

SAFE Agricultural Trade Facilitation through economic integration in the Pacific Project  
(SAFE Pacific) project.

## Report Four

# SAFE Pacific: Scope and Design a Preliminary Assessment Tool.

Prepared for SAFE Pacific

Prepared by The AgriBusiness Group

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**SAFE  PACIFIC**

Safe Agricultural trade Facilitation  
through Economic integration in the Pacific



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## Contents

|             |   |          |
|-------------|---|----------|
| <b>1.0.</b> | <b>SAFE PACIFIC SCOPE AND DESIGN A PRELIMINARY ASSESSMENT TOOL.....</b> | <b>1</b> |
| 1.1         | BACKGROUND .....  | 1        |
| 1.2         | THE AVAILABLE RANGE OF MARKET CERTIFICATION PROGRAMS. ....              | 2        |
| 1.3         | IMPLICATIONS OF OBTAINING MARKET CERTIFICATION. ....                    | 2        |
| 1.4         | FINANCIAL IMPLICATIONS. ....  | 3        |
| <b>2.0.</b> | <b>ASSESSMENT TOOL .....</b>  | <b>4</b> |
| 2.1         | COMPANY / PRODUCT PROFILE. ....   | 4        |
| 2.2         | COST BENEFIT ANALYSIS.....  | 4        |
| 2.3         | THE STRUCTURE OF THE QUANTITATIVE CBA.....                              | 5        |
| 2.4         | THE STRUCTURE OF A QUALITATIVE CBA. ....                                | 7        |
| 2.5         | CHOOSING THE BEST SCHEME.....   | 7        |
| <b>3.0.</b> | <b>DIAGRAM OF THE TOOL. ....</b>  | <b>8</b> |

## Please Read

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## 1.0. SAFE Pacific Scope and Design a preliminary Assessment Tool.

### 1.1 Background

The Safe Agricultural Trade Facilitation through Economic integration (SAFE Pacific) in the Pacific region project aims to increase export capacity and improve economic growth. The key focus of SAFE is to address the barriers in accessing export markets, enhance the production of value-added products and improve compliance with international standards. This project is a component of SAFE that is looking to strengthen the competitiveness of sustainable agricultural value-chains in the Pacific by working with Micro, Small & Medium Enterprise's.

This report has been prepared as part of project task **4: Scope and design a preliminary assessment tool (cost benefit analysis) to inform company/enterprise seeking certification on its viability, feasibility, and sustainability**. This report builds on the work carried out in 4.1: *(Gather and curate existing information from Certification Bodies, Scheme Owners and other training materials assessing the implications of the impact of obtaining different market certification for products in the value chain)*. This includes a preliminary analysis of the financial implications as well as issues related to market access and supply and demand. In 4.2: we have designed a preliminary assessment tool based on the results of the analysis from 4.1, this will be further developed in a subsequent phase of this project and ultimately used to support the decision making by companies/enterprises on the long-term sustainability, viability and feasibility of obtaining certification to the different focal market certification programs.

This report also builds on the work carried out and reported in task 2.3.2.2: *Assess priority voluntary standards for Pacific exporters* (e.g., Organic, HACCP, ISO, Fair Trade, Single Origin, GAP) which was reported in SAFE Output 1. The report provided a background to voluntary market certification programmes and segments into two types – Food Safety and Sustainability certification programmes. It explored the regulatory and market relationships for these programmes as well as the process for certification of the programmes. The information gathered in the preparation of this report has informed the selection of the following market certification programmes to be investigated to clarify opportunities for the establishment of local auditor capabilities to be developed by this project.

- Organic (including certification to the EU, NOP and other regulated standards)
- Food safety
- Fairtrade
- Rainforest Alliance
- Sustainable Fisheries – Marine Stewardship Certification (MSC).

The preliminary assessment tool design has concentrated on the four main crops of turmeric, kava, coffee and cocoa but has also considered the requirements of seafood, coconut production and other crops. It is designed to be used by micro, small and medium sized enterprises.

The objective of this work was:

**To carry out a preliminary assessment tool design that is aimed at assisting the producers to choose the most appropriate market certification program for their operation.**

## **1.2 The available range of market certification programs.**

It would be fair to say that there is a plethora of market certification programs that encompasses both food safety and sustainability that are available for producers in the Pacific to choose from. Many of these programs are centered in Europe and America with offices in Australia and New Zealand. There are also quite a number of both Government and Non-Government Organisations across the Pacific that have already established legislative policies and modes of operation of certification programs which are relevant to Pacific producers.

The survey that was carried out as part of 2.3.2.2 reported that 75% of respondents were aware of organic certification programs as being active in their countries, with food safety programs achieving 66% and Fairtrade programs 43% with Global Gap having 22% awareness. These results indicate that there is very widespread awareness within the survey participants, at least, which would most probably lead to their being quite wide awareness of certification programs amongst producers.

32% of respondents were currently participating in market certification programmes, with a very wide range of programs, while 17% had no intentions of participating in market certification programmes. There were positive responses to the suggestion that those that were not currently involved in a program were planning to be involved in the next five years, (approximately 27%).

There was also a very strong indication that the respondents were interested in more information on the SAFE project (95%).

In summary we can deduce that there is strong current awareness of the range of certification programs available within the respondents and that while there was a minority that were engaged in programs currently there was a significant number that were planning to enter programs in the next five years.

This would indicate to us that there are potentially many producers who would be able to take advantage of this decision tool in the future.

## **1.3 Implications of obtaining market certification.**

In the survey conducted for 2.3.2.2 the respondents were asked to rank the benefits associated with market certification programs from 0 – no benefit to 7 – High benefits. The results as ranked in importance are as follows which were ranked from 5.4 for the highest ranked to 3.4 for the lowest ranked:

- Enables access to higher value markets.
- Provides assurance in relation to the safety of food that we produce.
- Improves the image / branding of our farms business.
- Results in improved production efficiency and profitability for my farm / business.
- Enables our business to identify and manage risks.
- Provides assurance that our business is operating sustainability.
- Obtains information to help make business decisions and develop strategies.

What we can take from the survey results are that all of the options had a high recognition as to their benefits from the respondents and so were significant and that there is a range of both quantitative and qualitative benefits that should be incorporated into the decision making tool.

## 1.4 Financial Implications.

There is very little available information on the value of adopting a certification program in terms of the producer being able to gain more value for their produce across the Pacific. In the PHAMAC report *Pacific Export Context Analysis – 2022 June 2022*<sup>1</sup> they found that the lack of food safety certification was the major cause of lack of access to export markets. While there is reliable data on the prices received for products that achieve export status<sup>2</sup> there is very little or no data available in the literature on the prices received in the informal market which the product is traded in without certification.

In the referenced literature in the report on 2.3.2.2, particularly on cocoa, turmeric, coffee, seafood, coconut and kava<sup>3</sup> it is obvious that for all of the products except for kava the Pacific production is a very small proportion of the total world production. Therefore in order to allow for the fact that the majority of Pacific production is carried out a long way away from the traditional markets and the current volume of production is too small to allow for significant reductions in transport costs, Pacific production is at a disadvantage in terms of its competitiveness in the world market. Therefore in order to compete in the world market the Pacific product must have some form of high standards in terms of food safety, sustainability or provenance for their products which allow them to access the high end of the market. Two examples of products that are doing that currently are Turmeric and Fiji water.

Another financial barrier that Pacific products should work to overcome is that there are a large number of small producers of their products that each produce a relatively small amount of product. A number of the references traverse this issue and talk about the need to establish coordinated producer groups that are able to consolidate their production in order to strengthen the supply chain and so achieve higher returns. A consistent certification system is one way of achieving this desired grouping of producers and their products. It is apparent from the references that currently the choice of a certification system is often led by the buyer or trader of the product from the individual producer who has a specific market or market requirement that leads them to the choice of the certification system.

Several of the references discuss the need for either Government or Non-Government Organisations to establish well researched industry strategies and plans and for the groups that are responsible for the supply chain of a particular product to then achieve the actions decided in the plan. That could well be the adoption of a particular certification scheme across a product group in order to position that product in the market segment that it is decided to be the best for the producers.

They often reference the fact that making the decision on which is the best certification scheme for a producer in the Pacific is often difficult and costly for many of the producers to carry out alone.

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<sup>1</sup> <https://phamaplus.com.au/wp-content/uploads/2022/08/PECA-2022-Final-20-June-22-updated.pdf>

<sup>2</sup> [https://stats.pacificdata.org/vis?lc=en&df\[ds\]=SPC2&df\[id\]=DF\\_COMMODITY\\_PRICES&df\[ag\]=SPC&df\[vs\]=1.0&pd=2012%2C&dq=A..COMPRICE&ly\[rw\]=COMMODITY&ly\[cl\]=TIME\\_PERIOD](https://stats.pacificdata.org/vis?lc=en&df[ds]=SPC2&df[id]=DF_COMMODITY_PRICES&df[ag]=SPC&df[vs]=1.0&pd=2012%2C&dq=A..COMPRICE&ly[rw]=COMMODITY&ly[cl]=TIME_PERIOD)

<sup>3</sup> <https://pacifictradeinvest.com/media/hvcphwop/pti-new-zealand-kava-reveiw.pdf>

<sup>4</sup> [https://stats.pacificdata.org/?lc=en&fs\[0\]=Topic%2C0%7CEconomy%23ECO%23&fs\[1\]=Commodity%2C0%7CKava%23121190%23&pg=0&fc=Commodity&snb=1](https://stats.pacificdata.org/?lc=en&fs[0]=Topic%2C0%7CEconomy%23ECO%23&fs[1]=Commodity%2C0%7CKava%23121190%23&pg=0&fc=Commodity&snb=1)

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## 2.0. Assessment Tool

It is our opinion that the assessment tool should have each of the following sections.

1. Company / Product profile.
2. Quantitative Analysis.
3. Qualitative analysis.

### 2.1 Company / Product Profile.

This part of the tool would be designed to rate the full range of available / recommended certification schemes and provide a brief report on each of them against key criteria. The key criteria should include elements of their appropriateness in terms of:

- Food safety,
- Sustainability,
- Market access,
- Consumer demand,
- Cost of compliance.

Then the individual company / product should rate their own business either now or in their future desired form (or both) against the following criteria:

- Crops produced
- Current certification
- Markets – existing and potential.
- Financial returns - now and with potential certification scheme.
- Scale – volume and value.
- Region / country of production.
- Current production system ie: use of chemicals, employment practices.
- Plans for the company product.

Then an analysis can be taken to determine which of the certification schemes is the best fit for the company product. This may result in one scheme being the best fit or a range of schemes being an appropriate fit. In both cases the schemes that have been chosen should then be put through a cost benefit analysis.

### 2.2 Cost Benefit Analysis

Cost Benefit Analysis (CBA) is a widely used economic tool which is described by Wikipedia as “a systematic approach to calculating and comparing the benefits and costs of a course of action in a given situation.”

CBA in the case of helping with the decision making on which is the most appropriate certification program would entail describing the costs and benefits of the decision and then setting them off against each other to determine either whether it is worth proceeding with the program, in terms of the benefits exceeding the costs, or in choosing which project achieves the best CBA ratio when comparing the various choices to proceed with.

CBA often entails a series of cost or benefits which are spread over time. If there are a series of cost or benefits spread over time then the best way to present them is through discounting them to report them as a Net Present Value (NPV) figure.

The reporting of a CBA analysis is done by representing the two figures, cost and benefits, as a ratio e.g: Costs as 1 divided by the Benefits.

CBA's can be expressed as both quantitative values and as qualitative values. While quantitative values are by far the most preferred methodology to report the results of a CBA, if it is not possible to quantify all of the costs and benefits of a project, even a simple tabular analysis which records whether a feature is present or not in a proposal may be sufficient to carry out an analysis of the adequacy of an individual proposal or to compare multiple options.

In this case it is appropriate to have both evaluation methods, qualitative and quantitative, contribute to the decision making process. This is particularly the case when the end result of the various courses of action do not all reach exactly the same end point. Some options may exceed the minimum required standard but for some reasons offer more in terms of operational efficiency, or the end result pleases the producer and so be considered to be a superior choice for the producer even though their CBA ratio is inferior to an alternative option which achieves a higher CBA result but does not offer the same degree of welfare.

Therefore although CBA is theoretically a relatively tightly defined mathematical approach to a particular choice situation it is our opinion that the concept of CBA whether it be quantitative or qualitative, or indeed a mix of the two approaches is worthwhile.

Some form of CBA, whether it be a rough calculation or it is derived through a complicated modelling tool, is much better than the alternative which is to decide what or how to proceed on the basis of preference or intuition alone.

## 2.3 The structure of the quantitative CBA

The structure of a CBA that follows is loosely modelled on the structure which is suggested in the New Zealand Treasury document "Guide to Social Cost Benefit Analysis<sup>5</sup>". The major difference is that in the Treasury document it explains a methodology in which the national benefit is analysed, which is often termed an "economic" CBA, whereas in this analysis what we are describing is a whole of industry or individual framework which is often referred to as a "financial" CBA. The major difference in this case is that the impact is considered across an individual or specific sector whereas in an economic CBA the impact would be considered across all economic sectors.

Constructing a CBA analysis should follow the following steps:

### Step 1: Define the alternative courses of action and a base or counterfactual scenario.

The first thing to carry out at this point is the definition of how the sector would proceed without the assurance scheme being in place, which is called the counterfactual. This option is sometimes called the "business as usual" scenario or the "without" scenario. It is very important to define the counterfactual as accurately as is possible because all of the possible alternatives are measured against the counter-factual.

It is quite often very difficult to be able to characterise the counterfactual over time because it is not what is being done at any particular point in time but will require the forecasting of the use of technologies or behaviours in the future which are not being used at present. Choosing the makeup of the counterfactual requires forecasting of the likely changes which will occur across the sector

<sup>5</sup> The Treasury (2015): Guide to Social Cost Benefit Analysis. <https://treasury.govt.nz/sites/default/files/2015-07/cba-guide-jul15.pdf>

over time without the proposed certification scheme, it should not necessarily be a reflection of what is being achieved at present.

Defining the alternative courses of action which will be compared against the counterfactual also requires considerable care. In the case of certification schemes there are many alternatives which could be considered which offer a range of different end results or outcomes and it is worthwhile examining them because they will all most likely offer considerably different CBA results.

## **Step 2: Identify the benefits and costs and allocate them over time.**

All of the costs and benefits of a proposal should be identified and listed. They should be allocated to a time of when they will occur. The allocation of time is normally done on a yearly basis.

## **Step 3: Quantify the benefits and costs.**

This stage of the analysis is basically compilation of an individual producers or a combined larger grouping of producers budget which is able to include all of the factors that have been identified in Step 3 which it is possible to monetise.

Benefits and costs should be calculated in dollar terms wherever possible. If it is difficult to define the actual dollar terms for a benefit or a cost it is quite appropriate to assign ranges to the estimate of the value. To define the possible range of values it helps to assign a confidence interval. That means that the person who is assigning the range is, say, 90% confident that the value lies within the range set. In this way the range can be assigned with a narrower margin. This technique also has the benefit of being able to adjust the estimate for the risk of the eventual figure being within the available range by assignment of risk factors. Once this has been done it is possible to estimate the appropriate figure to use in the CBA analysis by running the estimate of the range through a Monte Carlo assessment, we use @Risk to carry out Monte Carlo assessments.

## **Step 4: Discount to a common period.**

Discounting has the effect of assigning less weight to costs and benefits which occur later in the period than those which occur sooner. The further that the time periods are away from the present time the greater the reduction in its value. The discounted value is called the “present value”.

The choice of the discount rate can be quite a controversial factor in CBA analysis and can have quite a significant influence on the result in terms of the present values which result from their use. This is particularly so where there are very different time profiles of when the costs and benefits occur between different options. Treasuries policy is to use a pre-tax discount rate which is equal to the long run return on investments in the New Zealand share market.

It is our opinion that use of the Treasuries discount rate is the most appropriate choice. If an alternative discount rate was to be chosen we believe that there would need to be considerable comfort by the person carrying out the analysis as to why their alternative was a superior choice.

## **Step 5: Compare the results.**

There are three possible measures of how a CBA can be compared. They are:

- The **net present value**, NPV, is the sum of the discounted benefits less the sum of the discounted costs.
- The **benefit cost ratio** is the ratio of the discounted benefits to the sum of the discounted costs.



- The **internal rate of return**, IRR, reflects the discount rate which results in the calculation of the NPV being zero.

## 2.4 The structure of a qualitative CBA.

In a qualitative analyse all of the factors that have been developed in Step 3 above should be listed, both benefits and costs. This qualitative assessment quite often includes a whole lot of social factors that are important enough to be measured against the purely commercial results achieved in the quantitative assessment. If at all possible, the impact of the factor should be described to enable a fair assessment and comparison.

It is our opinion that the qualitative analysis should be listed in a table as is shown in [Table 1](#) as an example.

**Table 1: A list of qualitative factors and a description of the impact.**

| Factor         | Impact   |
|----------------|--|
| Employment     | The certification scheme requires a considerable amount of record keeping which would result in more employment opportunities for female family members which would lift the family income.  |
| Learning       | Adoption of the certification scheme is going to mean that we are going to have to learn new ways of producing our product. This will come at a cost of our time while we learn how to adopt the new ways but will result in a benefit in the long term. |
| Sustainability | Adoption of the sustainability scheme will mean that my family will be able to continue as producers for a very long time – intergenerational.   |

## 2.5 Choosing the best scheme.

In the end the choice of the best scheme will be made depending on the relative weightings which the individual decision maker has on both the quantitative and qualitative factors.

What this decision making tool is designed to do is to present both the costs and the benefits in a standard assessment format which allows the decision maker to be confident that the ultimate decision has been taken with all of the appropriate facts properly displayed.

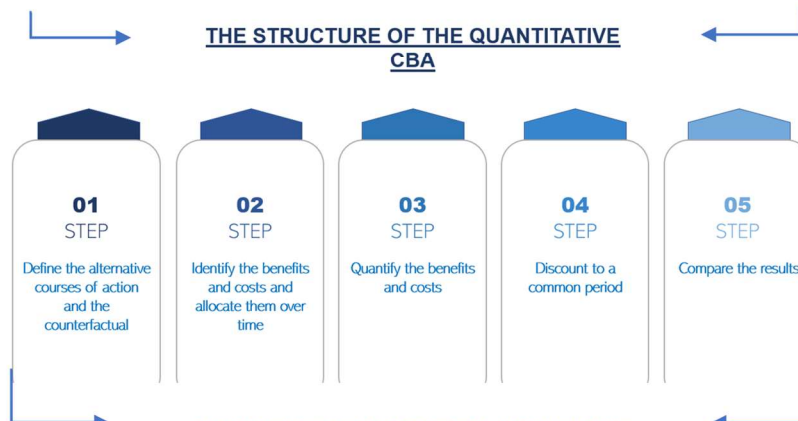
### 3.0. Diagram of the tool.

## SAFE Pacific Preliminary Assessment Tool.

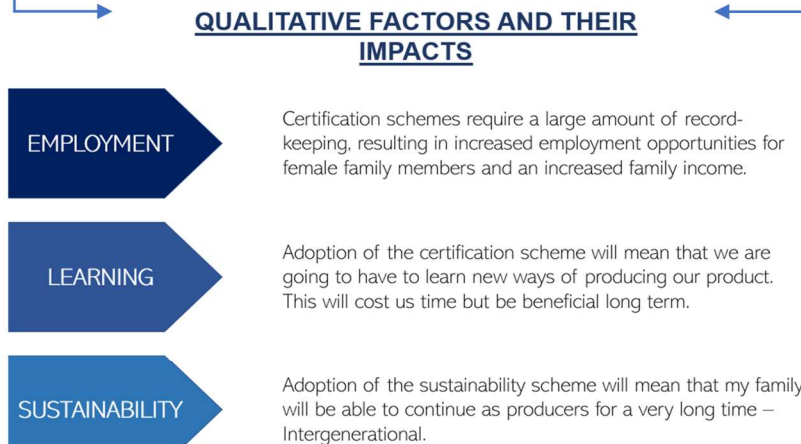
Stage 1.



Stage 2.



Stage 3.



Stage 4.

