



Walking together through the eight steps of developing science-based climate change data and information

A story of the cocoa industry and sectoral collaboration in the Solomon Islands



Introduction

Collaboration, communication and commitment were the key drivers behind the concept, planning and delivery of this new case study focussing on the use of climate change information to better understand the impacts of a changing climate on cocoa in the Solomon Islands.

The Solomon Islands Meteorological Service (SIMS) continued its ongoing and committed working relationship with Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Secretariat of the Pacific Regional Environment Programme (SPREP) to deliver a very new approach to climate change risk assessments in the Pacific. Under newly developed guidance materials, the three organisations worked closely with the Solomon Islands Ministry of Agriculture and Livestock (MAL) and other important stakeholders to walk through an eight-step process to deliver a case study assessing future climate change risk on growing cocoa in the Guadalcanal province.

The guidance materials, titled *Developing climate change information for the Pacific – guidance material to raise awareness and facilitate*

sectoral decision-making using science-based climate change information and services, provided a framework and guidance for the case study and development of the climate change risk assessment.

Through a range of forums – a workshop, a field trip to meet with farmers, small meetings and many hours of online interaction – the benefits from the newly developed resources and the case study are all beginning to come into fruition. What an exciting time ahead for seeing how future climate change information is being tailored into useful products for sectors to use throughout the Pacific!

This working paper aims to capture and share the process for the development of this sectoral climate change risk assessment case study, with the complementary purpose of assisting other agencies in turning climate change science into services.

Background

There are continual conversations being had about the importance of turning climate change science into services. This includes tailoring future climate science data into specific and relevant climate risk information, presenting it in a format that decision

makers may be able to read and use in their planning, climate change awareness products, and other climate change service deliveries. These are the types of conversations that encouraged the SIMS, CSIRO and SPREP to develop the guidance materials, and then implement a rapid assessment exercise accordingly.

Many of these discussions have travelled in the direction of needing to ensure climate change information is applicable to the sectors in the Pacific: to their needs, their stakeholders' needs and to create the space for a vision and pathway for the National Meteorological and Weather Services to use their knowledge to provide tailored products to their stakeholders – through turning climate change science into services.

Developing a practical step-by-step guide – through a series of consultations and conversations – for carrying out a climate change risk assessment is an excellent step in the right direction to achieving this vision.

Through effective stakeholder engagement – communication and collaboration – the SIMS identified the agriculture sector as being well positioned to be the key sector in the case study. MAL had a good rapport and working relationship with their stakeholders – one being the farmers and, in this instance, the cocoa farmers.

After past experience on the many negative impacts of the weather and climate on cocoa, there was a strong demand from the farmers and the MAL to improve their scientific knowledge and understanding of how climate change may impact cocoa crops and the industry into the future.

It was here that it was decided that the agriculture sector and the cocoa industry in the Solomon Islands would be the perfect fit for carrying out a risk assessment on cocoa in the Guadalcanal Plain.



Creating a case study

The case study came together under the guidance of a project team, which consisted of scientists, sectoral specialists, managers, and communication and capacity development specialists across the key four organisations (SIMS, CSIRO, SPREP and MAL). All those involved brought a significant skill set and some unique ideas to the case study and the process in itself.

A planning brief was developed outlining the key steps in the process for developing the case study, with built-in flexibility to allow for required changes as the project evolved. This flexibility was a key aspect to the planning, as the guidance materials were developed in parallel with the case study.

A synthesis of cocoa and the industry in the Solomon Islands was carried out to establish a good understanding of the environmental, economic and social status of cocoa in the Solomon Islands and particularly the Guadalcanal Plain where possible.

The drafting and consultation process of developing the planning brief and synthesis report were key aspects in the planning of the case study. They helped to establish the jointly agreed purpose of the case study, roles and responsibilities, timelines, expected outputs and outcomes, as well as get a good baseline and understanding of cocoa in the Solomon Islands.

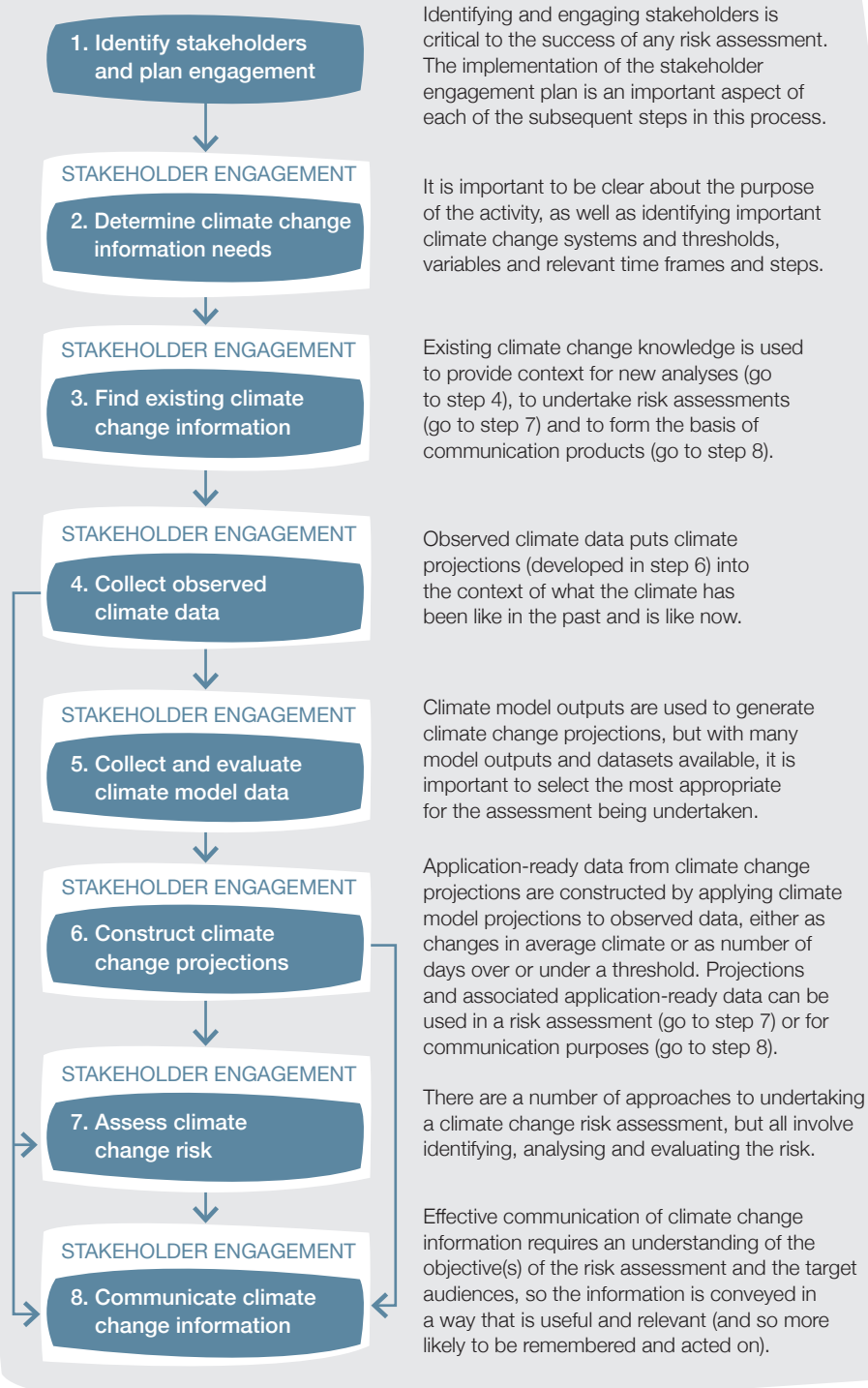
From there, the scientists went to work in sharing information about cocoa, working step by step through the guidance materials to develop the rapid risk assessment. Mutual respect, learning and understanding were at the forefront of this process and interaction.

A major component of this case study was the workshop held in Honiara in August 2017. The purpose of the workshop was to bring all stakeholders

together to share knowledge about cocoa in the Solomon Islands and to gain an understanding on how to carry out a risk assessment. With over 40 stakeholders participating, the one-day workshop and half-day field trip to a

cocoa plantation proved to be a great success. The workshop cemented some good working relationships amongst stakeholders and has gone on to develop some useful resources for others to build similar case studies on.

Eight-step process for developing climate change information for sectoral application¹



Outcomes and impacts (now and into future)

This case study has produced a number of significant outcomes and impacts that may be useful for all participating stakeholders for current and future use. The process brought awareness of science to services, new knowledge on future climate risks associated with cocoa in Guadalcanal Plain, collaboration between national and international partners, and understanding of the key steps in carrying out the cocoa case study.

Establishing linkages among collaborators

The initial collaboration between CSIRO, SPREP and SIMS established the pilot case study to provide a practical approach to turning climate change science into services. SIMS used their local knowledge and expertise to identify the agriculture sector as the

best fit, which in turn introduced MAL to the process. MAL saw the cocoa industry as significantly benefitting from being the focus of this case study, as cocoa has been identified as a potential economical product for small hold farmers and the Solomon Islands economy, as well as there being relatively limited climate change science information available about the impacts on cocoa in the Solomon Islands.

Having the SIMS and the MAL leading the process, particularly at the local level, ensured that the two agencies kept the process in check with local requirements and processes, and that the relevant stakeholders were involved.

A significant step was made at a national level in implementing this case study between SIMS, MAL and farmers. With the research department at MAL identified as the primary source of cocoa information, the MAL-SIMS collaboration is now growing and may



in turn see the partnership develop more targeted products for future use. SIMS has also functioned as the local counterpart in communicating on behalf of the national collaborators with CSIRO and the communication experts. Their professionalism, efficiency, excellent communication and clever approach to much of the work throughout the case study needs to be acknowledged and commended.

Existing collaboration between SIMS and MAL was enhanced after the understanding that climate change science information can be processed and presented in a form that is useful to make decisions in planning climate change adaptation measures for cocoa in the Guadalcanal Plain. Building a local network and collaboration between SIMS and MAL was paramount in the success of this case study. The direct continuous collaboration between SIMS and CSIRO scientists was also a very important relationship in this case study.

Finally, it is also vital to recognise the contribution of national experts towards the case study in understanding existing information about cocoa in the country and feedbacks from stakeholders from the workshop.



Cocoa farmers' involvement

Cocoa farmers (villagers) are very important stakeholders in the process. They have robust traditional knowledge and have also participated in previous national programmes that promote good farm management practices to increase cocoa production. They also have vast experience and observations on the impacts of local weather and climate at their specific cocoa farms and on the Guadalcanal Plain.

This very useful information cannot be found in the current literature. The field trip provided the farmers and the stakeholders with the opportunity to share this information from their personal knowledge and experiences. For example, flooding was not originally ranked as a significant threat to growing cocoa in Guadalcanal Plain until the farmers had shared their experiences and observations during discussions.

The farmers' involvement in the case study provided significant input into filling some of the information gaps about the impacts of the changing climate on cocoa. The field trip and close interaction with the farmers is a real cornerstone of this case study and the flowing benefits of these relationships and the information gathered will be invaluable going forward.

Contribution to developing capacity

The locally driven case study provided a strong basis for the understanding and acceptance of the climate change science to services concept. The role the SIMS and MAL play within the government and the community contributed significantly to the extensive uptake of the case study information and process, which was illustrated through feedback provided by stakeholders at the workshop. Significant capacity to lead this process already exists in the two agencies; however, the interactions with scientists,



use of the guidance materials and working through the steps has improved their understanding and knowledge of how to do a climate risk assessment.

Sectoral partners had also recognised and acknowledged that climate products may be useful in planning the best adaptation practices for their respective sectors, while meteorological representatives contributed to the development of and utilised the eight steps in the guidance material to do climate risk and vulnerability assessment of cocoa in future climate.

The methods applied in this case study are well documented in different products for free access and future use, should any national meteorological service, or agency, wish to undertake climate risk and vulnerability assessment at sectoral areas in the future.

Products and resources

A good range products and resources were developed from the cocoa case study. This includes the guidance material, which outlines the eight steps that were used to implement this case study. A technical report detailing the case study was also developed, which is further complemented by fact sheets and posters. These are targeting different readers from schools, Solomon Island Government agencies and sectors (such as MAL and SIMS), National Meteorological and Weather Services across the Pacific, international agencies and NGOs as well as cocoa farmers themselves.

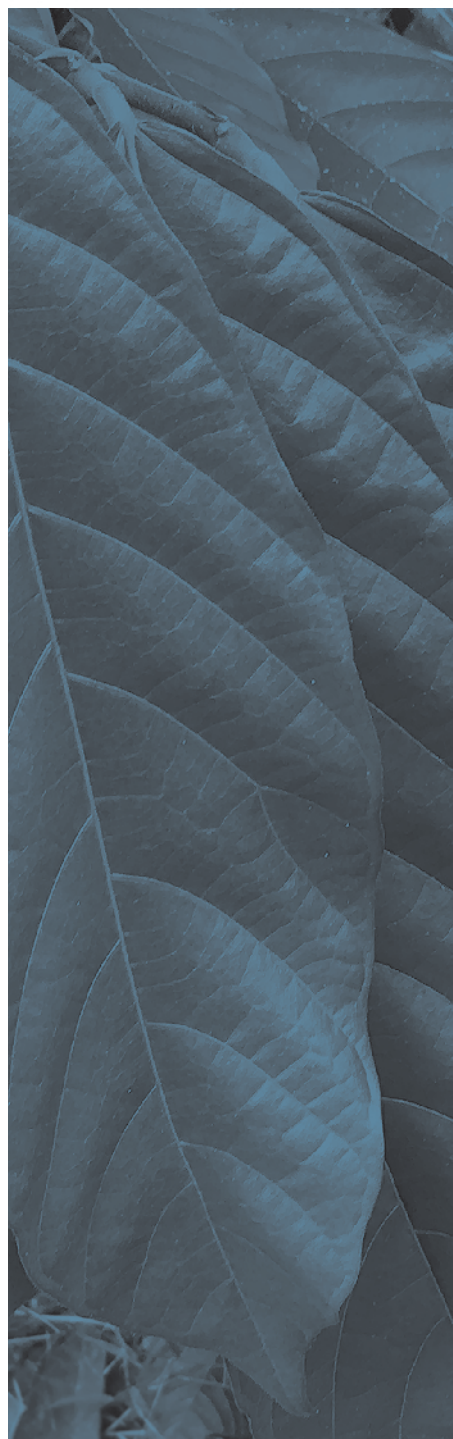
The full suite of products can be found at www.pacificclimatechangescience.org.

Key challenges and success factors

Key challenges

All multi-stakeholder case studies are bound to face challenges. The following table provides a summary of the challenges faced during this development of the case study.

Challenge	How it was addressed
Developing the guidance materials in parallel with developing the case study.	While this wasn't ideal, both processes were managed as best they could through clear timelines, understanding of expectations early and good communication within the project team, within a relatively short timeframe.
Different levels of time allocations for the project from each organisation.	Where possible, other members of the project team picked up areas of work unable to be attended to by the allocated organisation. In future, clear and agreed work plans decided on at the beginning would assist in improving this.
Communication with new stakeholders and networks (i.e. farmers on the Guadalcanal Plain) proved difficult in the planning stages due to tele-communication and geographical issues.	Planning was carried out the best it could be at the time. In future, allowing more time in the stakeholder engagement stage of the process would support this and improve communication and planning.
Communicating complex climate change science to the audience to ensure all is understood.	<p>The SIMS was particularly active in this area and needed to be as they know their stakeholders. They provided good advice to other members of the project team about the levels to pitch their information at.</p> <p>Outputs (fact sheet and poster) from the case study will be translated into Solomon Islands Pijin to support this and extend the reach of the projects process and results.</p>
Consultation and communication with MAL and the cocoa farmers was difficult due to resource and budget constraints.	While SIMS and MAL agreed to actively implement this case study, this was not included in a corresponding budget and time allocations for the work activities – therefore costs and times for some items were at the cost of experts at the organisations.



Success factors

Collaboration

All organisations involved brought their individual but complementary skill sets, experience and knowledge to the forefront in the development of the case study. This provided significant strength particularly in local leadership and vision for the project.

Flexibility

The case study was ever evolving, as it was developed in parallel with the overall framework of study (the guidance materials). This proved to be challenging, but the flexibility and ability to 'go with the flow' within a broad set of boundaries significantly supported the completion of a successful case study.

Teamwork

Working as a team across geographical regions often comes with its challenges, but this team worked amazingly well throughout the project. Consideration of competing work agendas, learning from one another and giving each individual the space to share views was a definite factor in the project's success.

Conclusions and way forward

The case study ultimately achieved its intended purpose of providing an opportunity for the Solomon Islands Meteorological Service to work with their stakeholders to develop a climate risk assessment for cocoa in the Guadalcanal Plain. The application of

this practical process and the use of the associated tools (i.e. the guidance materials) across more sectors in the Solomon Islands and across the Pacific region will greatly contribute to building on improving the understanding of the impacts of climate change.

For more information about the case study, contact:

Director

Solomon Islands
Meteorological Service

Ministry of Environment,
Climate Change, Disaster
Management and Meteorology
PO Box 21

Ph: 20332/24218

Email: david.hiba@met.gov.sb





www.pacificclimatechangescience.org

Pacific Met Desk Partnership

Email: PacMetDesk@sprep.org **Telephone:** +685 21929 **Visit:** www.sprep.org