



**TONGA CBA TRAINING WORKSHOP**  
**WORKSHOP REPORT**

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## 1 BACKGROUND

The USAID-funded/ SPC-executed project *Vegetation and Land Cover Mapping and Improving Food Security to Build Resilience to a Changing Climate (or SPC/USAID project)* aims to deliver services to selected island countries with a focus on vegetation and land cover mapping and improving food security in order to contribute to building resilience to a changing climate.

The project introduces integrated agricultural production systems based on assessments of the climate resilience of existing systems at selected sites. This is underpinned by improved land-system data and analysis tools, such as vegetation and land use mapping and the application of GIS. The project builds the capacity of participating countries to utilise GIS tools and techniques to help identify key areas of food supply vulnerability, monitor vegetation and land cover change overtime. It builds the capacity to sustainably monitor changes. These assessments are based on the most up-to-date country level climate change projections available. The project outputs are also used to help inform the development and national and agriculture sector climate change adaptation response strategies in the recipient countries and other PICTs.

In the case of Tonga, the SPC/USAID project is delivered through the Ministry of Agriculture, Forestry, Fisheries and Food (MAFFF). In practice, Ministries such as this could support numerous projects or project designs under the Project. Therefore, in an effort to optimise the design and selection of projects funded while also targeting capacity building in PICs, the US Food Security project is supporting vocational training in cost benefit analysis (CBA) in participating countries, including Tonga.

The purpose of CBA capacity building in Tonga is then to:

- Raise awareness of CBA as a tool for planning and selecting projects;
- Plan CBAs relevant to existing projects including the Food Security project.

In practice, CBA also has relevance to other sectors aside from those involved in food security. Accordingly, it was agreed that the most practical approach for delivering in-country training might logically be to make the training available to other sectors so that they are also prepared for analysis should the need arise. Training across multiple sectors would also support the mainstreaming of CBA into national planning. As such, MAFFF agreed that:

- Training for nationals in Tonga could be provided under the US Food Security project;
- Training would be made available to multiple sectors.

The training for the Project was delivered in line with the ongoing Pacific Cost Benefit Analysis Initiative (P-CBA.). The aim of the P-CBA – which is supported by ADB, GIZ, PIFS, SPC, SPREP, UNDP, USAID ADAPT and USP<sup>1</sup> – is to strengthen Pacific Island Countries (PIC) government capacity to better prioritise, design and implement development projects through the use of CBA. This in turn will enable PIC Governments to be more effective and efficient at achieving their development objectives, taking into account climate change and disaster risks. More information on the regional P-CBA initiative can be found on the P-CBA website.<sup>2</sup>

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<sup>1</sup> Asian Development Bank (ADB), Gesellschaft für Internationale Zusammenarbeit (GIZ), Pacific Islands Forum Secretariat (PIFS), South Pacific Secretariat (SPC), South Pacific Regional Environmental Programme (SPREP), United Nations Development Programme (UNDP), USAID ADAPT and the University of the South Pacific (USP).

<sup>2</sup> [http://www.undp-alm.org/projects/ecca-pacific?\\_sm\\_au\\_=isVJ33Vsv26qss2M](http://www.undp-alm.org/projects/ecca-pacific?_sm_au_=isVJ33Vsv26qss2M).

Training courses promoted under the P-CBA comprise three key components: (i) practical in-country training (ii) flexible mentoring to support Government officials to conduct CBAs on priority government projects and (iii) technical assistance to strengthen integration of CBA into Government policy-making processes.

The training delivered used P-CBA training materials including the CBA guide and training curricular.

This report summarises the training outcomes and lessons learned under the US Food Security Project-supported CBA training in Tonga.

## **2 OVERVIEW OF TRAINING**

At the request of MAFFF, the three day training exercise was delivered over four days from 24-27 March 2015. The workshop targeted would-be practitioners and managers overseeing CBAs. The purpose in this workshop was to:

- Increase the capacity of officials of the Government of Tonga to understand and use CBAs to inform decision making;
- Increase the capacity of officials of the Government of Tonga to undertake a basic preliminary CBA of development projects, taking into account climate change and disaster risks;
- Develop work plans to complete 'preliminary'<sup>3</sup> CBAs of development project proposals in the sectors as necessary.

### **Expected outcomes**

It was anticipated that the workshop would build capacity through enabling participants to:

- Understand and interpret CBAs to inform decision making;
- Manage CBAs;
- Plan and or deliver CBAs (possibly with assistance).

## **3 SUMMARY OF TRAINING**

### **Structure and content**

The workshop was designed using adult learning principles, which require participants to engage in interactive learning, problem based learning exercises, group work and experiential based learning. A preliminary agenda is provided in Annex 1.

The workshop comprised several components, with a case study activity forming the centrepiece:

- Presentations and interactive exercise to convey key principles and activities for CBAs
- An incremental exercise where participants gradually apply more and more CBAs principles to a hypothetical project over the course of the workshop
- Application of the same principles to actual work plans to help guide Tonga officials plan to undertake a 'preliminary' CBA of project proposals that are a priority.

Training was delivered by three staff from SPC:

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<sup>3</sup> 'Preliminary' here refers to a CBA that does not include full quantitative information but is largely qualitative or descriptive.

- Ms Paula Holland, Manager Natural resource economics and governance, SPC
- Mr James Jolliffe, Natural Resource economist – ODI Fellow, SPC
- Mr Matthew Ho, Resource Economist – ODI Fellow, SPC.

### Participant demographics

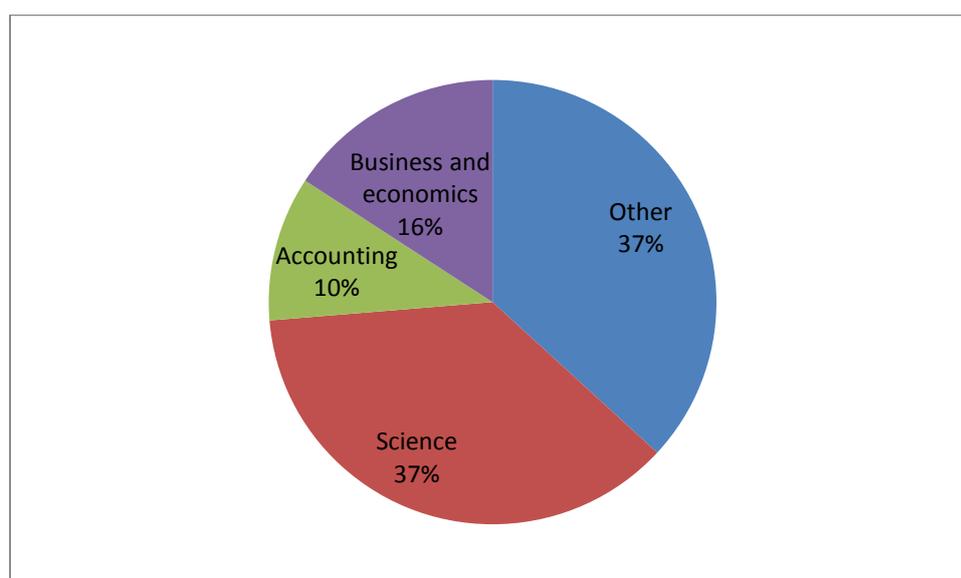
33 participants initially registered at the course (Annex 2) although ongoing participation actually reflected closer to 25. Since the workshop was hosted by MAFFF, most attendees came from the food security and climate change sectors (Table 1).

**Table 1 National representation at CBA training**

MAFFF	14
MEIDECC	10
Min of Infrastructure	1
MEIDECC (Meteorological Office)	2
NEMO	1
TOI	1
TWB	1
Other	3
TOTAL	33

62 per cent of participants were male and 38 per cent were female. Participants were invited to complete a baseline questionnaire to provided details on their background as well as their knowledge of CBA. Only 22 questions were submitted and not all questions were completed. Based on the information provided, only nine per cent of participants had received any training in CBA prior to the course. The average participant was a 42 year old male with a science background and 18 years' work experience who had been working in his present agency for 13 years (Figure 1).

**Figure 1 Participant background**



## 4 LEARNING OUTCOMES AND PARTICIPANT FEEDBACK

Learning outcomes and participant feedback were secured through a brief CBA baseline assessment conducted before the workshop (Annex 3) and after the workshop, as well as a workshop evaluation survey conducted upon completion of the 3 day workshop (Annex 4).

### Learning progress

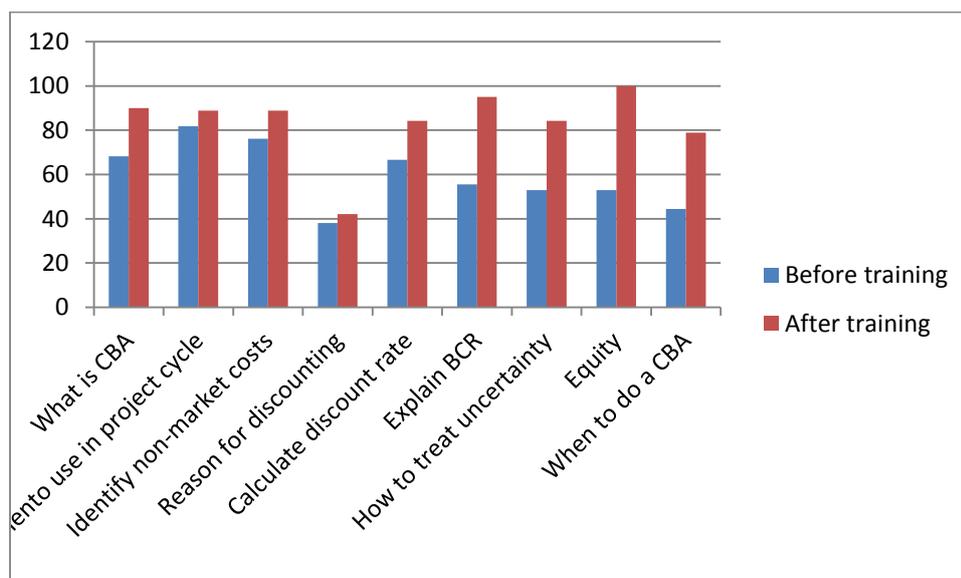
To assess the extent to which participants gained an improved understanding of CBA, they were invited to answer nine multiple choice questions about CBA in the baseline questionnaire. This set a baseline that could be compared with the same set of questions asked at the end of the training to check whether the training had a positive impact on learning outcomes. The topic of the questions ranged from the definition of a CBA to discounting and equity concepts. As a point of comparison, the same questions were asked at the end of the workshop in Part 1 of the workshop evaluation survey to assess progress.

Answers for those who answered the baseline survey and Part 1 of the evaluation survey are summarised in Figure 2. On average before the course, participants answered 62% of the questions correctly. The questions with the highest number of correct answers were about where in the project cycle to use CBAs and about identifying non-financial benefits from a group of benefits. The questions with the highest number of incorrect answers were “why discount” and “when to undertake a CBA”.

These results suggest that, prior to training, the majority of participants had an initial understanding of CBA and its role in decision making processes, but were unfamiliar with the more complex concepts found in the training course.

Based on the (20) evaluation surveys received following the course, there was an improved understanding in all 9 areas following the course (although it is possible that not all those who submitted baseline questionnaires were those who submitted evaluation surveys). As noted in Figure 1, the greatest gain in understanding appeared to come in the area of equity and how it fits into CBAs.

**Figure 2 Learning progress from the workshop**



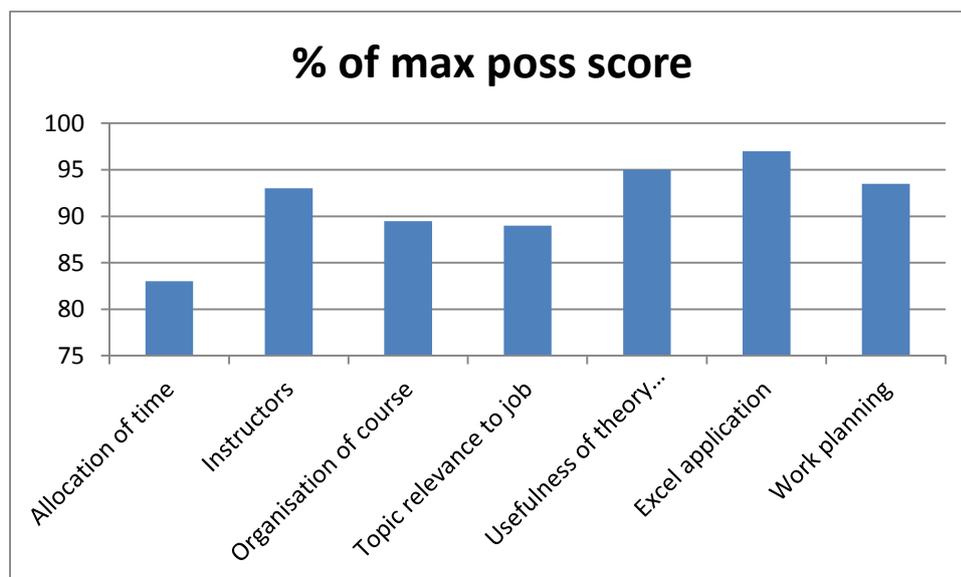
The lowest area of gain was in understanding the rationale for discounting. Unfortunately this was also the area participants least understood prior to the course. While there was an improvement in understanding after the course, this may point to the need to revisit the

content or delivery of this component. Interestingly, the evaluation survey – which asked respondents which areas they felt they might need more guidance on – made no reference to discounting at all. This would suggest that some people feel they understand discounting when they actually do not.

### Evaluation of the workshop

At the end of the workshop, participants were invited to answer Part 2 of the evaluation survey in which they could rate the different aspects of the training from 0 to 5. The evaluation survey indicated a generally high level of satisfaction. Of scores possible, satisfaction was always over 80 per cent (Figure 3). The greatest area of satisfaction was in Excel-based work. Many compliments were made on this area of the course. Nevertheless, it was also an area where many participants asked for extra opportunities for work. In fact – and possibly related to the average age of the course – some participants were not well versed in Excel and required help to do basic actions in exercises (eg., entering formulae such as summing). There may be valuation in including questions on familiarity with Excel in the baseline questionnaires as a way to assess if an Excel familiarisation session is required prior to training. On the other hand, there have traditionally been challenges in accessing baseline questionnaires before training so this may be unrealistic.

**Figure 3 Satisfaction with workshop**



Other areas which were popularly considered useful were the group work and debates arising. Aside from some participants requesting greater support in Excel (note the earlier point), some participants stated they required further guidance in the treatment of equity. Some participants also requested additional time in learning how to estimate non-market costs and benefits and asked for a wider selection of case studies in learning CBA beyond the main case study used.

Part 2 of the evaluation Survey invited participants to consider CBAs in their own work and any obstacles to this. 95 per cent of respondents stated that they had not conducted a CBA lately. When asked what factors in their agencies might prevent the delivery of CBAs, the most common reason given was lack of technical expertise and lack of resources (both noted 55 per cent of the time), followed by lack of data (noted 50 per cent of time) and then the idea of decision makers do not take into account CBAs (40 per cent of the time).

## 5 CASE STUDIES

Five case studies were identified by different ministries for the development of the CBA work plan supported by the trainers on the last day of the workshop. The work plan is a working document that guides governments through the steps of a CBA. Table 2 summarizes the work plan case studies, specifying the objective, the field and the type of CBA.

**Table 2 Summary of training case studies**

Ministry	CBA	Objective	Field and type
MEIDECC	Piggery project	Control roaming pigs that destroy crops, replant vegetation (fruit trees, vegetables)	Food security Ex ante
ADB climate resilience	Youth and agriculture	Reduce unemployment and educate youth in agriculture on family owned land to increase food and income opportunities	Climate change Ongoing
NBSAP, MEIDECC	Biodiversity protection	Reduce roaming pigs and invasive species	Environment Ex ante
ADB food security	Piggery project	Control roaming pigs that destroy crops, replant vegetation (fruit trees, vegetables)	Food security Ex ante
MEIDECC	Relocation of Lifuka hospital	Demonstrate benefits of relocation; inform planning/design of activity; contribute to EIA	Climate change adaptation Ex ante

Detailed information on the CBAs developed and submitted can be found in Annex 5. Please note that the documents are not final and they contain comments from the trainers for further development.

## 6 NEXT STEPS

If the ministries are interested in conducting a full CBA from their work plans, the CBA team will support through in-country and remote mentoring.

From the perspective of the SPC/USAID project, follow up work for Tonga will likely require support in the delivery of the piggery or biodiversity projects. Additionally, there will likely be a general need to support the delivery of the remaining CBAs including:

- Formalizing multi-disciplinary and multi-agency work teams that will work together to conduct proposed CBA case studies.
- Establishing mentoring support to assist work teams to conduct the CBA case studies.

## ANNEX 1 DRAFT AGENDA

### TONGA P-CBA TRAINING WORKSHOP 24-27 March 2015

*National Emergency Management Office (Conference Room), Tongatapu, Tonga*

#### Tuesday 24 March

Day 1 – Morning – Formalities, introduction and basic concepts		
08.30	Registration	
09.00	Opening prayer	
	Opening remarks	Ms. Losaline Ma'asi CEO MAFFF
09.15	Current decision making processes in Tonga	Government of Tonga
09.30	Introduction to the training session	Ms. Paula Holland
10.00	Tea break + group photo	
10.30	Introduction to case studies	Mr. James Jolliffe/ Participants
11.00	Introduction to CBA	Ms. Paula Holland
12.15	Defining the problem and identifying solutions	Mr. James Jolliffe
12.45	Work plan steps 1 & 2	Mr. James Jolliffe
13.30	End of day 1	-

#### Wednesday 25 March

Day 2 – Morning – Costs and benefits		
08.30	Registration	
	5 min recap	
08.45	Measuring costs and benefits/ environmental valuation	Ms. Paula Holland/ Mr. James Jolliffe
10.00	Tea break	
10.30	Excel Exercise 1	Mr. Matthew Ho
11.00	Work plan step 3	Mr. James Jolliffe
11.30	Discounting	Mr. Matthew Ho
12.15	Excel Exercise 2	Mr. Matthew Ho
13.00	Lunch	

Day 2 – Afternoon – Dealing with uncertainty		
14.00	Decision criteria	Mr. James Jolliffe
14.30	Excel Exercise 3	Mr. James Jolliffe
15.30	Sensitivity analysis	Mr. Matthew Ho
16.00	Tea break	
16.15	Excel Exercises 4 & 5	Mr. Matthew Ho
16.45	Work plan steps 4 & 5	Mr. Matthew Ho
17.15	End of day 2	

#### Thursday 26 March

Day 3 – Morning – Advanced concepts		
08.30	Registration	
	5 min recap	
08.35	Excel Exercise 6	Mr. James Jolliffe
09.00	Incorporating climate change	Mr. James Jolliffe

<b>09.30</b>	<b>Excel Exercise 7</b>	Mr. James Jolliffe
<b>10.00</b>	<b>Tea break</b>	
<b>10.30</b>	<b>Equity and CBA</b>	Mr. Matthew Ho
<b>11.00</b>	<b>Work plan step 6</b>	Mr. Matthew Ho
<b>11.30</b>	<b>How to make a decision</b>	Ms. Paula Holland
<b>12.30</b>	<b>Lunch</b>	

<b>Day 3 – Afternoon – Work planning session</b>		
<b>13.30</b>	<b>Communicating CBA</b>	Mr. Matthew Ho
<b>14.00</b>	<b>Tikita Dam group exercise</b>	Mr. Matthew Ho/ Ms. Paula Holland
<b>15.30</b>	<b>Tea break</b>	
<b>15.45</b>	<b>Preparation for presentation of completed work plan templates</b>	Participants in groups
<b>16.30</b>	<b>Training evaluation</b>	Participants
<b>17.00</b>	<b>End of day 3</b>	

**Friday 27 March**

<b>Day 4 – Morning – Presentations and certificates</b>		
<b>10.00</b>	<b>Registration</b>	
	5 min recap	
<b>10.30</b>	<b>Presentation of completed work plans</b>	Group representative
<b>11.30</b>	<b>Certificates</b>	Ms. Losaline Ma'asi CEO MAFF
<b>12.00</b>	<b>Closing remarks</b>	Ms. Luisa Malolo
<b>12.15</b>	<b>Closing prayer</b>	Ms. Luisa Malolo
<b>12.30</b>	<b>End of workshop and lunch</b>	

## ANNEX 2 LIST OF TONGA TRAINING WORKSHOP PARTICIPANTS

Given Name	Family Name	Job Title	Organisation	Gender	E-mail
Daniel	Hamala	Accountant/Contracts	Climate Resilience Sector Project	M	<a href="mailto:hammaah@ihug.co.nz">hammaah@ihug.co.nz</a>
Liliani	Makasini	Clerk	Department of Climate Change	F	<a href="mailto:lianimakasini@gmail.com">lianimakasini@gmail.com</a>
Mele	Lasike	Administrative Assistant	Department of Climate Change	F	<a href="mailto:cvoque3@hotmail.co.nz">cvoque3@hotmail.co.nz</a>
'Aneti	Havili	Financial Officer	Department of Climate Change	F	<a href="mailto:berna.windy@gmail.com">berna.windy@gmail.com</a>
Hikaione	Loumoli	Climate Change Project Officer	Department of Climate Change	M	<a href="mailto:lou_kai@hotmail.com">lou_kai@hotmail.com</a>
Lilu	Moala	National Climate Change Coordinator	Department of Climate Change	F	<a href="mailto:lilumoala@gmail.com">lilumoala@gmail.com</a>
Losana	Latu	Climate Change Officer	Department of Climate Change	F	<a href="mailto:latulosana@gmail.com">latulosana@gmail.com</a>
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Viliani	Kato	Forestry Officer	Forestry Division, MAFFF	M	<a href="mailto:pilakato@yahoo.com">pilakato@yahoo.com</a>
Vailala	Matoto	Manager	JP Eco Services (NGD)	M	<a href="mailto:vailalam@yahoo.com">vailalam@yahoo.com</a>
Metuisela	Falesiva	Principal Administration Officer	MAFFF	M	<a href="mailto:metui.falesiva@maff.gov.to">metui.falesiva@maff.gov.to</a>
Semisi	Palei	Technical Grade II	MAFFF	M	<a href="mailto:spalei01@gmail.com">spalei01@gmail.com</a>
To'ifalefehi	Moala	SPC/USAID Project Co-ordinator in Tonga	MAFFF	M	<a href="mailto:feluimoala@hotmail.com">feluimoala@hotmail.com</a>
Seini 'Ela	Vaipulu	Agricultural Officer	MAFFF	F	<a href="mailto:ela.vaipulu@maff.gov.to">ela.vaipulu@maff.gov.to</a>
Emanuele	Mo'ale	Head of MAFFF Extension Division	MAFFF	M	<a href="mailto:emanuele.moale@maff.gov.to">emanuele.moale@maff.gov.to</a>

Tevita	Tapaevalu	Research Officer	MAFFF Research Station	M	<a href="mailto:tabaevalu@yahoo.com">tabaevalu@yahoo.com</a>
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Ana Bing	Fonua	Program Coordinator	MEIDECC	F	<a href="mailto:anabingfonua@gmail.com">anabingfonua@gmail.com</a>
Tu'amelie	Fusimalohi	Assistant Compliance Officer	MEIDECC (Department of Environment)	M	<a href="mailto:sweetynecf@gmail.com">sweetynecf@gmail.com</a>
Pesalili	Tu'iano	Director for Civil Engineering Division	Ministry of Infrastructure	M	<a href="mailto:pesalilituiano@gmail.com">pesalilituiano@gmail.com</a>
Sione Talo	Fulivai	Senior Climate Finance Analyst	Ministry of Meteorology, Energy, Information, Disaster Management, Climate Change and Communications (MEIDECC)	M	<a href="mailto:talo_is@hotmail.com">talo_is@hotmail.com</a>
Mafua-'i-Vai'utukakau	Maka	Community Awareness & Training Officer	National Emergency Management Office (NEMO)	M	<a href="tel:+67626340">+676 26 340</a>
Tavake	Leki	OIC Nukunuka District	TOI	M	
Quddus	Fielea	Manager - Engineer	Tonga Water Board	M	<a href="mailto:qfielea@gmail.com">qfielea@gmail.com</a>
'Ofa	Fa'anunu	Director	Tonga Weather Office	M	<a href="mailto:ofaf@met.gov.to">ofaf@met.gov.to</a>
Vaimoana	Mafi	Officer in Charge of Women Development Section	Women Development Section, Extension Division - MAFFF	F	<a href="mailto:moanamafi@yahoo.com">moanamafi@yahoo.com</a>
Fuka	Kitekei'aho	Consultant - EIA Specialist		M	<a href="mailto:fooksie1@gmail.com">fooksie1@gmail.com</a>
Losipeli	Funiaki	Extension Officer		M	<a href="mailto:losifun@gmail.com">losifun@gmail.com</a>

## ANNEX 3 BASELINE QUESTIONNAIRES

### Baseline Questionnaire

Thank you for taking the time to be part of this workshop. This very simple questionnaire will be distributed at the beginning of the workshop to test your initial knowledge on CBA. Most questions will either require you to:

- select a box to tick  or
- circle the best option eg.  Yes  No.

**Your feedback is much appreciated and will help us better plan future training exercises.**



c) Only at the end of the project as monitor and evaluation technique,

### Measuring cost and benefits

**10. The government of “Lapita” is conducting a CBA of solar panel power plant. Which of the following costs and benefits can be defined as non-financial?**

- a) Avoided air and noise pollution caused by the old diesel generator;
- b) Operating and maintenance costs for the entire economic life of the project;
- c) Cost of labour for the installation of the solar panels.

### Discounting

**11. Choose which is a reason for discounting in CBA**

- a) To take into account inflation (increasing prices)
- b) Because equipment gets older
- c) Because “time is money”

**12. If I would take \$100 now instead of \$110 next year, what is my discount rate?**

- a) 30%
- b) 0%
- c) 10%
- d) There is not enough information to reply to the question

### Technical outputs of a CBA

**14. If the CBA of a project has a Benefit Cost Ratio (BCR) of 2.4 what does it mean?**

- a) The benefits outweigh the costs therefore is worthwhile to implement the project;
- b) The costs outweigh the benefits, so it is not worthwhile to implement the project;
- c) There information provided is not enough to reply to the question.

### Uncertainty

**15. How do we take into account uncertainty in a CBA?**

- a) We mention what are the uncertainties, but we do not include them in the analysis;
- b) We try to guess the most likely scenario related to that uncertainty;
- c) It is impossible to account for uncertainty in a CBA;
- d) We conduct a sensitivity analysis.

## Equity

### 16. Why taking into account equity issues is important?

- a) Because it is required by the government and international organizations;
- b) Because the impact of a project can differ across different groups or strata of the society;
- c) Because we need to make sure the project only benefits the target population.
- d) It is impossible to account for equity in a CBA;

## When to do a CBA?

### 17. When do we need to conduct a CBA?

- a) When my superiors ask me;
- b) When it is suggested by a donor;
- c) When we are uncertain about a project and we want to understand whether it will be beneficial or not;
- d) For all the projects.

Thank you for your time!

## ANNEX 4 THREE DAY WORKSHOP – EVALUATION SURVEY

### Evaluation of the workshop

Thank you for taking the time to be part of this workshop. This very simple questionnaire will be distributed at the beginning of the workshop to test your initial knowledge on CBA. Most questions will either require you to:

- select a box to tick  or
- circle the best option eg.  Yes  No.

**Your feedback is much appreciated and will help us better plan future training exercises.**



**10. When do we use CBAs in the decision making process?**

- a) Only before the start of a project;
- b) Either before, during or after the project depending on the objectives of the CBA;
- c) Only at the end of the project as monitor and evaluation technique,

**Measuring Cost and Benefits**

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- a) 30%
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- c) 10%
- d) There is not enough information to reply to the question

**Technical Outputs of a CBA**

**14. If the CBA of a project has a Benefit Cost Ratio (BCR) of 2.4 what does it mean?**

- a) The benefits outweigh the costs therefore is worthwhile to implement the project;
- b) The costs outweigh the benefits, so it is not worthwhile to implement the project;
- c) There information provided is not enough to reply to the question.



- I helped co-ordinate the CBA and the information collection as well as actively participated in development of the spreadsheet analysis and report writing.

**19. What factors prevented or will prevent you and your department to conduct a CBA? (You can choose more than one)**

- Lack of technical expertise
- Lack of data and other information to input in the CBA
- Resources and time constraints.
- Decision makers do not take into account CBAs
- Others -----

**PART 2 – SATISFACTION AND COMMENTS**

**20. Please rate from 1 (not satisfactory) to 5 (very satisfactory) the following aspects of the training:**

	Rate (1 to 5)
Adequate time allocation, depth and scope	
Ability of the instructors to present the material	
Organization of the training	
Applicability of this section's material to your job	

**21. Please rate from 1 (not satisfactory) to 5 (very satisfactory) the following sections of the training:**

	Rate (1 to 5)
Theory and slide presentations	
Excel Exercises	
Work planning section	

**22. Overall, which aspects of this workshop did you find the most useful?**

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**23. Are there areas still confuse you, or where you think more explanation/guidance in needed?**

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**24. Is there anything else you would like to add?**

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**25. Do you have any other comments?**

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Thank you for your time!