that information in a customized content management system (CMS). A mobile-first, distributed translator tool has also been created that allows individuals to participate as a group (or community) in the translation of each story. This translation tool connects to the CMS, allowing for a page-by-page translation of a given book, adding the given user's translation of that page into a larger body of translation options from the community. Users who have been assigned an editor's role can then choose from a list of translations for each page provided by the translators. This allows the editors to choose the best possible translations from the collective effort of the group to best represent the story and the language.

A simple to use reader application has also been successfully developed for Android mobile operating systems and a web-based reader that can be accessed from any browser.

An initial 30 openly licensed children's storybooks were identified and uploaded to the digital library. An emphasis was placed on identifying books that were as culturally agnostic as possible since they will eventually be translated into a number of different languages spanning many different cultures. These books were translated from English to Thai.

An initial group of 21 S'gaw Karen community members participated in the first translator workshop in Chiang Mai, Thailand at the end of January 2017. This group had no previous experience as translators. The workshop was a good start to the objective of creating a community of translators. The Asia Foundation has engaged with other organizations that work with the S'gaw Karen community to be part of the translator community. The second translation workshop, which will involve half a dozen different organizations and many different S'gaw Karen communities, will take place in September 2017. However, as with any community, it will take time to fully establish trust, guidance and acceptance of the community. The project plans to host additional translator workshops each year as well as trying various models, such as a virtual translation workshop day, in which translators don't need to physically be in the same location but rather all concentrate their efforts on the same day.

Fifty locally created S'gaw Karen books have also been converted into EPUB format and added to the Let's Read! library.

An implementation program has been designed in collaboration with IMPECT/KNCE based on perception surveys and community input. This implementation program started in June 2017 and will continue through December 2017, at which time it will be evaluated for effectiveness and the best way to move forward.

Project Impact

The anticipated impact of the project was initially stated as:

- Increased comfort of S'gaw Karen-speaking community with reading in their native language
- Increased use of mobile phones by S'gaw Karen community to access children's reading resources
- Gradual building of a sustainable, active community-based translators group
- Experience that informs subsequent efforts of TAF Thailand and its partners as well as other developers, educators, development practitioners, and funders to better design and implement projects involving mobile-first tools, digital library platforms, and community engagement
- Experience that enables the Foundation to expand the project into other minority language contexts in the Asia-Pacific, and work toward the creation of a significant open online library of Asia-Pacific minority language children's books

As reported above, the first steps of this project required building the digital library, translation, and e-reader tools; cementing partnerships with community organizations; forming a community of translators, and training the translators to use the tools. All of these elements were completed successfully.

Our partner organization, IMPECT/KNCE, has also started implementing reading program activities in ten different S'gaw Karen communities throughout Northern Thailand. It is too early to be able to accurately evaluate whether these reading program activities have had a lasting impact on the comfort level within the communities of reading in S'gaw Karen. However, we can see that usage of books, both digital and print, in the S'gaw Karen language has already gone up in the communities. We anticipate that as the Let's Read! app is adopted by more communities and more S'gaw Karen speakers are aware of the resource, usage of the digital library will sustainably increase.

The project has had a very successful start in the building of a sustainable, active community-based translator group. It will take much more engagement to maintain and continue to build this translator group though. This can be achieved through active communication channels, highlighting the work that the group is doing within their communities, and maintaining a constant message of the important work that the translator group is accomplishing. The Asia Foundation will also need to engage in an efficient feedback loop with the translator community on how to improve the functionality and experience of using the translator tool.

Of the last two points of the anticipated impact, The Asia Foundation has already seen positive results. The Asia Foundation is actively participating in working groups and technical groups to help inform the direction of multi-lingual education and digital reading projects such as the Let's Read! project. These groups include the UNESCO hosted Multi-Lingual Education Working Group in Bangkok, Thailand and technical working groups for the Global Book Alliance.

Overall Assessment

The Let's Read! project has been a success. All of the initial objectives of the project for the first year have been met. We've worked closely with local partners to build a suite of tools and programs that centre on the needs of the local communities but that can also be built upon to appeal to a wider audience.

The key outputs from the project so far have been the creation of the technology platform, the formation of a translator community of local peoples, and the commitment of local organizations to champion the need for a minority language digital library. For the technology platform, we can continue to build upon platform, including the content management system, translator tool, Android reader app and public facing digital library, to react to the needs of the communities. For the translator community, we can continue to work with the S'gaw Karen translator community to grow the number of people involved and their ability to help create books. We can also take the lessons learned from the creation of this translator community and apply those to other minority language groups that we'd like to expand the platform to.

The next step for the Let's Read! Initiative will be to expand the program beyond Northern Thailand and the S'gaw Karen community. The technology has the capability of incorporating any number of languages and community groups. By expanding the reach of the library to other languages and cultures, we'll also exponentially increase the number of books available to the various translator communities. This has the benefit of not only increasing the number of books available in a language, such as S'gaw Karen, but to also share ideas and understanding between cultures.

Recommendations and Use of Findings

The direct users of this project have been S'gaw Karen speaking communities in Northern Thailand. The Asia Foundation and our local partners are looking at ways to effectively reach as large of a S'gaw Karen audience as possible. As the project progresses, we are looking at options to reach out to regional education departments in Northern Thailand, organizations that work with S'gaw Karen people living in refugee camps along with border with Myanmar and other S'gaw Karen speakers who might not have a direct connection to communities in Northern Thailand.

However, we believe that future users of this technology and the best practices that we're creating can be used by any language group, minority or majority. Our hope is that we can expand the project to other minority language communities within Thailand first and then look at other communities within the region.

We also believe that the basic technology structure of the platform can be applied by other organizations beyond Asia. Eventually, we'd like to see the technology and implementation lessons learned from this project, applied to other global digital library projects.

Bibliography

Additional material

Screenshots of the Translator Tool Web App

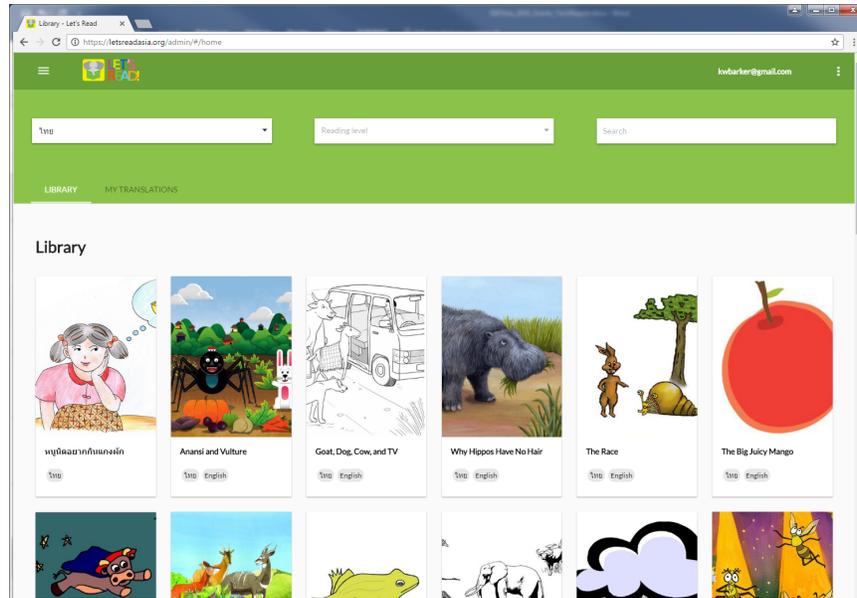


Image 1 - Library view from web application

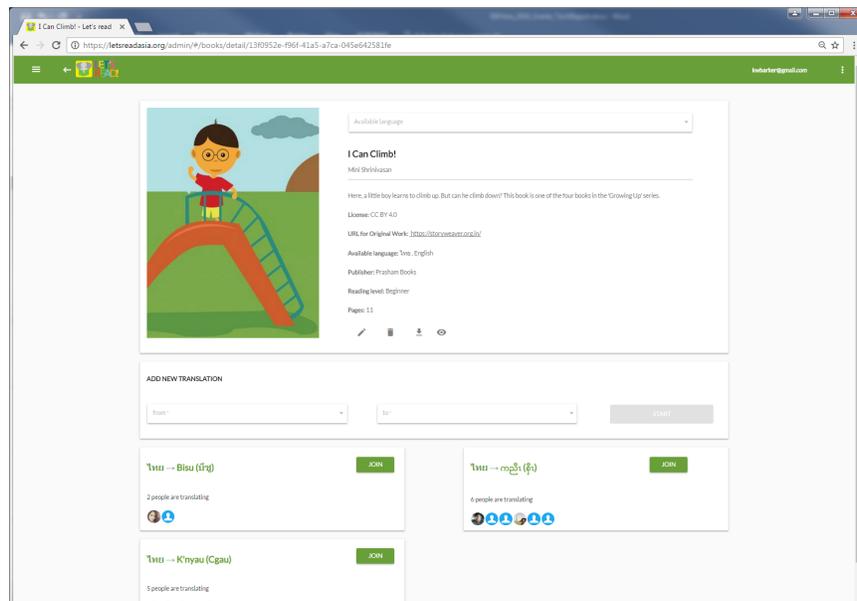


Image 2 - Book information view from web application

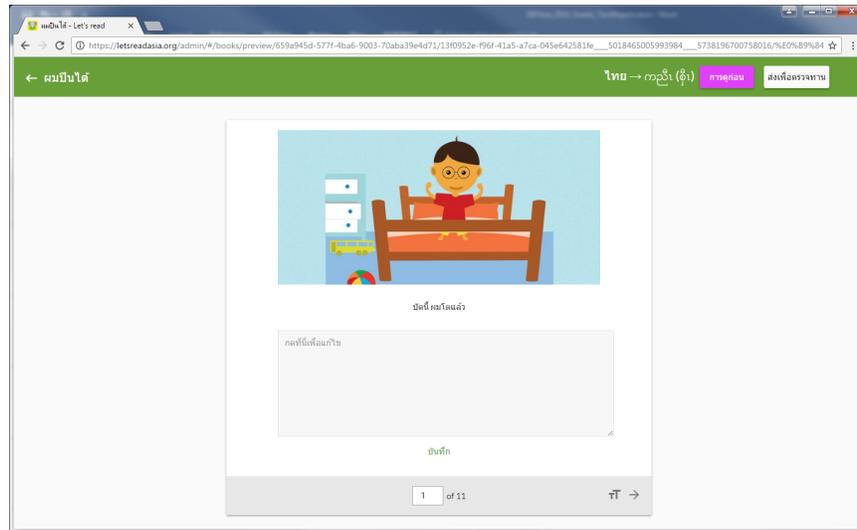


Image 3 - Translator tool, logged in with translator permissions.

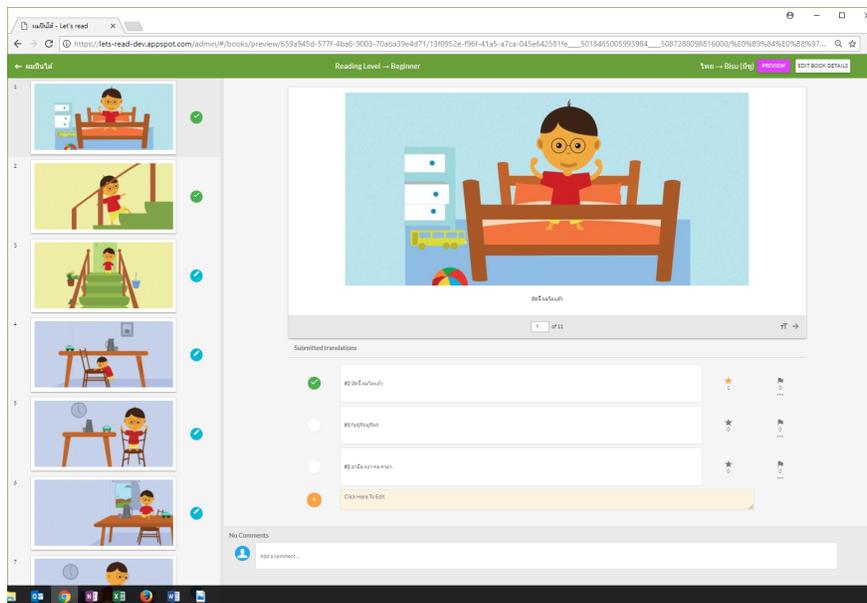


Image 4 – Updated translator tool with improved editor communications and workflow, logged in with editor permissions.

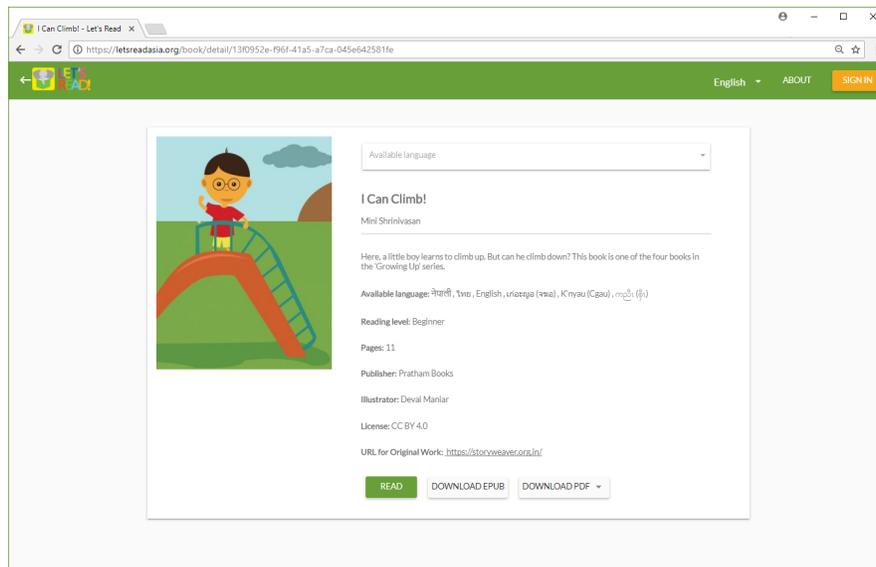


Image 5 – Updated book information page with ability to download EPUB or PDFs versions

Screenshots from the Android Reader App

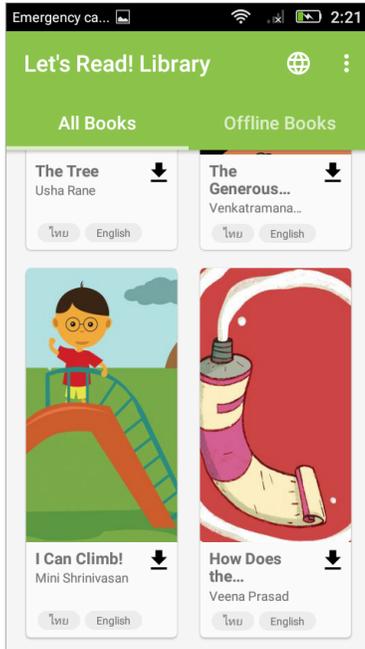


Image 6 - Library view of the Android reader app

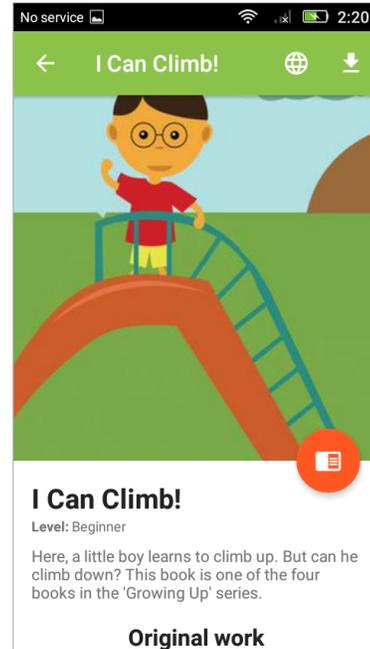


Image 7 - Book information view of the Android reader app

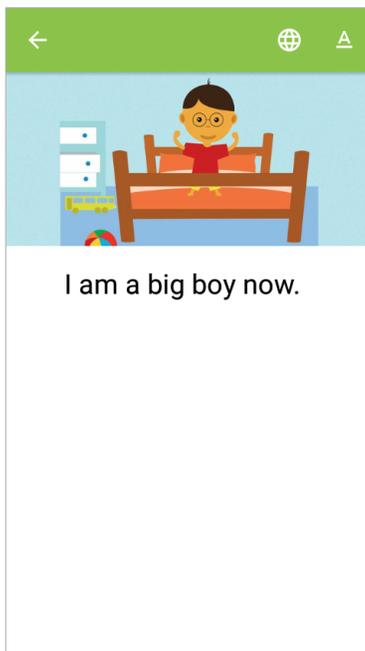


Image 8 - Book page view of the Android reader app

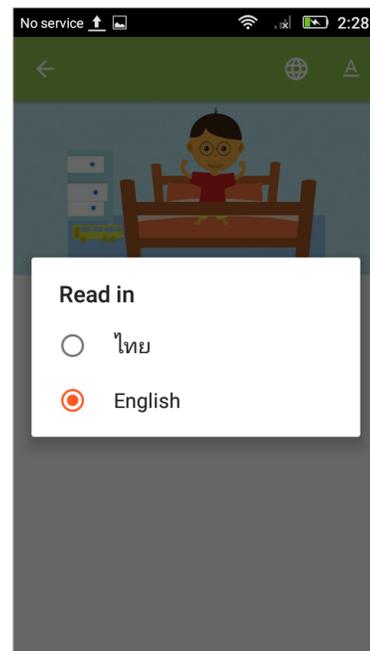


Image 9 - Changing language of the book

Images from the Translator Workshop in Chiang Mai, Thailand on January 26-27, 2017



Image 10 - A group of S'gaw Karen speakers working on a translation together (photo credit, Kyle Barker, The Asia Foundation)



Image 11 - Translating stories from Thai to S'gaw Karen during the first Let's Read! translator workshop (photo credit, Kyle Barker, The Asia Foundation)



Image 12 – A community story reading of one of the books from the Let's Read! platform in the village of Khun Pae, Thailand (photo credit, Nipaporn Arthit, Foundation for Applied Linguistics)



Image 13 – The Let's Read! reader app and platform are introduced to the village of Khun Pae, Thailand, one of ten villages where reading programs are taking place (photo credit, Nipaporn Arthit, Foundation for Applied Linguistics)



Image 14 – Students of Khun Pae, Thailand explore the Let’s Read! Android app (photo credit, Nipaporn Arthit, Foundation for Applied Linguistics)