

CF Challenge Fund

A Deep Dive Case Study

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In an era of ever-shrinking humanitarian and development funds, it is rare that funding organizations dedicate resources to the critical functions of monitoring, evaluation and learning (MEL). I am grateful to both DFID and GFDRR for seeing the value in project MEL and for choosing me to assume this role. My sincere appreciation goes out to GFDRR Innovation Lab staff for their unending confidence and support in this complex endeavor. I truly hope that all stakeholders will find something useful that will in fact be used in this evaluation report.

Of course the views expressed in this document do not reflect the official views of any organization. They are those of the evaluator only. All errors contained herein are mine alone.

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EXECUTIVE SUMMARY

This performance evaluation using Case Study design and qualitative methods focused on the National Institute of Water and Atmospheric Research's (NIWA) Challenge Fund (CF) Drought Risk Visualization Toolkit (DRVT) project in Solomon Islands, Samoa and Fiji. It addressed the following four theory-based evaluation questions:

1. To what extent is NIWA achieving CF logic model results at the outcome and purpose levels in Solomon Islands, Samoa and Fiji? (Please note that these results refer to *access* and *use* of the toolkit.)
2. Which of the output-level results are most critical to decision-maker access to and utilization of the DRVT? (Please note that CF output-level results are: 1. Developing tool in response to local demand; 2. Improving capacity among the community to develop the new tool; 3. Considering gender in project implementation; 4. Improving capacity of local beneficiaries in applying the new tool; and 5. Leveraging resources.)
3. To what extent are the results reported in response to question 1 sustainable?
4. What are the unintended consequences – positive and/or negative – of project implementation?

Findings showed that NIWA is achieving both access to and use of its DRVT in partner countries. One partner country was recovering from the largest tropical cyclone on record to make landfall in that country during Phase I project implementation and did not show access and use to the extent of the other two; however, that is expected to change during Phase II. The most critical factor in access to and use of the DRVT is the unique partnership between NIWA and partner country officials. All involved express respect and gratitude to fellow partnership members and are keenly interested in achieving results in-country.

Project results look very likely to be sustained after Phase II ends, mostly because of the commitment both sides show to these partnerships. A NIWA project staff member summed it up beautifully by saying, "*We always do much more than the donor organization requires, but it helps our partners tremendously and we enjoy doing it.*" For their part, country officials voice their strong and positive working relationships with NIWA. These relationships result in a project where very few stones are left unturned and every possible avenue is explored, leading to the best possible outcomes, which have great potential to remain long after funding ends.

Two positive unintended outcomes discovered in this study are an increased confidence by ministry officials using DRVT products and the potential for strengthened intra-governmental cooperation. Recommendations include continuation of close monitoring, evaluation and learning (MEL) of all CF projects; instituting 'sustainability awards' for limited successful CF projects; research on partner country budgets with respect to drought policy implementation; modification of the CF logic model; and making an external version of this evaluation report openly-available.

BACKGROUND

The Challenge Fund

The Global Facility for Disaster Reduction and Recovery's (GFDRR) Innovation Lab partnered with the UK Department for International Development's (DFID) Science for Humanitarian Emergencies and Resilience (SHEAR) project to deliver an innovative toolkit of new open data and tools to support preparedness and resilience through a competitive Challenge Fund (CF). Launched in 2015, this Challenge Fund provides seed funding to projects that address the challenge in bridging the gap between technology and on-the-ground user needs in the field of disaster risk identification. The Fund seeks to catalyze the development of data, products and approaches to support disaster risk management decision making and build resilience, including through better information, but also strengthening key steps in moving from information to insight and behavior change.

More specifically, the Challenge Fund theory of change is:

- If new data/tools/approaches to support disaster risk management decision making are developed in response to local demand; and
- If there is improved capacity among the community to develop the new tool; and
- If gender is considered in risk identification, outreach and capacity development plans; and
- If there is improved capacity of local beneficiaries to apply the new tool; and
- If resources are leveraged from other sources; *assuming*
- The Challenge Fund delivers high-quality, demand-led data/tools/approaches; *then*
- New high quality and relevant data/tools/approaches will be accessed by decision makers.
- *If* new high quality and relevant data/tools/approaches are accessed by decision makers, *assuming*
- Challenge Fund projects make products available to the right people who have the capacity and demand to use them, *then*
- The data/tools/approaches will be utilized by decision makers.
- Such use of these risk information products will contribute toward greater and more effective investment in disaster resilience, preparedness, response and recovery in target countries.¹

To date there have been two phases of CF funding. A competitive call process resulted in 15 successful projects being selected for Phase I CF funding; seven projects were awarded \$50,000 or less and eight received approximately \$100,000. Implementation of Phase I commenced in October 2015. Throughout the following year, consistent monitoring, evaluation and learning (MEL) efforts were conducted to learn as much as possible about what was working, what was not working and why.² For example, CF staff maintained regular email communication with project leads; reviewed and scored inception reports; conducted at least two in-depth calls with

¹ This theory of change is depicted by the CF logic model (found in Annex A) and based upon the DFID-created SHEAR lograme.

² Requirements for compiling evidence of what works and communicating it through regular MEL reporting are stated as milestones in the SHEAR logframe. Case study evaluations are but one example of such required evidential reporting during CF implementation. An MEL Specialist was hired to conduct MEL reporting for the CF.

each project to discuss progress and results achieved to date relative to SHEAR logframe indicators; reviewed project progress reports; and reviewed final project monitoring self-assessments.

These MEL efforts showed that CF projects exceeded every milestone established for the initiative to date. Below, please see CF results, compared to pre-set ambitious targets, from all 15 Phase I projects effective January 31, 2017.

<i>SHEAR Logframe Indicator</i>	<i>Target</i>	<i>CF Actual</i>
# of projects that are co-designed with local beneficiaries	6	14
# of decision makers accessing tool	20	23
# of tools available on open platform	5	15
# downloads of tools	50	2,025
# of partnerships established	5	45
# of new tools developed	10	15
# of partnerships developed with local partners	5	39
# of projects that consider gender	10	13
# beneficiaries trained	10	662
Amount of leverage	\$612,500	\$2,147,500

While the overall goals of Phase I projects were the development of innovative tools and illustration of their success, the focus in Phase II is ensuring uptake and use of the tools. In order to select those projects which could best achieve the goals of uptake and use for a Phase II of CF funding, three sources of information were scored by the CF project management team: 1. project inception reports and follow up phone discussions; 2. In-depth discussions with project leads at the mid-point of Phase I implementation; and 3. Phase II proposals and follow-up discussions. Seven out of the 15 Phase I CF projects showed sufficient success and potential for uptake to be selected for Phase II funding to scale up or replicate results.

Although careful and consistent monitoring allows us to learn from project implementation, it does not provide insight for us to fully understand *why* we see the results reported and discussed by project leads. This is the purpose of evaluation. DFID’s SHEAR project logframe requires in-depth case study evaluations of successful CF projects over the course of implementation. As Phase II was beginning implementation, GFDRR and DFID decided to conduct one of these in-depth case study evaluations. The National Institute of Water and Atmospheric Research’s (NIWA) “Drought Risk Visualization Toolkit (DRVT) for Pacific Island Countries” was selected for this case study due its exceptional contribution to Phase I CF logic model results.

NIWA

NIWA’s Phase II CF proposal was among the seven selected for scale up and replication. Its Phase I project focused on the development of the DRVT, an open-source, real time, probabilistic drought risk visualization toolkit for Pacific Island Meteorological Services.³ The DRVT provides specific drought information time series, maps, and advisories to help national drought services more effectively trigger response in the three Phase I partner countries –

³ The following information regarding NIWA was taken from NIWA CF reporting, and modified only slightly here.

Solomon Islands, Samoa and Fiji. The toolkit consists of a package of new, open-source scripted product generators, installed on an existing in-country database server (CliDE – Climate Data for the Environment, developed by the Australian Bureau of Meteorology) and integrated with the open source climate services platform, CliDEsc.

CliDEsc, developed by NIWA, is a web-based tool that allows end users to request data and products to be generated from the CLIDE data management system. It provides a user-friendly menu to download selected data tables, and to display the results in both text and graphical form. At the completion of Phase 1, all three countries received software upgrades to enhance the product generator suite of CliDEsc. New product generators (the ‘Drought Risk Visualization Tools’) that were provided with the upgrade are now operational on a daily basis, analyzing data in near real time and providing country-specific maps and time series of the processed data and dissemination products for a range of advisories and reports for end-user application. In addition, climate services staff in each country were given training to manage and use the DRVT product generators as part of their routine work.

In all three partner countries, while general climate information is disseminated widely and is not restricted publically, drought early warnings are mostly treated more formally and are processed through designated authorities, typically the National Disaster Management Offices (NDMOs). This ensures that drought advisories and warnings are accompanied by the appropriate implementation of response measures. During Phase I implementation, the capacity of climate services staff was developed to support and work through these designated authorities, and where possible to collect feedback from vulnerable communities on the information that is reaching them – such as its timeliness, usefulness, and interpretability.

PURPOSE AND EVALUATION QUESTIONS

Evaluation Purpose

This is a theory-based evaluation, largely focused on the CF logic model and whether and how it holds in the case of NIWA’s project. It in no way audits the performance of NIWA. Rather, it seeks to determine the extent to which the CF theory of change was evident during Phase I of NIWA’s DRVT project. The overall purpose is to produce this case study as a piece of evidence regarding whether or not the CF theory of change is robust during CF implementation for a successful project, and to learn from its findings, possibly leading to modification of the logic model and theory of change it depicts. Another, albeit related to the previous, purpose of this evaluation is to determine to what extent the NIWA project is contributing to SHEAR logframe results. In short, similar to most evaluations, the intention is to learn what is working, what is not working, and why.

This evaluation report has many intended users. Although it is a deliverable under the SHEAR project, stakeholders in addition to DFID have expressed interest in using the results of this study. GFDRR is keenly interested in incorporating relevant points of learning into its steadfast work on getting the right risk information into the hands of the right people at the right time to decrease risk and increase resilience to hazards around the world. NIWA will also use the findings, conclusions and recommendations of this evaluation to further target its work in these

and other partner countries with the ultimate goal of use of its innovative tool – the DRVT – by all levels of beneficiaries. And government officials in Solomon Islands, Samoa and Fiji will hopefully benefit from the recommendations coming out of this report, by meeting their evolving needs in this hazard area, ultimately leading to use of the DRVT and increased resilience to drought events – especially at the community level.

Evaluation Questions

Given that this is a theory-based endeavor, the evaluation questions relate to aspects of the CF logic model, as below.

1. To what extent is NIWA achieving CF logic model results at the outcome and purpose levels in Solomon Islands, Samoa and Fiji? (Please note that these results refer to access and use of the toolkit respectively.)
2. Which of the output-level results are most critical to decision-maker access to and utilization of the DRVT? (Please note that CF output-level results are: 1. Developing tool in response to local demand; 2. Improving capacity among the community to develop the new tool; 3. Considering gender in project implementation; 4. Improving capacity of local beneficiaries in applying the new tool; and 5. Leveraging resources.)
3. To what extent are the results reported in response to question 1 sustainable?
4. What are the unintended consequences – positive and/or negative – of project implementation?

METHODOLOGY

In order to gain a deep understanding surrounding the reported results from NIWA’s Phase I project in these countries, and to address the four evaluation questions above, a case study evaluation design using qualitative methods was chosen by DFID and GFDRR. As previously stated, the NIWA project was a strong contributor to overall CF results during Phase I. Case studies are an appropriate choice of evaluation design for those interventions which are considered to be ‘outliers’ – either very successful projects or those that did not perform well against stated objectives, for example. NIWA was chosen because it exhibits the former – a very successful CF project. The case study design helps to gain an understanding of how different elements fit together and were able to produce the results reported. The untested CF theory of change can be compared with the evidence discovered. In this way, the CF logic model and theory of change it represents can be revised to reflect the reality of implementation. The results of this case study evaluation could then help interventions of a similar nature when they are in the design stage.

There are different types of case studies. This evaluation most closely resembles what is called the “Program Effects” case study; according to the U.S. Government Accountability Office, “This examines the causal links between the program and observed effects and usually involves

multisite, multimethod evaluations.” This evaluation design allows the evaluator to ask questions which attempt to get at how much of the results we observe are attributable to the CF project.

The methods used in this evaluation were document review, key informant interviews (KIIs) and analysis of data gathered. Many documents regarding NIWA’s work in the three partner countries were reviewed to provide context for this study; in addition, partner country meteorological service websites were explored to gain a better understanding of the extent to which NIWA’s CF work is being utilized by its first-line partner office in-country. In order to get at the ‘why’ of these result outliers and address the four overarching evaluation questions, the evaluator traveled to four country locations to conduct key informant interviews (KIIs) where the stakeholders work and live. KIIs were conducted from February 13 to February 24, 2017 with NIWA CF project staff in its offices in Wellington, New Zealand; and government officials in Meteorological Services, Climate Services, National Disaster Management Offices and one Tourism Ministry in Solomon Islands, Samoa and Fiji. All interviews for this evaluation were semi-structured with mostly open-ended questions regarding output- and outcome-level results. (Please see attached interview schedules in appendices B, C, D and E.)

This was a collaborative and participatory evaluation in the sense that open discussions were held with NIWA CF project implementing staff before, during and after site visits. The input provided was enormously useful not only for providing context, but also for suggesting people to interview and issues to discuss. Open communication and two-way feedback occurred throughout this evaluation. In addition, discussions with partner country government officials also continued after the site visits and were two-way communications, during which officials’ views and concerns were incorporated into the study and addressed to the extent possible. In this way the evaluation can be seen as more participatory than a more traditional case study where the evaluator reviews documents, asks questions and analyzes data, without opening up lines of communication about the design of the evaluation, its findings and results as they are being developed. Stakeholder feedback was incorporated throughout this evaluative process.

LIMITATIONS

Case study performance evaluations have inherent limitations. While they allow for an in-depth look at a certain intervention, they do not allow the evaluator to look at anything other than that particular intervention. Related to this lack of breadth limitation is the threat to external validity such an evaluation design presents. It is difficult to generalize the findings from one case study to a broader population. However, neither the evaluator nor the funders claim to do this. In fact, DFID and GFDRR plan to conduct two additional CF case study evaluations before early 2018. These three CF case study evaluations will then be analyzed together (i.e., a meta-evaluation) to find common themes and lessons learned for similar endeavors moving forward. In addition, the strategic selection of case study projects – atypical projects at the extremes – helps address some of the perceived limitations of this design.

FINDINGS

The results below are taken from information provided by KIIs with 18 project stakeholders, several NIWA DRVT project documents, partner country meteorological service websites, and analysis of this information. KIIs were held with NIWA DRVT project staff in Wellington; Meteorological Service, Climate Service, NDMO and Tourism Ministry officials in Solomon Islands; Meteorological Service, Climate Service and NDMO officials in Samoa; and Meteorological Service, Climate Service and NDMO officials in Fiji. NIWA's Phase II CF Inception Report was received by GFDRR as this evaluation report was being finalized and is also incorporated into this study where relevant.

In addition, some of the findings below were communicated to NIWA CF project staff as they were discovered, which then lead to modifications of NIWA's planned Phase II intervention in some cases. This further illustrates the participatory nature of the evaluation. The findings are presented below per evaluation question.

1. To what extent is NIWA achieving CF logic model results at the outcome and purpose levels in Solomon Islands, Samoa and Fiji? (Please note that these results refer to *access* and *use* of the toolkit.)

The last reported droughts in the three DRVT project partner countries were in late-2015 and early-2016. Therefore, it is not possible to comment upon use of the DRVT to directly prepare for, respond to or recover from drought during Phase I. However, access to and use of the DRVT for other purposes can be reviewed. For example, information provided by interviews with NIWA staff, as well as its CF project reporting, argues that the development of national drought response plans is currently being influenced by the DRVT.

Given that NIWA's CF project is being implemented at the same time that these drought response plans are being developed, its influence can be seen on three levels. NIWA's work with meteorological services has: 1. increased awareness of DRVT products among policy-makers so they can now include these among requirements of meteorological services; 2. enabled them to fulfill what is requested by the drought policies; and 3. assisted the committees that will use DRVT information to understand what it means and how best to utilize it.

NIWA REPORTING

NIWA's final Phase I report states that use of the DRVT is managed within National Meteorological Services and that use will likely increase as understanding of the potential of the toolkit grows. Its report also states that daily use is made of the DRVT tools in Samoa, with regular postings to the Samoa Meteorology Division web pages. This was easily verified by a quick look at this website: <http://www.samet.gov.ws/index.php/clews-products/drought-warning>. In addition, with respect to use of the toolkit, NIWA reports that the Samoa Tourist Authority works with the Samoa Meteorology Division to compile monthly reports of drought risk, and additional reports during periods of dry weather, for distribution to all tourism operators in Samoa.

All three Meteorological Services compile monthly climate summaries and seasonal outlooks

which are distributed by email and web services each month. Outputs from the DRVT are used to replace manual data processing in the compilation of these reports. The automated output of drought information to mobile devices is updated daily in Samoa and Solomon Islands; currently this service is relayed via a NIWA web link, pending finalization of web service sites in each country respectively.

The following presents more specific findings regarding access to and use of the DRVT, by partner country.

SOLOMON ISLANDS

Government officials in various agencies in Solomon Islands have access to DVRT products. It is clear that the Solomon Islands Meteorological Service (SIMS) accesses these products regularly and makes them available to other interested government agencies, not least of which is the NDMO. The NDMO, for example, then utilizes some of the DRVT products in its reporting to higher-level government officials on the National Disaster Council (NDC) and in the Ministry of the Environment, Climate Change, Disaster Management and Meteorology (Ministry of Environment). When meeting with NDMO staff, the evaluator was shown actual DRVT products from SIMS regular reporting that were recently used to brief the NDC and the Minister of the Environment. One NDMO staff member summed up use of DRVT products by his office by stating, *“NIWA products which came from SIMS are very helpful for us. They help us with planning and developing our own products to inform decision making at different levels of government.”*

Recognizing that a drought has not occurred during the lifespan of NIWA’s CF project in-country, one NDMO staff member pointed to the role of the Meteorological Service in the ‘whole-of-government’ approach to humanitarian assistance. DRVT and other climate-related tools are helpful to them, because they can use them *“to request the government to release resources so we can address the humanitarian imperative on the ground.”* This is a direct illustration of the goal of the CF, “Greater and more effective investment⁴ in disaster resilience, preparedness, response and recovery.” The NDMO also uses DRVT information to inform its four disaster offices in provincial emergency operations centers to increase awareness of the potential drought threat, and plan for possible response.

DRVT is helpful to Solomon Islands NDMO so it is able to “request the government to release resources so we can address the humanitarian imperative on the ground.”

These clear illustrations of DRVT access, use and investment in Solomon Islands, however, only tell part of the story. Other government bodies have access to, and make use of, DRVT information as well. The head of SIMS explained that his office tailors the information from the DRVT prior to disseminating it. *“We are so happy about this tool actually, because we have a database system to retrieve data.”* He offered the example of the Seasonal Climate Outlook, a monthly product SIMS sends to all its stakeholders.

SIMS staff accesses the DRVT daily as they use it to monitor danger and respond to requests from the Fire Service, for example. The Climate Change Division – part of the Ministry of

⁴ *Investments* at the goal level include partner country budget allocations.

Environment – also relies on climate data from SIMS. The Acting Director of this division mentioned that his office both uses some of the drought products it receives from SIMS, and also uses the underlying data from CliDEsc to conduct its own analyses. Expressing his appreciation for this service and referring to it as a ‘win-win’ situation, he said, *“I’m so proud of SIMS because within all ministries in the government, the most reliable data comes from them. It’s stored properly and in electronic form so you can do your analysis straight away.”* He further explained that if this data were not available *“it would leave a big gap especially when trying to conduct a vulnerability and adaptation assessment of a remote location. The assessment would not be complete without SIMS data because we need to load the rainfall in a particular site as accurately as possible.”*

In Solomon Islands, the development of the drought policy is coordinated by the Ministry of Agriculture and Livestock. According to the head of SIMS, this policy – expected to be completed by the end of 2017 – *“is intended to encompass all things involved in responding to drought, and to strengthen coordination among relevant government agencies.”* SIMS collaborates with the NDMO in formulation of this policy; and the DRVT plays a key role in defining what information SIMS can provide for this effort. One high-level government official mentioned that he hopes coordination among different government bodies will strengthen, and that policies such as the drought policy are one means to achieve this goal.

SAMOA

In Samoa the National Drought Response Plan is being developed by the NDMO. In its CF project work, NIWA held several meetings with the Samoan NDMO to assist the Samoa Meteorology Division of the Ministry of Natural Resources and Environment to customize the DRVT product suite to meet NDMO requirements. Speaking to this tailored assistance, the head of the NDMO said, *“It’s useful to me, because we have to develop a drought plan; without that detail, it would be difficult for us to write a plan based on unreliable information.”* She views the DRVT as being reliable, especially in indicating thresholds as triggers for warning systems and activation of response. As further support for the potential for increased use of the DRVT in Samoa, she added, *“We could not develop triggers for our warning and response systems without the DRVT because we needed analysis of past events. NIWA has done the leg work for us.”* As in Solomon Islands, the DRVT is informing decisions with budgetary implications in Samoa.

The Meteorology Division of the Samoan Ministry of Natural Resources and Environment has DRVT products directly available on its website: <http://www.samet.gov.ws/index.php/clews-products/drought-warning>. The Climate Services Manager said, *“All stakeholder agencies have access to this information. We have had workshops with them on how to use it.”* Additional examples of access to and use of DRVT products in Samoa can be seen in the mobile application that is currently in operation. The Samoa Weather App and Climate Service tap-in menu for DRVT products was updated; and a link was added to its mobile web interface, which has been translated into Samoan. As but one example, the Tourism Authority is a reportedly big user of this climate mobile application.

According to the Samoa Meteorology Division, DRVT “allows for the right information to be in the hands of the right people at the right time.”

Now that this information is readily available and relatively easy to access, staff in the Meteorological Division are working to raise awareness at the community level. They have creative ideas on how to go about this, including *“piggybacking on other agencies’ trips that consult with communities to show that we have this mobile application in place.”* They are also considering using television programs to show people how to use the mobile app, which may prove effective now that approximately 90% of Samoa is now has television coverage. And, not missing an opportunity to get their message out, they deliver awareness programs when conducting consultations at the community level through NDMO community outreach programs.

Staff at the Samoan Meteorology Division summed up its views of DRVT use by explaining what would happen in the event a Minister is called by a media outlet to answer a question on climate change concerning drought. They want to have information available to respond to the Minister quickly – and not in a matter of days as before, which caused frustration and was no longer useful – and DRVT allows them to do this. For example, *“when the National Disaster Advisory Committee requests information, they expect answers within a day so that they can use DRVT real-time information to plan a response.”* They summarized, *“It allows for the right information to be in the hands of the right people at the right time.”*

The Meteorology Division also plans to incorporate the DRVT into its work on traditional knowledge in Samoa. They compare traditional knowledge to scientific information, and have observers in 40 villages, which serves as their link to the community. *“Every year we have workshops for these villages; and that is our window to apply the DRVT and show its significance to them. Things are changing because of climate change. However, some traditional knowledge indicators do not work anymore. We need a scientific basis for this traditional knowledge.”* And they see the DRVT as an effective means to fill this gap.

FIJI

Access to and use of DRVT products is less visible in Fiji at this point in CF implementation. There are very good reasons for this, not least of which is the February 2016 cyclone which struck Fiji. Tropical Cyclone Winston is the largest tropical cyclone on record to hit Fiji. According to NIWA reporting, *“NIWA and Fiji Met Service (FMS) met jointly with the Fiji NDMO in November 2016 – at that time they were concentrating on Tropical Cyclone recovery, and have since been involved in managing flood relief as well. So although drought preparedness and mitigation remain urgent, the NDMO does not have the resources to develop response plans on multiple fronts at the same time. FMS will continue to inform the NDMO on an ongoing basis during drought events, and will introduce the DRVT tools to assist with this as they gain confidence and understanding on how they can be applied.”*

At the conclusion of Phase I, the Fiji Meteorological Service was utilizing DRVT products internally only, and on a case-by-case basis. For example, according to the Acting Manager of Climate Services, “we used DRVT information in response to a request for information from the Department of town and country planning.” Although they use information from CliDEsc on their website and in publications, they do not yet use DRVT products because, according to the Acting Manager of Climate Services, “we have not had sufficient time to test it.” Please see www.met.gov.fj. However, he added, “if we were faced with a drought situation today, we would use DRVT products due to the real-time nature of the data.”

According to the Fiji Acting Manager of Climate Services, “if we were faced with a drought situation today, we would use DRVT products due to the real-time nature of the data.”

Similar to Samoa, the NDMO in Fiji is the lead writer of drought response plan. The head of the NDMO said that his office has a good relationship with Climate Services and relies on data from them. Regarding drought, they use the data provided to inform communities if a drought is likely. This helps farmers to determine the best crops to plant during a drought. He said, “We are developing a drought management plan and out of that we will develop a drought response plan... We need this drought plan so that we can more proactive over the long-term rather than merely reactive.”

Increasing the potential for uptake and use of DRVT products, NIWA is indeed assisting with the drought response plan process in Fiji, including “involvement in the National Disaster Management Office’s committee that is developing the country’s Drought Response Plan,” according to its Phase I final report. In addition, the report states, “The Fiji Drought Response Plan aims to ‘inform drought preparedness, response, mitigation and adaptation measures through a government lead multi-sectoral approach to reduce and prevent the adverse effects of drought on the populations of Fiji’. To support this work, the project has included in the Fiji DRVT software package a national drought risk map based on the daily fire risk calculated at each automatic weather station on Fiji’s national climate network. As more climate stations come on-line, they will automatically be included in the generation of this product.” In this way, the DRVT has the potential to strengthen government coordination in Fiji as well.

- 2. Which of the output-level results are most critical to decision-maker access to and utilization of the DRVT?** (Please note that CF output-level results are: 1. Developing tool in response to local demand; 2. Improving capacity among the community to develop the new tool; 3. Considering gender in project implementation; 4. Improving capacity of local beneficiaries in applying the new tool; and 5. Leveraging resources.)

All five outputs in the CF logic model are on display in the NIWA DRVT project in the Pacific Island nations of Solomon Islands, Samoa and Fiji, with some outputs playing a more prominent role than others. With respect to #3 above, gender is important, but it was not as prevalent in Phase I as it will likely be in Phase II where outreach at the community level will take on a larger role. Training of partners in-country is also evident in all three countries. And NIWA has successfully leveraged well over \$650,000 in Phase I alone. However, numbers 1 and 2 emerged

as the most critical to achieving access to and use of the DRVT. (Please see the table below, taken from the CF Logic Model in Appendix A, for CF outputs and associated indicators.)

Output: Improved capacity of the community to deliver demand-led, co-produced products	(a) Number of partnerships developed with local partners across disciplines that support the development of demand-led products; (b) Number of projects developed with <i>beneficiaries</i> ⁵
Output: Role of <i>gender</i> ⁶ considered in project design and delivery	Number of project plans considering gender in risk identification, outreach and capacity development plans
Output: Improved capacity of target beneficiary users to apply data, products and tools in practice	Number of targeted beneficiaries that receive training during the project
Output: <i>Leverage</i> ⁷ from other sources in CF and related activities leading toward same overall goal	British pound leverage from other sources

Access to and utilization of DRVT products would not have been possible without the true **partnerships** that are on clear display in these countries between Meteorological Services officials and NIWA project staff. The CF logic model contains the following output-level result, which is measured by both partnerships and developing projects with beneficiaries: ‘Improved capacity of the community to deliver demand-led, co-produced products’. The binding element here is partnerships.

Namely, relationships emerged as the key to NIWA’s success in Phase I – the most critical element of access and eventual uptake of the DRVT. The NIWA project lead explained, “*We want to support our colleagues in this work in the countries. The more we can build and learn together, the more effective and sustainable the work will become. It’s a ‘buddy system’ where we sit down and work with them to learn how they do things, and have a dialogue.*”

This strategy has paid off, as evidenced by many unsolicited comments of partner country officials, as well as official agreements. For example, NIWA and the three meteorological services signed partnership agreements. During all interviews conducted for this study, key informants voluntarily mentioned the fact that they have good relationships with NIWA project

⁵ **Beneficiary** refers to a person or group that derives advantage from something. It is clear that NIWA staff and partner country officials and citizens can all be seen as beneficiaries of the DRVT project. For the purposes of the CF logic model, however, the term refers to those government officials within partner countries that take part in this project. – typically mid-level government decision-makers.

⁶ **Gender** at the output level is meant to include consideration of the role of, or the relationship between, men and women at any stage of the intervention. In Phase II, it is meant to consider the answer to the question, “How are men and women, boys and girls affected differently by the hazard?”

⁷ **Leverage** at the output level of the logic model is meant to include cash and in-kind contributions from public or private sectors for activities that assist in achieving CF results, whether directly requested by the project or not.

staff. This is the one theme that emerged from the data collected for this evaluation the most often and repeatedly. Heads of offices and divisions said the following about NIWA:

“NIWA is well known here and viewed very favorably.”

“We are very close, like sisters.”

“We work very closely with them. They have helped us in a number of projects, and the relationship is very good.”

NIWA does not approach its work in partner countries in any other way than **cooperative**. It nurtures relationships so that it can work together on products/services that have the best opportunity for uptake. As part of these true partnerships, it looks at how the partner country Meteorological Services currently operate and what their needs are before identifying areas of potential cooperation – together with partners. These open lines of communication and inquiry are an important factor in the success of the DRVT project. In its own words from its Phase II Inception Report, “NIWA is in regular contact with key staff in National Meteorological Services where the DRVT is installed, and has collated feedback on the use of the tools...Requests for additional capability raised in the feedback so far will be addressed in Phase II.” Maintaining flexibility is clearly key to these successful partnerships.

All members of these partnerships point to a high degree of comfort with the other party in the partnership. Termed “a process of engagement” by the NIWA project lead, the close and comfortable nature of these partnerships allows for informal communications which have proven so vital to the project’s success. *“Unless I had conversations with him, he would have not asked, nor would I have known what he needed; and he would have not known to ask.”* Thus, the partnerships allow the project to be driven by user demand; the two are inextricably linked, as depicted in the CF logic model. And this user demand is informed and critical to achieving higher-level outcomes such as access and use.

As but one of many examples, the head of the Solomon Islands Meteorological Services brought up the idea to use NGOs as a productive means to disseminate information on DRVT products to communities. He said, *“We are in process of signing an MOU with Solomon Islands’ Red Cross to train its staff to raise awareness on weather-related information at the community level.”* Not one to miss out on an opportunity emanating from this partnership, NIWA responded by making community outreach via Solomon Islands’ Red Cross part of its Phase II plan to raise awareness of DRVT products at the community level.

Consideration of **gender** is another element of the CF logic model. NIWA has indeed worked to integrate gender into its CF project where and when possible. For example, project staff met with the Ministry of Women, Community and Social Development in Samoa in an effort to empower women in their project. According to Meteorological Services staff, *“Women are viewed as the glue that keeps communities together in Samoa; they are the organizers of community events. This is why we are working with NIWA and the Ministry of Women as we plan our awareness raising in communities.”*

In the Solomon Islands, NIWA staff report that the government is keenly interested in improving the status of women, and NIWA is working to reach women when DRVT products are disseminated to communities. One government official there put it this way, *“Women and*

children are more vulnerable to drought. For instance, when a stream dries up, women walk a long distance to fetch water for the family; and when the food runs out, women have to care for household; they are adversely affected.”

NIWA’s Inception Report agrees, stating, “As it is evident that drought has a more significant effect on women and children, the project aims to close the gender gap by facilitating distribution of the DRVT products to vulnerable communities.” Although some of the groundwork for this has been laid in Phase I, work on gender issues will be more prominent in Phase II, when outreach to communities takes place. The reason for this, according to NIWA project staff, is that *“these countries are community centric. The most effective way to empower women is to disseminate information to the communities; once the information reaches the community, women will take action.”* NIWA plans to work with its partners and the Red Cross in all three countries to reach communities and women. In this way, gender is most relevant in this project during the ‘last mile’ of intervention implementation.

Capacity of beneficiaries to apply the DRVT is another output in the CF logic model and measured by training. NIWA’s partnerships in the three countries allow for a fluid training process throughout the course of project implementation. In other words, training can be seen in both informal and formal settings. The NIWA project lead explained it this way, *“Our training is more conversational and phenomenological. It’s akin to learning by doing and moving together toward the goals that they have.”*

Echoing this experiential view toward training, a high-placed Samoan official referred to *“a mentoring system with NIWA over the years. This project is just one in a long line other positive working relationships with them.”* And NIWA agrees, summarizing its approach with this, *“It’s a matter of understanding how they currently do things before being able to perhaps show a different way that may be more beneficial to them.”* In terms of holding workshops, NIWA has learned that holding them at the end of their time in a country is *“too late because partners ask questions during workshops and we have time to build capacity if it is done earlier in the visit.”*

NIWA has also employed some creative ways to build capacity, by linking workshops to a very real issue which partners needed to work through. For example, while in Samoa, NIWA staff facilitated a meeting between two ministries to discuss how information would be shared between them. Tools were revised to ensure they were appropriate for each ministry, and after a 2-day workshop, both ministries signed an MOU on how data would be shared between them.

NIWA has successfully **leveraged** over \$650,000 in Phase I alone; it plans to leverage even more during Phase II. The ability to leverage such large amounts of funding is due in part to the close partnerships NIWA maintains in partner countries. Together with partner country officials, NIWA is able to identify areas where funding could assist with DRVT access, use and investment, as well as identify sources of such leveraged funding. NIWA contributes in-kind assistance to this project, and some funding comes from other donors and partner country budgets. Very little of this useful leverage comes from private sources.

3. To what extent are the results reported in response to question 1 sustainable⁸?

The key factor to NIWA's success in the CF project is the same element that will help make these results long-lasting. Namely, and in the words of the NIWA CF project lead, "*NIWA isn't going anywhere.*" All indications are that partner country officials feel the same way about the close partnerships they share with NIWA. It is precisely these collaborative and mutually-reinforcing relationships that will be key to the sustainability of results achieved in this CF project.

These collaborative partnerships allow a deep understanding by all involved on both the needs of those who could use DRVT products to achieve their goals as well as the potential of the toolkit itself to fulfill those needs. For example, one NDMO Director described DRVT products that he uses to brief higher-level government officials; he also said that his office uses DRVT information together with its own maps and has found NIWA's work to be very useful in his daily work. Use of tools both directly and slightly modified speak well to the potential for sustainability.

Reflective of NIWA's unique approach to training, the project lead stated, "*We really enjoy our work with staff and want to enable them. We take a lot of satisfaction in the development of the people we work with; we see people growing as a result.*" There is also some training of trainers evident in partner countries, which speaks well not only the strength of the capacity built during NIWA visits and workshops, but also the sustainability of these outcomes. When more people are trained in how to interpret and ultimately use DRVT products, the potential for access and use becomes greater, leading to sustainability.

As discussed in evaluation question 1 above, DRVT products act as an influence on partner country drought policies. If DRVT products are included in national policies on drought, their use is extremely likely to be continued and sustained after the project comes to an end. However, Ministries of Finance also have to budget sufficient funds for the policy to be implemented. This has yet to be done in the three partner countries.

And again, the close partnerships allow for increased sustainability as illustrated by some partner country officials verbalizing their request for DRVT products to be more user friendly. One such official said, "*Some of the products are quite technical. Even if we have them in our briefing note or situation report, unless there is a narrative that clearly explains what is meant by the graph or data, decision makers find it difficult to understand it.*" Similar to many examples discovered during this evaluation, NIWA quickly responded to this partner need (voiced earlier than during this evaluation) and intends to make its products more understandable to policy makers and beneficiaries during Phase II. Namely, it is contributing funds of its own to refine the user experience so the end user can generate products on its own. Phase II will make products easier to interpret, in direct response to partner concerns.

⁸ For the purposes of this evaluation, sustainability refers to the continuation of project outcomes after the project ends. This would be evident, for example, by access to and use of DRVT products by decision-makers and beneficiary communities after Phase II ends.

Sustainability is also enhanced when the final beneficiaries – the most vulnerable people in partner countries – understand and are able to make use of DRVT products. This ‘last mile’ issue, although not the focus of Phase I, will be emphasized by NIWA and partner country officials alike during Phase II. In addition to making products easier to digest, efforts will be increased to train people to reach communities and raise awareness of DRVT products. These efforts may also integrate traditional knowledge regarding drought, linking to indicators with which people are familiar. The idea to ‘piggyback’ on other NGO community outreach work will also increase the potential for sustainable project results.

4. What are the unintended consequences – positive and/or negative – of project implementation?

This project was well planned and implemented to date. Expected CF logic model results are clearly seen in the data collected for this evaluation. One interesting and positive unintended consequence occurred in the Solomon Islands. Specifically, an *increased level of confidence* resulted from having access to DRVT products. A high-level official in the Tourism Ministry explained, “*It gives us an advantage and confidence while talking to cruise ships.*” They have confidence in the data and products of DRVT and therefore have confidence in talking with cruise ship operators regarding the best time to visit or preparedness for their safety. He added, “*It would give visitors, tourism wholesalers, and cruise ships the confidence that Solomon Islands has a mechanism in place to address disasters.*”

Another possible future positive unintended consequence, evident in both Solomon Islands and Fiji, concerns the drought policy. As previously mentioned, the DRVT informs country-level drought policies by – among other things – defining what information is possible. Many government bodies are involved in the drafting and implementation of drought policies. However, they are not in all cases well-versed in working together on common goals or issues. Information is seen as the glue that binds government agencies in working together on ‘whole-of-government’ issues. The drought policy, influenced by the DRVT, would necessitate communication mechanisms among different governmental ministries; they would need to work together on the common issue of drought. In this way, the DRVT has (to a limited degree to date) and will have the positive unintended consequence of *strengthening government coordination*. It can be seen as a catalyst to the process of government coordination. Time will tell to what extent it will have this effect in partner countries.

Although not an unintended consequence of the intervention itself, government officials in all partner countries expressed an interest in learning from the results of this evaluation. They hoped to learn from what other countries were doing in this project, for example. In addition, as often occurs in participatory evaluative efforts, key informants noted that the process of being asked questions as part of this evaluation helped them to think of new things and ways to approach next steps.

CONCLUSIONS

NIWA's work in these three countries has shown impressive positive results in Phase I, even at the highest levels of the CF logic model – in the areas of access, use and investment. In fact, this evaluation uncovered use of DRVT products that were not yet reported by NIWA itself. The DRVT is informing drought response plans in all three current partner countries. These plans will illustrate a future use as well as investment, as they are developed and resourced, which will serve as a powerful element of DRVT sustainability. Interestingly, they were reported to serve a means to catalyze intra-governmental cooperation.

Current access to and use of DRVT products is also visible in the areas of reporting to higher-level government decision makers in partner countries, access of DRVT products by other government agencies, creation of own products from DRVT – and to a limited extent – product modification for community outreach. Future indications of use and investment will be seen in expanded awareness and utilization at the community level, and could also be seen in governmental budgeting for drought response activities.

A relatively small amount of funding has shown very large results. This project is clearly punching above its weight and represents a very successful investment for DFID; it looks likely to continue to produce results long after Phase II ends.

In answer to the question, “*What has worked?*” this evaluation found that **partnerships** are the fulcrum around which the project operates. It are these true and mutually-beneficial partnerships that enable sustainable capacity building, gender integration, and even leverage to occur – all leading to access to and use of DRVT products to increase resilience on the ground. This evaluation shed light on the unique style of partnership evident between NIWA and government officials in the three project countries of Solomon Islands, Samoa and Fiji. Whether one looks at the relationship as ‘buddies’ or members of one’s family, the partnerships in this CF project are real and long-lasting.

What was also clear throughout the findings of this evaluation is the close connection between what NIWA intends to do in Phase II and what partner country officials are requesting. The strength of the partnerships between NIWA and government officials is extremely high. “Why” have these partnerships served this role and been so critical to achieving long-term project results? Because all parties concerned are interested in their success; partnership members maintain flexibility, are responsive and intellectually curious. They come up with creative approaches to achieving goals, and they work on issues together. They feel more accountable to each other than to any funding organization.

There are creative ways to leverage the work of other organizations in the three partner countries with respect to reaching beneficiaries at the community level. For example, NIWA plans to work with Red Cross Red Crescent societies in the countries, using their networks to communicate DRVT products to hard-to-reach communities. In addition, in coordination with national meteorological services, NIWA plans to partner with other national stakeholders that have close ties with community groups such as community observers and the Coastal Infrastructure Management Plan in Samoa, and women’s groups in all three countries.

The last mile of CF interventions can be the most critical to ongoing sustainability of these efforts.

The current CF logic model, drawn from the SHEAR logframe provided by DFID, is strongly supported by the evidence found in this evaluation in the case of NIWA's DRVT project. This project provided clarity to the different layers of beneficiaries in CF projects. The first layer is the typically mid-level government officials with whom projects have the main initial contact. The second layer is the higher-level government decision makers who will receive information from the DRVT in an easily-understandable manner. And the third type of beneficiary is the ultimate user of DRVT products, or the person who is most susceptible to hazards. The focus of Phase I of the CF was primarily on the first-level beneficiary, typically the mid-level government official. During Phase II, all three types of beneficiaries will be involved in ultimate use DRVT products. This evaluation also argues that an assumption should be added to the CF logic model from the output to the outcome level that states "assuming no disasters occur during project implementation".

RECOMMENDATIONS

1. Continue close MEL of all CF projects, including in-depth case studies to provide valuable lessons and insight into the theory of change and logic model, which inform future projects.
2. Consider approval of small awards to the two or three most successful Phase II CF projects to provide further support to the lasting nature of this important work to improve resilience. These could be called "sustainability awards" and would be used exclusively to work on the 'last mile' of these interventions, increasing the possibility that the effects of these projects would be long-lasting. Gender dimensions would be the center of such interventions.
3. An interesting area of potential future MEL activity would include review of partner country government budget data for drought response plans, where available. KIIs, over phone or in person, could be conducted to gain a sense of whether this CF project served as an influence on budget decisions. And if so, how?
4. Consider modification of the CF logic model by adding an assumption from the output to outcome level that states, "assuming no disaster occurs during project implementation."
5. Make an external version of this evaluation report public so that others can learn from its findings. One key takeaway for projects in similar areas is the power of true partnerships in such efforts. This case study illustrates a project where communication is fluid and flows in both directions. In other words, it presents a clear departure from more traditional methods of conducting a needs analysis and then delivering assistance in response to that analysis. This paradigm shift represents a process of relationship building that includes constant needs analyses, fluid communication, flexibility and respect. And the results are much more than expected.

ANNEX A: CHALLENGE FUND (CF) LOGIC MODEL

Results	Indicators	Milestones at end of Phase I	Milestones at end of Phase II
Goal: Greater and more effective <i>investment</i> ⁹ in disaster resilience, preparedness, response and recovery	Number of policies, plans or investments informed by CF-funded risk information data/tools/approaches;	N/A	At least 6 local policies, plans or investments informed by CF-funded risk information data/tools/approaches
Purpose: Data/tools/approaches utilized by decision makers	Number of documented instances of high-level decision makers using CF-funded risk information data/tools/approaches	N/A	10 documented instances of high-level decision makers using CF-funded risk information data/tools/approaches
Outcome: New high quality and relevant data/tools/approaches accessed by decision makers	(a) Number of decision makers accessing CF-funded data/tools/approaches; (b) # of tools available on open platform; (c) # downloads of data/tools/approaches	(a) 20 decision-makers regularly accessing CF-funded data/tools/approaches (b) 5 tools are openly available to the broader user community on an appropriate platform; (c) 50 recorded downloads of data/tools/approaches	(a) 30 decision-makers regularly accessing CF-funded data/tools/approaches; (b) 6 tools are openly available to the broader user community on an appropriate platform; (c) 70 recorded downloads of data/tools/approaches
Output: New toolkit of demand-led, open data, tools and approaches for resilience, preparedness, response and recovery	Number of new datasets/tools/approaches developed	Phase I CF yields at least 10 new datasets and tools. Phase II CF proposals evaluated and funded	In total, at least ten new datasets and tools developed, 50% in DFID priority countries
Output: Improved capacity of the community to deliver demand-led, co-produced products	(a) Number of partnerships developed with local partners across disciplines that support the development of demand-led products; (b) Number of projects	(a) 5 new partnerships developed with local partners. (b) 10 beneficiaries involved co-development of tools	(a) 5 new partnerships developed with local partners. (b) 15 beneficiaries involved co-development of tools

⁹ *Investments* at the goal level include partner country budget allocations.

	developed with <i>beneficiaries</i> ¹⁰		
Output: Role of <i>gender</i> ¹¹ considered in project design and delivery	Number of project plans considering gender in risk identification, outreach and capacity development plans	10 Phase I CF projects considered gender in project implementation	All Phase II projects considered the role of gender in implementation
Output: Improved capacity of target beneficiary users to apply data, products and tools in practice	Number of targeted beneficiaries that receive training during the project	10 beneficiaries trained during Phase I	A cumulative total of 20 beneficiaries trained over the life of project
New evidence on what works in developing demand-led data, tools and products to support resilience and demonstrating the value of risk data and tools for decision making	Evidence on what works communicated through progress, final and evaluation reports	15 Phase I monitoring self-assessments completed. Regular MEL reporting completed.	1 case study evaluation of a successful Phase I CF project and 2 case study evaluations of Phase II projects using rigorous evaluation methods completed. Phase I learning document submitted. Final report communicating examples of value of information for decision making
Output: <i>Leverage</i> ¹² from other sources in CF and related activities leading toward same overall goal	British pound leverage from other sources	£500,000 cash and in-kind contributions	£1million cash and in-kind contributions

¹⁰ *Beneficiary* refers to a person or group that derives advantage from something. It is clear that NIWA staff and partner country officials and citizens can all be seen as beneficiaries of the DRVT project. For the purposes of the CF logic model, however, the term refers to those government officials within partner countries that take part in this project. – typically mid-level government decision-makers.

¹¹ *Gender* at the output level is meant to include consideration of the role of, or the relationship between, men and women at any stage of the intervention. In Phase II, it is meant to consider the answer to the question, “How are men and women, boys and girls affected differently by the hazard?”

¹² *Leverage* at the output level of the logic model is meant to include cash and in-kind contributions from public or private sectors for activities that assist in achieving CF results, whether directly requested by the project or not.

APPENDIX B: NIWA SEMI-STRUCTURED INTERVIEW SCHEDULE

1. What do you do to ensure that your innovation is used in partner countries?
2. How do you view gender in your project?
3. How sustainable do you think this work is?
4. What is the most important element of the CF theory of change in eventual uptake of the DRVT, in your view? [Show CF theory of change if necessary.]
5. What is the nature of your work with partner country NDMOs?
6. Do you think your work is informing policies in any of the partner countries? If yes, can you explain how?
7. Is there additional information you would like to provide?
8. Do you have any questions for me?

**APPENDIX C: PARTNER COUNTRY METEOROLOGICAL/CLIMATE SERVICE
SEMI-STRUCTURED INTERVIEW SCHEDULE**

1. Can you please tell me a bit about your office and its responsibilities?
2. Does your country have a drought management or drought response plan?
3. What does your service do in case of dryness or drought?
4. What do you think of NIWA's work with you on the DRVT?
5. [If applicable] Do you distribute DRVT products directly from the toolkit or do you work with them first?
6. How do you look at gender in your work?
7. Do you use other products than the drought monitor?
8. Does the DRVT influence the drought policy?
9. Do you use the DRVT to make your own products?
10. [If applicable] How often do you use the DRVT?
11. How often do you or your staff access the DRVT?
12. Do you have any questions for me?

**APPENDIX D: PARTNER COUNTRY NATIONAL DISASTER MANAGEMENT
OFFICE SEMI-STRUCTURED INTERVIEW SCHEDULE**

1. Can you please tell me a bit about your office and its responsibilities?
2. What is your relationship with Meteorological and Climate Services in your country?
3. Have you used any drought information from Met services?
4. Are you familiar with the DRVT?
5. If yes to question #4, what do you think of DRVT products?
6. Do you have a drought management or drought response plan?
7. What does your office do in case of dryness or drought?

APPENDIX E: PARTNER COUNTRY TOURISM MINISTRY SEMI-STRUCTURED INTERVIEW SCHEDULE

1. Can you please tell me a bit about your ministry?
2. What is your role in the Tourism Ministry?
3. What is your relationship with Meteorological and Climate Services in your country?
4. Have you used any drought information from Met services?
5. What is your relationship with the NDMO?
6. Does your country have a drought management or drought response plan?
7. What does your ministry do in case of dryness or drought?
8. Does your ministry work with Meteorological and Climate Services or NDMO?
9. What is meant by the 'whole-of-government' approach to issues in Solomon Islands?
10. Do you have any questions for me?