

Project factsheet information

Project title	Cook Islands Maori Database
Grant recipient	Cook Islands Internet Action Group PO Box 156 Avarua, Rarotonga Cook Islands http://www.ciiag.org/
Dates covered by this report	01 – 03 – 2014 / 01 – 03 - 2015
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Country where project was implemented	Cook Islands
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Total budget approved	AUD 29,592
Project summary	<p>Cook Islands Maori and its various dialects are listed on UNESCO's endangered languages list. There is concern that the language will not survive into the 21st century.</p> <p>The aim of the project was to develop an online resource/tool that would be easily accessible to Cook Islanders and those interested in Cook Islands Languages. What has been produced is an online database containing Cook Islands Maori Words, their English translations with example usage in a sentence in both English and Maori.</p> <p>The database has been developed as a platform on which other applications can be built and includes the development of an android and IOS application. Also available on the site are teaching and learning resources for both teachers and student to facilitate integration of the tools into lessons.</p>

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Project Summary

Tips: It is recommended to **complete this section once you have finalized the text of the report**. It will be easier to go back through to build the summary based on the highlights of the report the project team just put together.

The Project Summary can be up to **one page long**.

It should include a brief justification; an outline of the project objectives to be achieved; the project real timeline and the main activities conducted.

The abstract of the project written when ISIF Asia initially approved the project and the objectives listed in the Grants Agreement signed by APNIC and your organization should be useful inputs when preparing this section of the report.

The use of Cook Islands Maori and its various dialects is in decline, especially among youth and the large number of Cook Islanders living overseas (Sallabank, 2013). Cook Islands Maori is listed on UNESCO's endangered languages list and there is concern that the language will not survive into the 21st century (Moseley, 2010).

The urgency created by this serious cultural dilemma was the motivation behind the development of the Cook Islands Maori Language Database. In December 2013, the Cook Islands Internet Action Group (CIIAG) took advantage of a funding opportunity provided by the Information Society Innovation Fund to contribute towards the preservation of our unique culture, our Maori language (and all its dialects) and ultimately our social heritage through the innovative use of internet technologies (CIIAG, 2010).

The project's overall aim was:

- To build a Cook Islands Maori language resource that was simple and easy to access and use.

The Project objectives were:

- Re-develop online database of Cook Islands Maori words, their English translations with example usage in a sentence in both languages.
- Develop mobile applications for iOS and Android Platforms.
- Develop teaching and learning resources for use in schools using the resources developed by the project.
- Build local capacity among team members.

All four projects' objectives have been met. Secondary project objectives that came about as a result of the project itself were:

1. The building of partnerships with various stakeholders who are also interested and concerned about the loss of the language including a group from Niue who are also concerned with the loss of their language.
2. Building a social media presence to reach our targeted audience members.
3. Release of our projects source code on GitHub¹ as open-source software so other Pacific Islands looking to preserve their languages are able to do so without re-inventing the wheel.
4. A possible solution for keeping the project sustainable.

The following are our principal findings of the project:

1. We are finding that the project's deliverables of the Web Database, Mobile apps and the Teaching and Learning resources are creating a certain level of "buzz" within the community. Our challenge now is to figure out how we can sustain, leverage and extend this to the wider Cook Islands diaspora residing overseas.

¹ GitHub <https://github.com/ano/Korero>

2. The effect of the “buzz” and excitement created by the project has resulted in an upsurge in awareness and demand of the local talent and technical skills available in country. There is still a lot of work needed to ensure local developers are able to live and work in the country as a vast majority of contracts are still being outsourced overseas. Projects like this help highlight these issues.
3. As a Cook Islands mobile app developer, mobile app development has been a challenge.
 - a. Internet access is not widespread in the Cook Islands so offline versions of the mobile app had to be developed which presented some challenges.
 - b. There were issues with the two major stores (Google and Apple) with
 - The registration process surrounding Cook Islands issued credit cards and addresses not being accepted. This has since been resolved via trial and error.
 - Only free apps are allowed in the Cook Islands Google Play Store. Therefore the Cook Islands Maori Android App will not display on the Google Play store since it is a paid app. Plans are to release a free version just for the Cook Islands.
4. Although the cost of Internet access has reduced over the last 3 years it still remains a significant barrier in terms of operational costs especially during peak development times. We are currently in the process of partnering up with Telecom Cook Islands for assistance.
5. There are calls for more types of mobile games and apps around the Cook Islands Maori language to better engage young people and this has been reinforced in our survey findings as well as via outreach work. However this will depend on available resources and funding.
6. There are various groups doing different things around the Cook Islands Maori language that have reached out to us. We would like to begin to partner up and coordinate activities with these groups but we are limited by available resource constraints.
7. Data about the status of the Cook Islands Maori language is sparse. The New Zealand Government's last census has indicated that Cook Islands Maori has been on the decline in New Zealand. Discussions with the National Statistics Office and the Ministry of Culture have revealed that data about the language has only begun to be collected since 2011 but there are issues with the way the questions are asked in the Census. Australia is unknown.
8. For a small island developing state like the Cook Islands, sustainability is an issue due to the limited availability of resources. Therefore we are currently pursuing 2 options:
 - Partnership with local developers where a percentage of their revenue goes into a fund for the further development of the project. In return we can use the project to promote their skills. We also hire them back using the funds to continue to develop the project.
 - Partnership with Telecom Cook Islands to cover operational costs of the project's development as well as data center infrastructure for research and development.
 - Partnership with New Zealand based groups who have access to funding options.

The following were the project's challenges:

1. Withdrawal of in-kind support from government midway through the development of the project, which impacted our timelines, budget and delivery schedules.
2. Political instability during the UFE and ResCom process resulting in uncertainty and delayed progress with DECI-2.
3. Issues with mobile app stores lack of proper support for a country like the Cook Islands.
4. The underestimation of the actual cost of Internet usage for the project.
5. Challenges with reaching a wider audience of Cook Islanders, especially in Australia and New Zealand.

Achievements of the project have been recorded on the Cook Islands Maori Blog² as well as on Trello³, our project management board.

² Cook Islands Maori Blog <http://maori.org.ck/blog/>

³ Trello <https://trello.com/b/MDEBBbte/maori-database>

Background and Justification

Tips: The reader should be reminded of the **context** your organization is working, and where the project has been developed in.

This section provides a window to **understand the challenges** faced by the community you are working with.

Include a detailed description about the situation **before the project start**, describing any relevant aspects that make the project relevant in such a particular scenario.

The reader should be provided with a clear description about the problem(s) to be addressed through this project and the motivation from your organization and team members to get involved and offer a solution.

The Cook Islands is a Small Island Developing State (SIDS) with a resident population of about 15,000. It has very few resources and its population is spread over 2 million square kilometres of ocean. The country's main industry is tourism and the Cook Islands Government is heavily reliant on donor funding. The country's economy can be described as a combination made up of MIRAB (Migration, Remittances, Aid, and Bureaucracy) (Marsters, 2006) + SITE (Small Island Tourist Economy) (Sustainable tourism development in small island, 1996).

Accelerated migration patterns during the first half of the 20th century created by frequent shipping links between Rarotonga and the rest of the world meant that emigration from the islands remained steady. During the 1940s and 1950s, the demand in New Zealand for labour drew many working age Cook Islands Maori men away from the islands. Typically the men would emigrate, obtain employment, and then secure housing before sending for his family to join him (Ingram, UNESCO, 2004)⁴. Such scenarios led to lengths of absence from their traditional islands and culture, where subsequent generations tended not to use the Cook Islands Maori language even in their own homes. Over the generations therefore, the loss of the native language has been exacerbated by continuing migration from the Cook Islands of mainly outer island inhabitants who would have traditionally lived within an immersion environment. This was countered by the influx of non-Cook Islands expatriates from overseas who only spoke and encouraged the use of English on the main island of Rarotonga in particular, but also by the return of Cook Islands expatriates who had never learned to speak Cook Islands Maori, and for whom English was their mother tongue.

Cook Islands Maori and its various dialects are listed on UNESCO's endangered languages list and there is concern that the language will not survive into the 21st century (Moseley, 2010). There has been no recent study to ascertain whether the situation has improved or not.

Anecdotal evidence reveals the loss of usage of the Cook Islands Maori language, especially among the youth on Rarotonga and the vast majority of second and third generation Cook Islanders who are now residing overseas (Sallabank, 2013). A large percentage of these Cook Islanders are interested in reconnecting with their cultural roots and learning the language is a key aspect of that. It is a well understood fact that Cook Islanders residing overseas far outnumber Cook Islanders living at home (Tisam & Ano, 2014).

On Rarotonga, the main island where 71% of the population resides, the issue has been the decline in usage among youth and there is a fear that the offspring from this generation will grow up not knowing the language. Add to this the small population size (less than 15,000) and the depopulation of people from the islands to Australia and New Zealand and the future looks bleak for the language (John Henry, Cook Islands Government, 2013).

The problem is that Cook Islands Maori languages are under threat of extinction. Large percentages of the Cook Islands population lives overseas, with most not able to speak the language. New Zealand identified 9,702 speakers of at least 50,000 living in New Zealand (2007). Despite New Zealand having the largest population of

⁴ Ingram, Imogen. 2004. *Pacific Islands Migration and Loss of Traditional Knowledge*. Presentation to the Islands of the World VIII Conference, Taiwan - Changing Islands, Changing Worlds. Nov 1-7, 2004. <http://www.unesco.org/csi/smis/siv/inter-reg/climate2.pdf>

Cook Islanders, it reports a decline in the use of the language there as the older generation passes on. New Zealand statistics indicate the rate of speakers declining from 16.1% in 2006 to 12.8% in 2013⁵.

Language data collected in the Cook Islands by the National census is poor. Discussions with the head statistician at the Cook Islands Statistics Office indicates that language data has only been collected since 2011, which is the most recent census. However this data is flawed due to the way the language question has been designed in the census.

- Niue and Cook Island Māori languages will disappear from New Zealand within a generation unless urgent action is taken say researchers from The University of Auckland, fewer than five percent of the New Zealand-born population can speak Cook Island Māori (John McCaffery, 2014).
- New Zealand Statistics show that Cook Islands Māori language and its dialects are on a declining trend and are now considered endangered (Statistics New Zealand, 2014).
- Rarotongan the most widely spoken dialect of the Cook Islands is considered to be vulnerable to extinction, Pukapukan and Manihikian languages are definitely endangered and the Penryhn dialect is severely endangered (Moseley, 2010).

There is a dominance of the English language for Cook Islanders on Rarotonga and those living overseas and a general decline in language status, value or perceived uses.

- There is increasing concern about the rapid decline in the use of the Rarotongan dialect of Cook Island Maori. The 1997 Language Policy Report noted the declining use of Rarotongan in both public and communal domains. Its use is confined to specific domains such as social interaction, cultural activities and health. The report notes that there is a perception that Rarotongan is an inferior language, incapable of addressing complex and scientific concepts. Another perception noted is that there is no economic value in learning it and those children who speak it will be disadvantaged when they begin school. For this reason, many people speak English in the home and send their children to schools where only English is used e.g. Avatea School (Herrmann, 2006).
- Mr. McCaffery says in the islands themselves the effects of decades of New Zealand's colonial administration have left the languages without status, value or perceived uses (John McCaffery, 2014).

The Cook Islands Maori Language Database is an innovative project that attempts to address the needs of Cook Islands Maori language learners by creating easily accessible language resources using ICT's.

The Cook Islands Maori Language Database project is innovative because it:

- Builds local capacity: will employ and train local programmers and moderators who are passionate about the language.
- Crowd-source and fund the digitization effort of old dictionaries via social media to leverage the large proportion of Cook Islanders living overseas.
- Develop mobile application and platform locally.
- Develops a resource for teachers and educators to easily integrate into teaching plans and allows them to re-contribute.
- Food plays an important role in Cook Islands culture of bringing people together; the local digitization effort will use this to bring people into the project.
- Allows contributions from fluent speakers, and implements a community driven approach via both traditional means and social media

There are other similar projects being developed both overseas and in the Cook Islands:

- Cook Island Maori Dictionary⁶: based on the Buse, Jasper, and Raututi Taringa Rarotongan dictionary. The system is based on Wordpress and is built in the UK by Kevin Crocombe (Cook Islander residing

⁵ http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/ethnic-profiles.aspx?request_value=24709&tabname=Languagesspoken

⁶ Cook Island Maori Dictionary <http://www.cook-islands-maori-dictionary.org/>

overseas) and a programmer from the UK. Data Entry was done by family members over a period of time. Looking for someone to take over management.

- Manganian Dictionary⁷: based on the Manganian Dictionary and developed by VO2 a New Zealand contracted by the Ministry of Education, University of the South Pacific and Auckland University of Technology. Data Entry is continuing and is being conducted after school by 3 secondary school students who are fluent in Cook Islands Maori and are employed part time by the Ministry of Education. The website has been under-development for the past 3 years. The system is built using a proprietary based content management system from VO2.
- The Cook Islands Biodiversity Database⁸: it compiles data on Cook Islands natural heritage and biodiversity amounting to 4,200 species including 2,500 with photographs. The database has search functions for Maori related entries and has created a Cook Islands Maori language keyboard for the Microsoft Operating Systems. We have been given a copy of the Cook Islands Maori Language keyboard for our use by our project by Gerald McCormack, the director of the Cook Islands Natural Heritage Trust.

Project objectives

Tips: Please include here the **original objectives** as listed on the Grant Agreement.

If any objectives were modified, added or removed during the reported period this should be explained/justified.

The Project objectives were:

- To develop an online database of Cook Islands Maori words, their English translations and example usages in a sentence in both Cook Islands Maori and English.
- To develop mobile applications for iOS and Android Platforms.
- To develop teaching and learning resources for use in schools using the website and mobile application resources developed by the project.
- Build local capacity.

The original objectives of the project have been achieved. Resources have been produced that will help users and language learners to access resources quickly and easily as well as to assist in collecting, organizing, preserving and distributing Cook Islands Maori Language information.

As a result of the project activities, the project teams capacity has been built in the areas of:

- Mobile and Web Application Development.
- Project Evaluation.
- Public Relations, Communications and Marketing.
- IT Project Management and Administration.
- Educational Resource Development.
- Utilisation of ICT's to language preservation.

Looking back at the project's objectives, the objectives of the project have not changed, however the overall aim of the project has been added to due to the unexpected side effects of the project's outputs i.e. web, mobile apps, teaching and learning resources, creating a sense of excitement "buzz".

Our team has realised this "buzz" could be leveraged to help stem the tide of language decline by educating, mobilising and then empowering individuals and institutions to make an impact in addressing the challenges of language loss. Currently the effectiveness and efficacy of the current systems setup to tackle the issue are not working and we hope to share the lessons learnt and our approach to addressing a small portion of the problem

⁷ Manganian Dictionary <http://www.taramangaia.com/>

⁸ The Cook Islands Biodiversity Database <http://cookislands.bishopmuseum.org/>

(lack of language learning resources) with others working in the same area. However, this leveraging activity will have to form the next stage of the project's focus.

Users and uses

Tips: Discuss with your project team who would be the future users and how they would use the findings throughout the project lifecycle. The uses identified should relate to the theory of change that you have discussed with your project team. The discussion about theory of change, users and uses, will be a very important input to your communication strategy: depending on who the user is and of what use will be the findings, a communication strategy can be developed. For example, if the users of the findings are policy makers and the use is to influence a change in the regulatory framework, which communication approach will work the best?

Who will be the user of these findings?

What are the more relevant things the project team wants to learn about or evaluate through the lifecycle of this project?

Currently the Cook Islands Government would be the single most critical institution that would be able to have a significant impact on language decline of Cook Islands Maori. However as one of the smallest of Small Island Developing States, the government has very limited resources in which it has to work with and the institutions it could utilise to deal with language loss are either defunct (the Maori Language Commission) have other more pressing priorities (Ministry of Culture, Ministry of Education). Thus a coordinated and sustained effort has not and probably will not be forthcoming from government until the situation is changed.

Therefore, the responsibility has fallen to Non Governmental Organisation's like the Cook Islands Internet Action Group and other passionate individuals and institutions to act. Our findings have already been relevant to these organisations and individuals, who are doing similar work within the region as well as our own team. We have recently made connections with various groups looking at how we can assist them in their activities. As well as other individuals the following are 3 groups we are currently in discussions with:

1. Kia Rangatira - A group based in New Zealand interested also in language preservation whose vision is Cook Islands Māori prosperity through excellence in education & training by supporting our students achieve their tertiary education goals.
2. Niue Home Base - A trust setup in New Zealand looking at partnering up with to tap into our expertise for developing teaching and language resources.
3. Cook Islands Teachers Association – Looking at partnering up with us to assist us in deploying our teaching and learning resources into classrooms.
4. Mama Mata's Cook Island Language Classes - A facebook site posting basic language lessons run by Mama Mata, a retired teacher based in New Zealand.

Another possible user is the local media, particularly the Cook Islands News who has by far the widest distribution and influence of all the media outlets in the Cook Islands. Our findings could be used to put public pressure on government via the media to not only allocate more resources in terms of language preservation but to do so effectively.

Indicators

Tips: Indicators help to *measure project's progress*.

Indicators help the objectives that were set by the project team to be *affordable, tangible, and measurable*.

They help to *verify the success and rewrite the course in case we are not achieving it*.

An indicator could be *quantitative (percentage, amount) or qualitative (perception, opinion)*.

The ISIF Asia secretariat suggests the *SMART* approach to indicators:

- S** **Specific**
- M** **Measurable**
- A** **Achievable (acceptable, applicable, appropriate, attainable or agreed upon)**
- R** **Relevant (reliable, realistic)**
- T** **Time-bound**

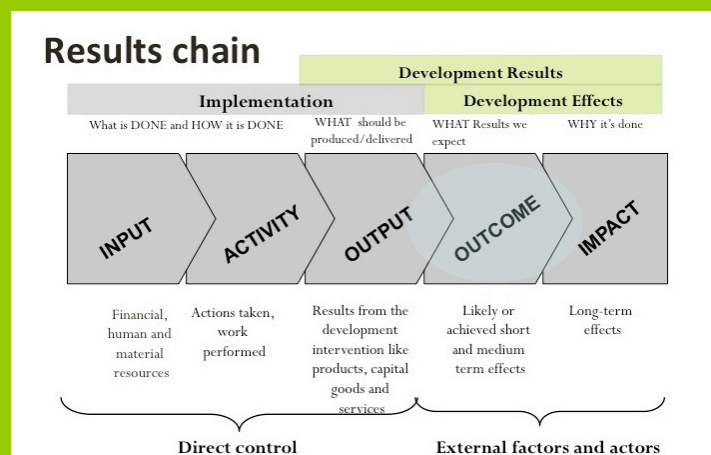
Baseline	Indicators	Progress	Assessment	Course of action
Outdated website and database that wasn't ranking well on the Google Search for Cook Islands Maori and Cook Islands Maori Database.	Has the database been developed? What is the projects search rankings on Google for Cook Islands Maori and Cook Islands Maori Database	Completed redevelopment of the online database using the latest version of Wordpress including: 1. Customized wordpress plug-ins and Themes to improve SEO. 2. Migrating Data from old site. 3. Added functionality to make adding new words to the database easier for users. 5th on Google search rankings for Cook Islands Maori. 1st on Google search rankings for Cook Islands Maori Database.	Online database has been redeveloped. This has resulted in an upsurge of Pageviews of 303.71% 17,077 vs 4,230 during July 27, 2014 - Dec 31, 2014 vs Feb 19, 2014 - Jul 26, 2014	Investigate possibility of integrating the MySQL database to sync with CouchDB on server-side and PouchDB on mobile side. This platform configuration opens up options to further extend data collection via mobile phones and sync it with the projects database. Linguists want more details captured. Will look into creating more fields to capture greater detail for linguists while hiding complexity from general users.
No mobile applications available for Cook Islands Maori on the iOS and Android Platforms	Has an Android App been developed? Has an iOS App been developed?	Completed Development of an Android App. Completed Development of an iOS App.	Mobile Applications and have been published to the respective app stores for \$NZ 2.59. # of installed mobile apps on Android 66. # of apps installed on Apple iOS devices 225.	More marketing and promotion of the apps need to happen, especially in Australia and New Zealand, as not many Cook Islanders are aware of the apps. Issues with submission of apps and workarounds need to be documented for other small island developing state developers. Apps will eventually be made free so we can gauge differences in paid vs free apps.
No online Cook	Have teaching and	Fourteen teaching and	The programme be	As the application was being

<p>Islands Maori Language resources available to support teaching and learning.</p>	<p>learning resources been developed?</p>	<p>learning units developed including:</p> <ul style="list-style-type: none"> - The basics of everyday conversation with audio recordings - Alphabet charts - Phonics - Simple greetings & responses - Introducing yourself - Description of hobbies or like/dislikes - Grammar (nouns, verbs, adjectives, pronouns, etc.) - Tense - Time - Days of the week - Months of the year - Body parts description - Counting numbers - Asking questions and the possible answers to question posed - Building simple sentences - Building simple conversations. 	<p>assessed in a variety of ways in the classroom:</p> <ul style="list-style-type: none"> - Encouraged use of the apps tool by teachers in the classroom. - Students are seen using the tool both in and out of the classroom - Formal tests provided by the teacher to test vocabulary building, oral pronunciation and sentence construction - Self assessments by students using the audio recordings - Anecdotal evidence of more use of Maori language in the home as well as school environment. 	<p>developed the project team and classroom teachers discussed its potential use by junior to senior secondary levels. Non-Maori speaking students were identified as the key users. Classroom teachers would accept mobiles in class to enable offline use of this application.</p>
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Project implementation: understanding the chain that leads to results

Tips: This is the most important section of the report. Here, the reader will **understand the processes and operational issues** of your project and how they contribute to the achievement of the objectives and the theory of change behind the project implementation.

Is possible that the project team’s understanding of the development problems to be addressed with this project will have evolved or **changed** from those described when the project was originally submitted and approved. If that is the case, please share what motivated the change and what course of action has the project team identified.



Results chain diagram provided by In Develop

Narrative - project implementation

The purpose of the project was to develop and establish online resources for language learners and the like to use. Our target group was young Cook Islanders living in the Cook Islands and overseas who are not fluent in

Cook Islands Maori and would like to learn. During the development of the project we came to realise that engaging this demographic is more challenging than initially thought and would require significantly more resources and effort than what was currently available.

The finding that emerged during the project was to use the project's outputs (i.e. database, mobile apps and learning and teaching resources) as a marketing tool to generate excitement/"buzz" to raise awareness and then use that awareness to gather resources to address the need for a coordinated response to language loss. The following are the projects activities and their outputs:

Website and Database Re-development

The first activity of the project was the redevelopment of the online database system, which was based on an out-dated Joomla 1.0 version of the system with a custom-built search function. This part of the project was headed up by the project's lead developer, Ano Tisam. A decision was made to migrate the system away from Joomla to Wordpress. This was done because as with other Small Island Developing States like the Cook Islands, available development talent is scarce. Therefore to ensure the project got completed on time and on budget a quick analysis was conducted on both systems to see which had the least technical burden on the developer and users. In the end the reasons for choosing Wordpress were as follows:

1. Wordpress had better Search Engine Optimisation (SEO) out of the box compared to Joomla, which required more work to do SEO properly.
2. Building and customising Wordpress and its plugins and themes were easier than in Joomla.
3. A few key plugins were available only in the Wordpress ecosystem.
4. Wordpress is easier to use for our users.

Disadvantages of Wordpress:

The way that words are stored in the database is not as easy to manage as those in Joomla.

The key focus for the initial phase of the online database development was to:

1. Allow users to quickly find the words they are looking for in either English or Maori.
2. Allow users to easily contribute new words to the database.
3. Improve current SEO.
4. Migrate existing data over.
5. Increase the number of words collected.

The key focus areas were decided after analysing extensive feedback from users of the initial Joomla 1.0 Cook Islands Maori database via our various communication channels i.e. Website, Facebook, Email, Twitter and in person discussions. Feedback came mostly from our overseas users e.g. English speakers just learning the language, researchers looking for Maori words to explain cultural concepts, radio hosts and composers looking for more emotive words, linguists, educationalist developing curriculum documents in New Zealand, teachers, policy writers, English/Maori translators etc.

Development work began on the 27th of February 2014 and was completed on the 22nd of May 2015. The original timeframe had been for a 12 months build of the project, however due to the withdrawal of in-kind support from government (i.e. the lead developer, Ano Tisams employer at the time), the lead developer was forced to work only part-time on the project while being employed by government. This situation persisted for 2 months before a decision was made by the lead developer to resign from his permanent position at the Office of the Prime Ministers. The lead developer was then forced to seek short-term consultancies while also working on the project. Due to the nature of these short-term consultancies the timeframe blew out to a 15 months. During the project an opportunity presented itself when Ano was invited to present the Cook Islands Maori Database project at Taokotaianga 2014 (Tisam, 2014). Taokotaianga is a gathering of Cook Islanders undergoing tertiary studies in New Zealand, and brings together presenters and students for a week of networking events, conferences, workshops and cultural competitions organised by that years host university in the hope of inspiring the future leaders of the Cook Islands. During the event we were able to present the project as well as run a workshop with participants and gather feedback on various issues. This feedback was collected and will be used for the next phase of development. Due to the networking opportunities of the event, we were able to participate in outreach and promotion to the Cook Islands community in the Wellington region via an

interview on Radio Ivanui as well as on Auckland Cook Islands Community Radio to reach out to the Cook Islands community in New Zealand.

Mobile Application Development

The second part of the project was the development of the mobile apps for the Google Play (Android) and Apple App Store (iOS) platforms. This part of the project was headed up by Ano Tisam. This part of the project was 5 months in length, the start was delayed due to the issues mentioned earlier and development didn't begin until the 3rd of December 2014 and was completed on the 26th of April 2015. Initially the mobile app was to interface with the website via an application programming interface (API) over an Internet connection. However after closer inspection of mobile Internet access in the Cook Islands, it was decided an offline mobile application was needed due to the affordability to the Internet. Most of the technical challenges encountered were solved during the development period.

Learning and Teaching Resources

The third part of the project was to develop teaching and learning resources for teachers and students to utilise in the classroom. Nga Teinangaro headed this part of the project up. Initially the plan was to utilise a meeting to be held among teachers to recruit a large group to develop the resources. However after discussions with Nga, the timing issues caused by delays during the development phase of the database meant that this would not be feasible as teachers would be heading to end of year break and few would be available to work on the project. It was then decided that Nga would head up the development of the resources herself with a handpicked group of staff from the Maori department of Tereora College, the national secondary school in the Cook Islands. The resources were developed over a period of 6 month including running trials of the teaching units for use in classrooms. These have since been uploaded to the website and made freely available. Future plans are to turn these resources into interactive games for web and mobile devices.

Country ?	Acquisition			Behavior		
	Sessions ? ↓	% New Sessions ?	New Users ?	Bounce Rate ?	Pages / Session ?	Avg. Session Duration ?
	135.77% ↑ 5,991 vs 2,541	7.24% ↓ 73.59% vs 79.34%	118.70% ↑ 4,409 vs 2,016	77.19% ↑ 15.76% vs 69.07%	77.41% ↑ 5.12 vs 2.88	13.37% ↑ 00:02:04 vs 00:01:50
1. New Zealand						
Jul 23, 2014 - Apr 25, 2015	1,536 (25.64%)	69.60%	1,069 (24.25%)	15.17%	5.93	00:02:31
Oct 19, 2013 - Jul 22, 2014	757 (29.79%)	80.45%	609 (30.21%)	61.82%	2.84	00:02:36
% Change	102.91%	-13.49%	75.53%	-75.46%	108.33%	-2.99%
2. Australia						
Jul 23, 2014 - Apr 25, 2015	1,001 (16.71%)	64.54%	646 (14.65%)	14.49%	5.33	00:01:38
Oct 19, 2013 - Jul 22, 2014	582 (22.90%)	72.34%	421 (20.88%)	71.31%	2.21	00:01:32
% Change	71.99%	-10.78%	53.44%	-79.69%	140.96%	7.03%
3. Cook Islands						
Jul 23, 2014 - Apr 25, 2015	966 (16.12%)	50.41%	487 (11.05%)	10.14%	7.41	00:05:01
Oct 19, 2013 - Jul 22, 2014	271 (10.67%)	52.40%	142 (7.04%)	51.29%	3.30	00:03:54
% Change	256.46%	-3.79%	242.96%	-80.22%	124.56%	28.43%
4. United States						
Jul 23, 2014 - Apr 25, 2015	924 (15.42%)	90.91%	840 (19.05%)	11.47%	4.46	00:00:51
Oct 19, 2013 - Jul 22, 2014	329 (12.95%)	96.66%	318 (15.77%)	79.33%	5.91	00:00:23
% Change	180.85%	-5.95%	164.15%	-85.54%	-24.50%	116.22%
5. Brazil						
Jul 23, 2014 - Apr 25, 2015	265 (4.42%)	97.36%	258 (5.85%)	13.96%	3.02	00:00:12
Oct 19, 2013 - Jul 22, 2014	46 (1.81%)	100.00%	46 (2.28%)	95.65%	1.07	00:00:03

As at 25 April 2015

Accompanying the content of the database, the staff of Tereora College also put together audio content that would enrich the data, which was on the database and add pronunciation to the teaching resources. We have had requests for online courses, which although currently out of the scope of this current funding, is something that we would like to accomplish given time and funding to do so. We plan to build a community of beneficiaries to assist us in this endeavour.

One of the early issues the project had to deal with were the employment issues raised by the Ministry of Finance and Economic Management regarding the granting of time off work for the project's lead developer in order to dedicate some work hours from his Technical Assistant's role in the ICT Unit of the Office of the Prime Minister (OPM) to work on the Website and Mobile App development requirements of the project. Without the support of the Office of the Prime Minister for the development of this important resource, it was with regret that Ano decided to resign from the Office of the Prime Minister in order to focus solely on the project, and to hopefully look at other avenues of employment and/or project funding.

However the disappointment lay in the government's rejection of one of the few practical projects that was being developed that actually addressed the objectives and strategies within its National Sustainable Development Plan 2011-2015 (NSDP).

- On p19 of the NSDP among its strategies for "Objective 5: Cook Islanders share a strong national identity and sense of belonging" is "Ensure the promotion and preservation of our unique culture, languages and social heritage".
- On p23 among the list of enablers for Cook Islanders to ensure that cultural and creative industries are a key force in job and wealth creation and nation building is "increase exposure of our creativity and cultural strength including our Maori Language".
- On page 29 where the objective is to ensure that every child is literate and numerate by the end of Year 8, the government promises to "increase resourcing targeted towards improving literacy in the Maori language", and
- On page 32 it aims to promote the preservation of our unique culture, Maori Language (and all its dialects) and social heritage through the integration of relevant programmes into our education curriculum.

An associated problem that the project had to deal with during the period of our project was that our government was only in caretaker mode so that even Ministers were unable to make long-term decisions until certain electorates had been declared final. Therefore, while we have identified that it is critical that to ensure longer term sustainability of our language, the government has a critical role to play in this more will need to be done in terms of the Cook Islands Maori language, we must hold that thought and await the final result of who is our government, and ensure that as soon as this has been decided, that we put our case forward to the key decision makers. We were given a sympathetic airing from several senior public servants who are now more informed about the purpose of the project. The Maori Language project team will continue to work on a strategy to coordinate and consolidate the various Maori language initiatives and to get government involvement, support and funding.

Another issue that was revealed during the collection, checking, cleaning and the organisation of words inputted into the database. The unanticipated volume of data (15,000+ words currently) presented a significant challenge. There is still a lot of work to be done and we are rethinking a strategy in order to organise this. More resources are required to build an online community of volunteers to assist with the work and we would like to investigate other organisational partnerships to help us with this task. We are also looking at options of how to automate some of the work.

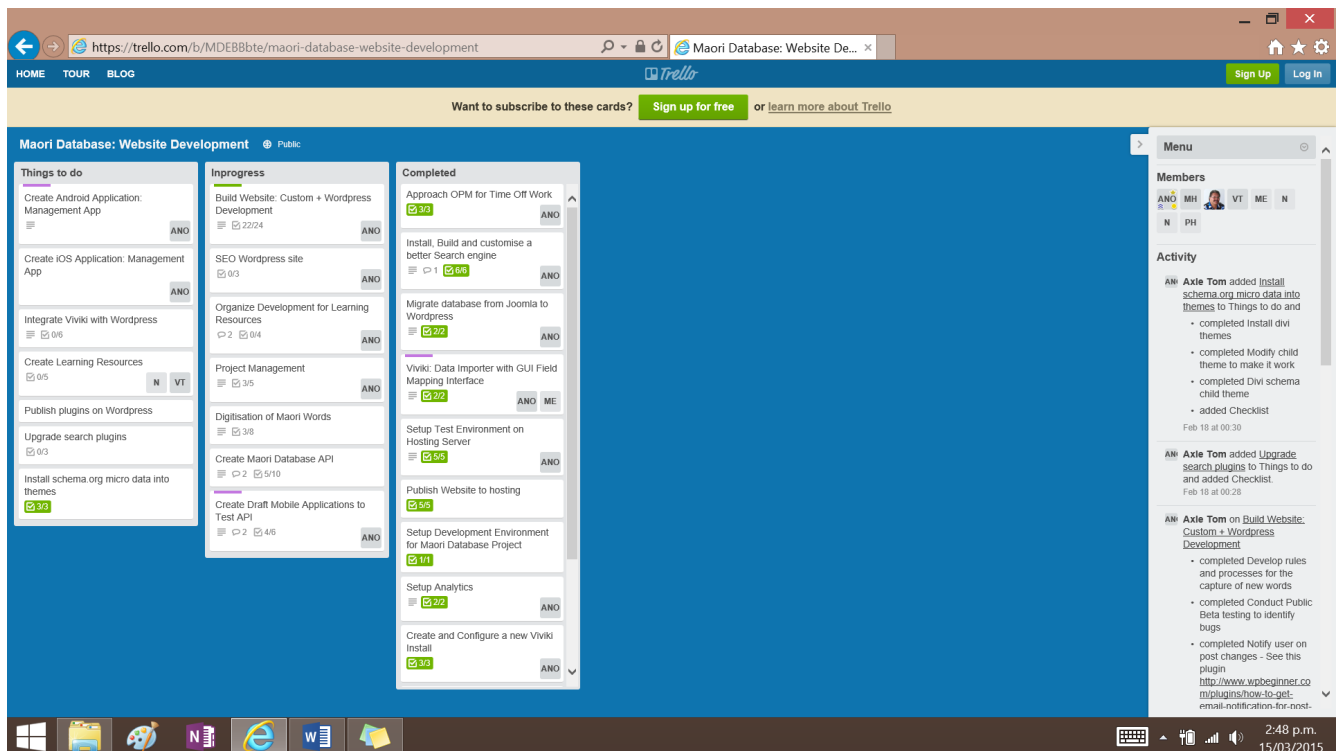
The current search engine we have developed is good but not great. Another alternative needs to be sought or developed because for some searches, the relevant results aren't always at the top. The lead developer is currently looking into options for improving this search function.

As a tool the database is invaluable for those already looking for a particular word. However, promoting and engaging a larger percentage of the project's beneficiaries in the project will require significantly more effort and resources than initially estimated:

In order to increase engagement and reach among users of words currently stored in the database, initial feedback from users suggest the development of

- Maori word games for mobile devices,
- Word subscription services (e.g. email daily word service),
- Social media type challenges/competitions/promotions,
- Online Cook Islands Maori lessons etc.

The following screenshots of these boards outline the activities that were implemented as part of the projects development. They provided a very structured organisation of the tasks that were required and who was assigned to complete the tasks. As noted by the annotations, Ano was given the major role of implementation because the others of us in the team were otherwise employed. At the same time it is important to give thanks to Ano's parents for supporting him through this period when he was working 24x7 on this project.



This screenshot shows a Trello board titled "Maori Database: Communication and Marketing". The board is organized into columns: "Others: Out of Current Scope", "To Do", "Doing", "Done", and "Others".

- To Do:** Promotion of Cook Islands Maori Database at Cook Islands Language week NZ, 2-10 August; Create a crowd funding campaign to raise money for the project; Maori based internet meme application; Marketing Board overview; Traditional Performances of the Week; Viral video Competition; Ads in media looking for volunteers; Gamification of the database platform to encourage users to continue contributing to the project; Project Press releases; Develop, Manage and Promote Public Relations with Media; Marketing and Crowd Sourcing Campaigns.
- Doing:** Research Communication Programme; Standardisation and Information flow of marketing efforts.
- Done:** Cook Islands Community Radio Interview in Wellington; Cook Islands Community Radio with Bernard Tairea in Auckland; Reach out and Make contact with Ministry of Education regarding the project and our plans; Link Google Groups to all channels; ISIF Asia - Mid Term Report; Build a mailing and discussion list; Talk back show sponsored by the project discussing the state of the language; ISIF Asia YouTube Video; Korean Funding; Legends of the Week.

The right sidebar shows a "Menu" and "Activity" section with recent updates and member profiles.

This screenshot shows a Trello board titled "Maori Database: Governance + Project Management". The board is organized into columns: "To Do", "Doing", and "Done".

- To Do:** Setup hassle free accounting using Zapier/FTT + Xero + Expensify + NZ Bank Account; Organize and Manage Volunteers; Create Xero Account; Create Expensify Account.
- Doing:** Setup ASB Bank Account; Discuss Strategy.
- Done:** Create Invoice for Phase Two of Development; Create Invoice for Phase one of Development.

The right sidebar shows a "Menu" and "Activity" section with recent updates and member profiles.

Input	Project activities	Outputs	Outcomes	Timeline	Status	Assessment
Re-developed online database	<p>Research conducted on best available open source platforms</p> <p>Platform chosen and database implemented</p> <p>Data migrated from old site to new site</p>	Online database ⁹ available	Increased users by 13.66%	February 2014 - July 2014	Completed	Upgrade considered a success. Increase in SEO performance as well as more words added to the database. The current Wordpress system is also cheaper and easier to administer and customize than the previous Joomla System.
Develop Android and Apple mobile Apps for Database	Conducted research into best mobile development platform to use for the project and developed an android and IOS app for the respective stores	Cook Islands Maori Language Apps available for download on the Apple App store and Google Play store. App is offline and requires no internet connection to function, which is critical for users based in the Cook Islands.	Increased interest and buzz created by the apps highlighting the issue around language loss	September 2014 - April 2015	Completed	Response for the mobile apps has received overwhelming support despite issues with access and availability issues for some users.
Develop teaching and learning resources	<p>Planning, Organisation development of Units conducted</p> <p>Recording Equipment purchased and voice recordings made</p> <p>Completed units published to the website available for free</p>	Cook Islands Maori Language learning Resources freely available online for teachers and students to download and use	Cook Islands Teachers Association is interested in utilising resource among it members	November 2014 - July 2015	Completed	There is scope to extend the teaching and learning units into interactive web and mobile games and e-content
Financial, human and material resources	<p>Developed capacity of the team in the following areas during the duration of the project:</p> <p>Wordpress Development</p> <p>PhoneGap/Cordova Framework</p> <p>Javascript for Mobile Application Development</p> <p>UFE and ResCom</p>	Successful delivery of project outputs	Technical Capacity of team members in high demand with several consultancies and job offers resulting directly from project capacity development	January 2014 - January 2015	Completed	Capacity Developed during project is successfully being deployed in other projects.

⁹ Online database <http://www.maori.org.ck/>

Activities Outside Scope

During the course of the project several opportunities presented themselves in which the team had to decide whether to include activities as part of the project. Most of these we kept out of scope however there were 3 key ones, which we considered to seriously expand the scope of the project to accommodate. They were:

Mini Documentary (Kept out of Scope)

A suggestion was made from a well-known local filmmaker to create a mini documentary to tell the story of the development of project and to use that as a vehicle to reach our users both at home and abroad, particularly those residing in Australia and New Zealand. This idea was among our many great ideas for promoting the resource, but time and finances were our main limitations to make it possible in this first phase of the project, hence we decided to keep it out of the current scope of the project.

Capturing Outer Islands Speakers (Partially In Scope)

We realized before we started this project that the majority of our Maori Language speakers who were both fluent and had a deep understanding of the accompanying culture would not be computer literate. Therefore gathering feedback from this generation of speakers presented a major challenge due to the geographic spread of the Cook Islands population. We were fortunate enough to be invited to join the Climate Change Division and the ICT Division at the Office of the Prime Minister in their joint program of tablet training for the elderly in the outer islands to enable them to be informed and to communicate in the event of a natural disaster. The climate change project was also capturing video interviews of the elderly people speaking in their native dialects about the effects of climate change that they have witnessed over their lifetimes. The Climate Change Division agreed to partner up with the Cook Islands Maori Database Team to assist them in collecting video's of speakers in the outer islands discussing climate change. As opportunities to do so are rare for capturing outer island speakers the team decided to include this partially in the scope of the project to capture some video footage of outer islands speakers. The team has yet to decide on what to do with the footage

Taokotaianga (In Scope)

During the project an opportunity presented itself when Ano, the lead developer was invited to present the Cook Islands Maori Database project at Taokotaianga 2014 (Tisam, 2014). Taokotaianga is a gathering of Cook Islanders undergoing tertiary studies in New Zealand, and brings together presenters and students for a week of networking events, conferences, workshops and cultural competitions organised by that years host university in the hope of inspiring the future leaders of the Cook Islands. During the event we were able to present the project as well as run a workshop with participants and gather feedback on various issues. The feedback collected was invaluable for our current projects outputs and activities as well as for our next phase of development. Due to the positive feedback and networking opportunities of the event, we were able to participate in outreach and promotion to the Cook Islands community in the Wellington region via an interview on Radio Ivanui as well as on Auckland Cook Islands Community Radio to reach out to the Cook Islands community in New Zealand.

Project outputs, communication and dissemination activities

Tips: Take into account that the reader of your report has not being involved in project implementation, so readers do not have any further knowledge besides the information you are providing here.

This section of the report will allow you document the communication and dissemination efforts that the project team has conducted, which might be part of a specific communication strategy design as part of the project, or in place for the organization as a whole. When possible, please provide information about strategies in place and the rationale behind them.

Lessons can be learned from many aspects of project implementation, covering a wide variety of aspects such as technical, social, cultural and economical. Taking the rationale behind the project and its objectives can serve as a framework to draw your conclusions. Lessons can be identified by project partners, beneficiaries and general staff from the organization. A project diary and other activity records can serve as a tool to reflect during project team meetings and immediately after project activities are conducted.

Outputs are immediate, visible, concrete developmental change that is the tangible consequence of project activities, under direct control of the project team.

Example of possible outputs to report are:

1. New products and Services (software, online platforms, applications);
2. Information sharing and dissemination (publications, conferences, multimedia, social media);
3. Knowledge creation (new knowledge embodied in forms other than publications or reports, such as new technologies, new methodologies, new curricula, new policies);
4. Training (short-term training, internships or fellowships, training seminars and workshops) and
5. Research Capacity (research skills; research management capacity and capacity to link research to utilization of research results).

Project outputs	Status	Assessment	Dissemination efforts
Promotional Video ¹⁰ – Video shot, edited and uploaded on YouTube	Video Completed: Completed, 23/04/2014	Video was shot, edited, scored and uploaded onto YouTube. Video considered a success as project team has now built up its capacity to produce high quality video, which has been used in other parts of the project such as promo video's for apps and capturing speakers from the outer islands on video speaking about climate change in their own dialects.	Video uploaded onto YouTube where it has received over 500 views. Target audience are those who would like to find out what the project is about.
Taokotaiana ¹¹ – Presentation of project, running of workshop and networking opportunity	Taokotaiana – Completed, 13/7/2014	Taokotaiana – Proved very useful in terms of getting feedback from the community in New Zealand about the project, especially feedback from the youth there. Feedback suggests youth desire more interactive forms of communication to drive engagement e.g. games, social media activities/challenges etc... currently out of scope of the project. Also proved useful to getting support from influential people.	Mailing list - Emails addresses collected and participants have been added to mailing list. We have since sent out correspondence notifying participants of the progress of the projects as well as launch dates of our mobile apps.
Twitter ¹² – Account setup and added to information pipe. Facebook ¹³ – Cook Islands Maori Database and Cook Islands Maori Facebook site setup and configuration of piped information from various project sources. Google plus ¹⁴ – Maori Database email address along with Google plus profile setup. Blog ¹⁵ – Blog setup and new articles	Twitter: Completed, 25/6/2014 Facebook Page: Completed, 24/06/2014 Google Plus: Completed, 6/7/2014 Project Blog: Completed, 25/5/2014	Social Media - Facebook has been useful in engaging with audience members. Building networks with others doing similar things as well as keeping our users updated on what's going on. It also attracts new users continuously residing overseas who would otherwise have been very difficult to reach.	Twitter, Facebook, Google Plus, Blog: Primarily to serve those living on Rarotonga and overseas (mainly New Zealand and Australia) who would like to learn the odd word now and again as well as keep track of the projects progress.

¹⁰ Promotional Video <https://www.youtube.com/watch?v=fFSq0BktTNU>

¹¹ Taokotaiana <http://maori.org.ck/blog/2014/07/wellington-for-tak/>

¹² Twitter <https://twitter.com/maoridb>

¹³ Facebook <https://www.facebook.com/maoridb>

¹⁴ Google plus <https://plus.google.com/106955146473823087929/posts>

being piped to social media channels.			
Trello Board ¹⁶ – Setup of Boards and configuration of data being piped to social media sites	Trello: Work was ongoing throughout the project	Trello: An internal tool team members but also useful for those interested in joining the project as volunteers or as an example to those wanting to run/manage similar types of projects.	N/A
Mailing/Discussion list ¹⁷ - Collection and Setup of Email addresses	Mailing/Discussion List: Completed Setup, 27/8/2014 Email Collection, ongoing	Mailing List: Those more comfortable dealing with email rather than social media, older groups mostly knowledgeable in the language with either limited to no usage of social media but are extensive users of email	N/A
Data pipeline - Zapier/IFTTT/RSS Graphiti ¹⁸ : Setup of automated flow of information from various project activity channels to social media outlets.	Data pipeline - Zapier + IFTTT + RSS Graphiti: Setup of systems completed, 6/7/2014 Addition of new channels ongoing and as needed	Data pipeline - Automatic pipelining of updates from our various project channels (e.g. Blog, Facebook, Twitter etc.) will allow automatic updates and easy scaling up of online engagement efforts when resources become available.	N/A
Chief of Staff and OPM ICT Division – Presentation about the aims and objectives of the project and achievements thus far.	Chief of Staff and OPM ICT Division – Completed, 3/7/2014	N/A	N/A
Foreign Affairs and New Zealand High Commission – Informal discussions about funding opportunities. Proposal sent to MFAI for consideration.	Foreign Affairs: Discussions Completed, 14/07/2014 and 22/08/2014. Proposal submitted, 5/08/2014.	N/A	Foreign Affairs: Funding has already been earmarked for other activities
Local media – Cook Islands News, CITV and Radio.	Ongoing during the lifecycle of the project.	Local Media - Local TV, Newspaper and Radio approached to reach local audience at home, especially those residing in the outer islands	CINews – articles published DATES: 26/05/15 - Maori Database a Winner ¹⁹ 21/11/14 - Social media Rejuvenates language ²⁰ 20/7/14- Back to the Books after Taakotaianga 6/3/15 - CITV Business Report

¹⁵ Blog <http://maori.org.ck/blog/>

¹⁶ Trello Board <https://trello.com/b/MDEBBbte/maori-database>

¹⁷ Mailing/Discussion list <https://groups.google.com/forum/#!forum/maori>

¹⁸ Data pipeline - Zapier/IFTTT/RSS Graphiti <https://ifttt.com/recipes/276735-new-cook-islands-words-to-social-media>

¹⁹ Maori Database a Winner <http://www.cookislandsnews.com/item/51950-maori-database-a-winner/51950-maori-database-a-winner>

²⁰ Social media Rejuvenates language <http://www.cookislandsnews.com/item/49273-social-media-rejuvenates-endangered-language/49273-social-media-rejuvenates-endangered-language>

			Segment. Interview with all team members.
New Zealand Media - Tangata Pacifica, Radio New Zealand International	Ongoing during the lifecycle of the project.	International Media to reach diaspora living in New Zealand	<p>Radio New Zealand</p> <p>1/6/15 - Online database looks to boost Cook Island Maori²¹</p> <p>1/06/15 - Digital project could lead Cook Islands Maori revival²²</p> <p>Tangata Pasifika</p> <p>28/02/15 - Pacific News segment²³, Starts at 4:16</p> <p>16/06/15 - Radio Ivanui, Wellington Cook Islands Morning Show²⁴.</p> <p>22/06/15 - Niu FM Auckland Radio, Interview with Tauraki Rongo in Auckland.</p>

Project outcomes

Tips: This section should be completed **ONLY** for the final report.

ISIF Asia expects you to report about the **outcomes** of the project as defined in the table below, based on the project implementation section of this report. Project team is encouraged to discuss the questions provided below to guide the reflection:

Can you identify and describe the relationships between the activities implemented and the social, economical, cultural and/or political benefits of your project implementation?

Outcomes can be defined as:

- Medium-term effects
- Effect of a series of achieved outputs
- Should capture the changes for the beneficiaries
- Take place during the life of project/strategy
- Influence but not direct control

The outcomes of this project based on the events that have led to its completion include:

- Free web based online search engine for quickly looking up Cook Islands Maori Words, their English translations and example usages. The website also enables community to not only use the site to look up words but also to contribute back to it.
- The development of teaching and learning units to support the use of the application in secondary Maori Language classes, having been produced and trialled by teachers of the Maori Language Department of Tereora College.

²¹ Online database looks to boost Cook Island Maori

<http://www.radionz.co.nz/international/programmes/datetimepacific/audio/201756595/online-database-looks-to-boost-cook-island-maori>

²² Digital project could lead Cook Islands Maori revival <http://www.radionz.co.nz/international/pacific-news/275140/digital-project-could-lead-cook-islands-maori-revival>

²³ Pacific News segment <https://youtu.be/YjAz5E8B1wM>

²⁴ Radio Ivanui, Wellington Cook Islands Morning Show <https://www.facebook.com/maoridb/posts/686629044749454>

- The first mobile application to be developed entirely in the Cook Islands using locally available capacity and also to be accepted into both the Google Play Store and the Apple App Store. A milestone for the Cook Islands.
- Increased publicity and awareness within the community about the current state of the Cook Islands Maori language via local media coverage (radio, television and print media) in the Cook Islands, as well as social media (Facebook and Twitter) and email lists (PICISOC) to outreach to our wider regional and global audience.
- We identified that the Cook Islands Maori Database apart from its primary role as providing a valuable online resource to the community as a whole also plays a significant secondary role in raising awareness, creating engagement (buzz) and a platform for discussions around the status of the Cook Islands Maori language and preservation activities and strategies. This has enabled us to transfer new learnings about active engagement and participation to other CIAG projects.
- Feedback from our community has resulted in requests for more projects that build on the use of new technologies and methodologies to increase community engagement and participation. This will be reliant on what other project opportunities arise that will enable us to incorporate new technologies and to build on new learnings for our communities.
- Community involvement plays an important role in the sustainability of the project. However as we attempted to build this community and the capacity required by the wider community to use new tools and technologies, we recognised that there was a continual need for investment that we could not afford within the constraints of donor funding (and our own) for this project.
- We have learnt that there are a lot of passionate people in the community doing good work, however the majority of these people do so in isolation of one another. Therefore there is still a lot to do to encourage collaboration, cooperation and coordination by multiple stakeholders. We can do some of this with regards to IT projects through CIAG but a more coordinated focus by the Development Coordination Division of the Government would also be helpful.
- We later identified a wider range of sources of language information than had been collected for our project. However, these resources need to be collected, organised, archived and then delivered in a suitable manner to the public. This will require significantly more resources than what was available in the scope of this project but could become a subsequent development of it if funding became available.
- CIAG and Project Lead Ano Tisam received acknowledgement for this project from the regional community at the Vanuatu Government's Pacific ICT Days Award Ceremony. The Maori Language Database was awarded the BEST DIGITAL LEADER Award for demonstrating the value of technology and social media as a means of preserving our language and encouraging the continued use of the language among our young people.
- Capacity development of project team in UFE, ResCom, Web Development, Mobile Development, Data Extraction and Web Scraping, Social Media, Web Administration, Project Reporting and Management.
- Media attention and public awareness of the technical capacity available locally.

Project management and sustainability

Tips: Please comment on the general project **administration, staffing, procurement, etc.** specially those aspects contributing to the fulfilment of the project objectives as well as those that have delay project implementation.

Indicate **how the project team has strengthened its capacity** and work towards sustainability with the support provided by ISIF Asia? (new equipment, training, improved administrative skills, lessons learned from the project). Has the organization increased its research or administrative skills of the team involved? Has the project allowed for a particular contribution to capacity building of women or marginalized social groups? Special attention should be paid to the expected or unexpected impact on marginalized social groups.

Have you done **anything different** to provide administrative support for this project **besides your "business as usual"** processes and procedures? Has the project inspired change inside your organization?

Sustainability is to be examined not only in terms of staff retention and financial stability of the

organization supporting the project but about the communities' appropriation of benefits perceived from project implementation.

The ISIF Asia Secretariat is very interested to learn if this project has generated opportunities for future development (new funding from partnerships, sponsorships, investment or other funding mechanisms), please provide details.

Please explain if the ISIF Asia grant has helped to consolidate your organization and how. If any of the project activities will continue after the end of the ISIF Asia grant, please describe how your organization is planning to support future developments.

Financial Administration of the Project was carried out by Maureen Hilyard who had collaborative approval about all procurement decisions from the CIAG senior management team, which included the ICT Director Pua Hunter who is our Secretary, and a local lawyer, Mathilda Miria-Taiera as our treasurer. Project Implementation and day-to-day operations were carried out by Ano Tisam and the project team. The team mainly consisted of volunteers who were responsible for carrying out all project activities. Some outsourced work was required.

The Trello Boards, a cloud based service, were introduced initially as an experiment but became an important management tool for organising the activities of the project as well as setting up a mailing list for those interested in being involved. These were open to the public for participation to maximise the outreach potential of the Boards to enable the public to contribute in any way they could to the project. The newness of this tool has meant that it is early days yet to really be able to assess its value to project management in general.

Significant technical capacity was developed during the implementation of the project. A summary of the capacity being built is outlined below:

- Capacity to develop websites using the Wordpress CMS as opposed to Joomla which powered our older website. We've also developed capacity for developing custom Wordpress plug-ins for use in the project as well as an awareness of what plugins are available in the Wordpress ecosystem.
- Capacity to develop an API for the Database to allow other applications to access the content in the database.
- Capacity to scrap and parse structured and unstructured data from various online sources of Cook Islands Maori words.
- Capacity to develop mobile applications for the IOS and Android platforms.
- Capacity to communicate the project effectively to community.

The Maori Language Database Team of Ano Tisam and Maureen Hilyard were invited to participate in the DECI-2 program. This mentoring opportunity based around Utilisation Focused Evaluation (UFE) and Research Communication (ResCom) aimed to help us design and implement evaluation and communication strategies that would enable us to create opportunities for partnership engagement utilising the outcomes of the project development beyond those that impact directly on the expected beneficiaries of a technological project. What resulted from involvement in this programme was a realisation that too often projects are considered concluded at the completion of a set of tasks. Most times, it seems that there is no further potential for the final output. The main lesson learned from the workshop that was held on Rarotonga with Dr Sonal Zaveri from India, and Dr Vira Ramelan from Thailand, was that our project was able to add value to a range of partner organisations outside of those who were involved in the development of the project. It made us look outside of the usual preoccupations of project development related to donor-driven expectations and frameworks. At the same time as work was being done on the development of the database, promoting the use of the tool via social media and developing educational resources for use with the application tool, we were also marketing the tool itself within government departments and other potential partners who might be able to help us to source financial support for other technology projects, having provided evidence of local expert technical and management skills and capacity.

The sustainability of this project is dependent firstly upon securing funding in the short term to put in place the infrastructure and systems required to build relationships and engage a community of volunteers passionate about the preservation of the Cook Islands Maori Language and its various dialects. CIAG has developed a project proposal based on the lessons learnt so far during the implementation of this project and has submitted this to government for consideration. Due to a snap election there has been a delay in a decision until a

government is finally formed, which will only happen once all election petitions have been processed. In the interim, we continue to approach current Ministers of relevant ministries (i.e. Ministry of Education, Ministry of Culture) to present our findings and to seek endorsements for the scaling up of the project.

The sustainability of the project will also be dependent on the initial impact that we have made on our community and our online audience. In order to gauge its real impact we have to be able to actively promote it. There is a cost involved, and it is hoped that by adding a small cost for the online resource, it can become financially self-sustaining. It has become apparent via our presentations to the community and the feedback we've received via discussions and from our online channels that the project has generated a certain "buzz" and excitement. We would like to investigate why this is so that we can replicate it in our other projects but this is currently outside of the scope of this project.

What we would like to do in the long-term is to explore how we could go about converting the initial buzz and excitement generated from this project into active engagement and participation by the community on addressing some of the pressing needs of language preservation efforts surrounding the Cook Islands Maori Language. We believe that active participation and engagement by the community will be critical in making interest in the database self-sustaining.

Our long-term vision is to use this project as a catalyst for discussions as to where we (the community) would like the language to be in the future. This will then inform us as to what it is needed to be done and the community can then work towards achieving those goals.

Impact

Tips: This section of the report does not refer to the project activities, but about the "bigger picture". It will be desirable if the project team can reflect on the **impact that the project has contributed to as part of other actions implemented by your organization and/or your partners.**

Impact refers to the influence the project may had on the way people does things through the use or adoption of the project outputs; changes in the context the project was implemented; changes in the community the project has been working with; and/or changes inside the organizations that have participated in the implementation or the relationships established through the project's implementation.

Impact is often impossible to measure in the short term and is rarely attributable to a single activity. Impact can be linked to a vision or long-term development goal that your organization might be working towards.

It can be identified as a logical consequence of achieving a combination of outputs and outcomes.

Impact is usually measurable after the project life and is outside the direct control of the project team and the organization.

The project has had the following impact:

- Built greater awareness among the wider community (including Australia and NZ) about the state of the Cook Islands Maori Language. The development of the database and mobile applications has created interest and excitement among Cook Islanders about the language. The feedback we have received from people who have discovered our project has been overwhelmingly positive. We have since realised that the Cook Islands Maori Database has the potential to act as a catalyst for changing the way language preservation efforts should be carried out.
- Built awareness among CIIAG team about what is needed in terms of language preservation efforts, its size and scope and recruited another CIIAG member who is a developer. Currently working on a mobile game for children aged 3-6 years of age.
- The team is beginning to leverage the awareness and interest generated by the project's outputs (i.e. mobile apps, database, teaching and learning resources) to build partnerships in the hopes of further addressing the issue's of language loss. We are currently:

- In the process of negotiating a sponsorship agreement with BlueSky the monopoly telecommunications provider to offer free Internet services to our local developers working on this and other research and development projects.
- In the process of setting up a trust in New Zealand to tap into New Zealand government funding for endangered Cook Islands and Pacific languages.
- In the process of setting up a project to provide technical assistance to the Niuean community based in New Zealand to build a database and mobile app for the Niuean language which is also endangered.
- Built the capacity of the project team in executing locally developed ideas as well as raising awareness of what technical capacity is available locally. This in turn has resulted in various member fielding job offers e.g. Ano Tisam who is the project lead has since been tied up for the last 6 months building databases and information systems for NGO's and government departments and has just recently been offered a job at the Forum Fisheries Agency a regional organisation as a Systems Analyst.

Overall Assessment

Tips: This section of the report is extremely valuable for the ISIF Asia secretariat as it provides evidence about the role and relevance of ISIF Asia contributions in the Asia Pacific region.

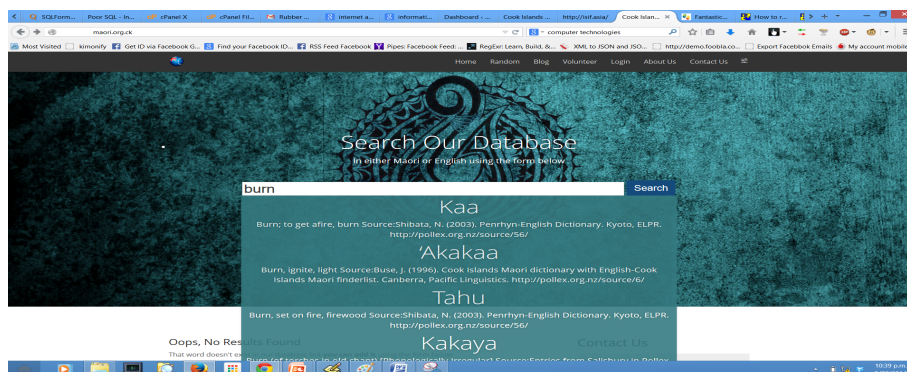
Tips: Briefly provide your own views on the value and importance of the project relative to the proposed innovation, investment of time, effort and funding involved. Include the strengths and weaknesses of the project and the steps taken to strengthen the credibility and reliability.

This is your opportunity to conduct a team reflection about the value of the project for the organization. The following questions might help you to prepare a substantive overall assessment.

- To what extent the project meet its objectives?*
- What were the most important findings and outputs of the project? What will be done with them?*
- What contribution to development did the project make?*
- Were certain aspects of project design, management and implementation particularly important to the degree of success of the project?*
- To what extent the project help build up the research capacity of your institution or of the individuals involved?*
- What lessons can be derived that would be useful in improving future performance?*

1. To what extent has the project met its objectives?

Database and Website: The database was built and populated with words migrated from the old site and a search engine was implemented to make searching in either English or Maori possible. The look and feel of the website was enhanced by the development of the Cook Islands Maori Database logo by Cook Islands tattoo artist Christopher Williamson.



Words Added: 9000+ additional words were added to the database from various sources including:

- Public Contributions
- Social Media
- Data extraction and web scraping
- Face to Face Engagement
- Local Media Sources

Engagement: Preliminary work done including online infrastructure (data pipeline, social media etc...) to scale up engagement activities. Community outreach was facilitated on an ad-hoc basis as opportunities arose due to mainly financial constraints. Contacts were made with influential people in New Zealand who were keen to assist as well as those in key public service positions. Although circumstances may have prevented them from assisting us, as they would have liked at the time, we envisage that in the future, as funding opportunities become more available, our requests will be met from a better informed basis of our knowledge and capacity to complete what we set out to do.

Unit Plans and Lesson Plans: Teacher workshops to work on the written and audio teaching resources to accompany the mobile application were carried out by the staff of Tereora College themselves.

2. Challenges to the success of the project?

Capacity: The Cook Islands is a very small country with constraints around available capacity of skilled people. It is not uncommon for a few skilled people to be taking on multiple roles. This is especially the case with the Cook Islands Maori Database project where personnel who were originally identified during the project proposal stage became unavailable when later called upon for other government projects. Also the withdrawal of government support via the Office of the Prime Ministers to allow the Project Lead time to implement the project compounded the problem of capacity. In order to fulfil obligations of the project, the project lead resigned from full-time employment at the Office of the Prime Minister and took up consultancies in several government IT projects as well as on the completion of this project. Although this put considerable strain on finances and meeting the demands of the cost of internet and other expenses during the development of the Maori Database project, there was also a degree of flexibility with regards to place of work and how time could be used in order to fulfil the commitments required of the project, that was not able to be made in full time government employment.

3. What were the most important findings and outputs of the project? What will be done with them?

4. To what extent the project help build up the research capacity of your institution or of the individuals involved?

- a. Built up capacity in the application of Utilisation Focused Evaluation and Research Communication that can be applied to the project work we do in the future, as described in several sections above
- b. We made use of the capacity we have built up through the use of Wordpress templates for our websites as opposed to the Joomla version that we used for our old database site. We found that Wordpress is easier to install and more user-friendly for our clients when it comes to training them to self-manage their sites. It has now become the website of choice for our own project sites.

5. What lessons can be derived that would be useful in improving future performance?

Initially the project team did not realise the importance of community engagement as communication activities in the beginning focused on a monologue from us on what the project was doing. Involvement in the DECI-2 programme made us look beyond the first level beneficiaries of this project so that we expanded our building of relationships across all levels

of the community to engage a wider range of stakeholders in the benefits of our project. By engaging in dialogue with the wider community we have been able to recognise the advantages of the positive interactions that can result.

Recommendations

Tips: Include any recommendations in this section that you and your project team, the organizations supporting the project and the community you worked with, would like to make to other practitioners or researchers on the field facing similar problems or implementing similar solutions.

Please take a minute to share recommendations with the ISIF Asia secretariat that might help to improve the support provided.

Communication Strategy

At the outset of our project, most of our communication efforts were ad-hoc and reactive. We recommend that everyone should have an introductory session on the development of a basic communication strategy using the DECI-2 programme to enable them to think strategically about who their influential users are and how they might engage them to help to get the best sustainable outcomes from their projects, and to add value to the donor funds which help to make the project happen.

Scope Limitation

During the course of the project we were constantly being exposed to ideas that would enhance the project if further funding were available. For example the feedback we received from students at the 2014 Taokotaianga conference suggested the development of mobile games to assist in engaging youth. However, we recommend to others as we did to ourselves, to keep focused on your original objectives and deadlines and to maintain discipline in order to complete what had originally been set out.

Capacity Building

The Cook Islands is a very small country with constraints around available capacity of skilled people. Outward migration of skilled labour is of serious concern but so far government has no coherent policies in place to stem the tide. Therefore it is not uncommon for the few available skilled people left behind to be taking on multiple roles. CIAG was fortunate enough to pull together from its membership highly skilled individuals to implement the Cook Islands Maori Database project. However the success of the project has meant that team members have already received job offers both in the Cook Islands and overseas. For example Ano Tisam the Project Lead responsible for most of the technical development of the database and mobile application has recently been offered a Systems Analyst job at the Forum Fisheries Authority, an international organisation based in the Solomon Islands. Capacity building

Project Reporting

As a small organization with no full time staff, we found it difficult to meet the reporting requirements for ISIF Asia in a timely manner as this required major time commitments from project team members who already had very busy schedules during reporting time. We would recommend simplifying the reporting process by splitting the reporting into smaller bits and guiding recipients through the process during the implementation of the project.

Bottom Up Approach of ISIF.Asia

As an organisation CIAG has been very excited and pleased with the approach taken by ISIF.Asia in regards to the innovative application of ICT's to development issues. Far too often in the Cook Islands and most of the Pacific, bar a few exceptions we see governments and policy makers taking a top down approach to ICT for Development projects that have little to no benefit or impact. So far all this has done is pay for international consultants to draft up policies and plans that never actually get implemented. When reviews are done the same issues are highlighted that the original plans were supposed to address and new plans are thus drafted to address the same issues, and so the cycle continues. We suspect that for Pacific Island countries there are far

reaching insights and lessons to learn with the approach taken by ISIF.Asia and the body of work it is compiling. CIIAG is very much in tune with what ISIF.Asia is doing and our hope is that organisations like ISIF.Asia receive funding/investment so that local counterparts like CIIAG can continue to partner up and work to implement development projects that have a major impact. As it stands our options are severely limited.

Bibliography

Tips: Include complete bibliographic references to all sources (printed, on-line, quotes, etc) used to prepare the different sections of this report. The APA style guide offers examples about how to reference a variety of sources. <http://www.apastyle.org/learn/quick-guide-on-references.aspx> (as accessed on 3/7/2013).

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