



Australian Government

Australian Centre for
International Agricultural Research

**SMALLHOLDER COFFEE PRODUCTION IN
PAPUA NEW GUINEA – EXTENSION OFFICER
TRAINING GUIDE**

UNIT 1: EXTENSION PRINCIPLES

**MODULE 1:
INTRODUCTION TO THE COFFEE
EXTENSION OFFICER AND FARMER
TRAINING GUIDES**



Curry G, Tilden G, and Aroga L (2023)
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UNIT 1: EXTENSION PRINCIPLES

MODULE 1:

**INTRODUCTION TO THE COFFEE
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TRAINING GUIDES**



The Smallholder Coffee Production in Papua New Guinea Training Program

The training program contains modules prepared in partnership with the Australian Centre for International Agricultural Research (ACIAR) and by CARE-International.

The structures of the Extension Officer Training Program and the Farmer Training Program are shown in the table below.

Some modules also contain references to additional training that learners are encouraged to complete as part of their training.

ACIAR Resource

Monograph MN220 Smallholder Coffee Production in Papua New Guinea: a training package for extension officers and farmers. This package contains the modules for both the extension officer training guide and the farmer training guide. The ACIAR monograph is available online from www.aciar.gov.au

Hard copies of the ACIAR training package may be available by contacting ACIAR or the Coffee Industry Corporation (CIC)

CARE Resources

Organisational Strengthening Training
CARE Family Money Management Training

The CARE modules are available online from <https://pngcdwstandard.com/resources-for-use-by-cdws-working-with-wards-communities-groups-and-smes>

Hard copies of the CARE modules may be available by contacting the CIC or CARE-International.

Extension Officer Training Program

Title	Module reference
Introduction to smallholder coffee production in Papua New Guinea	ACIAR Smallholder Coffee Production in Papua New Guinea Training Package
Extension Principles	
Introduction to the Coffee Extension Officer and Farmer Training Guides	ACIAR Extension Officer Training Guide Unit 1 Module 1
The extension officer - roles and effectiveness	ACIAR Extension Officer Training Guide Unit 1 Module 2
Knowing Your Farmers	
Getting to know our coffee smallholders	ACIAR Extension Officer Training Guide Unit 2 Module 1
What factors affect smallholder coffee production?	ACIAR Extension Officer Training Guide Unit 2 Module 2
Strongim grup: course facilitator guide	CARE Organisational Strengthening Training

Farmer Training Program

Title	Module reference
Becoming a Coffee Farmer	
Knowing your coffee tree	ACIAR Farmer Training Guide Unit 1 Module 1
Coffee nursery development	ACIAR Farmer Training Guide Unit 1 Module 2
Establishing a new coffee garden	ACIAR Farmer Training Guide Unit 1 Module 3
Managing Your Coffee Garden	
Weed control	ACIAR Farmer Training Guide Unit 2 Module 1
Maintenance pruning and rehabilitation	ACIAR Farmer Training Guide Unit 2 Module 2
Shade management	ACIAR Farmer Training Guide Unit 2 Module 3
Drainage	ACIAR Farmer Training Guide Unit 2 Module 4
Pest and disease management	ACIAR Farmer Training Guide Unit 2 Module 5
Coffee berry borer management	ACIAR Farmer Training Guide Unit 2 Module 6
Soil fertility and nutrient maintenance	ACIAR Farmer Training Guide Unit 2 Module 7
Intercropping in your coffee garden	ACIAR Farmer Training Guide Unit 2 Module 8
Harvesting and Processing Coffee	
Coffee harvesting and processing	ACIAR Farmer Training Guide Unit 3 Module 1
Coffee grading systems and pricing	ACIAR Farmer Training Guide Unit 3 Module 2
Establishing a mini wet factory	ACIAR Farmer Training Guide Unit 3 Module 3
Coffee Marketing	
Understanding the domestic coffee market	ACIAR Farmer Training Guide Unit 4 Module 1
Kamapim ol prairiti	CARE Organisational Strengthening Training
Kamapim ol eksen plen	CARE Organisational Strengthening Training
Setim gutpela kastom bilong ronim grup	CARE Organisational Strengthening Training
Wok bilong meneja na memba na lida	CARE Organisational Strengthening Training
Coffee certification	ACIAR Farmer Training Guide Unit 4 Module 2
Fairtrade certification	ACIAR Farmer Training Guide Unit 4 Module 3
Family money management	CARE Family Money Management Training

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Recommendations for additional training

In addition to this extension officer training module, it is recommended that trainee extension officers also complete the CARE-CIC or Family Farm Teams Program to develop a collaborative approach to training. These training programs can be found at:

CARE-CIC Training Manuals

<https://pngcdwstandard.com/resources-for-use-by-cdws-working-with-wards-communities-groups-and-smes/>

Family Farm Teams Program

The PNG Family Farm Teams Manual

www.aciar.gov.au/publication/books-and-manuals/png-family-farm-teams-manual

Building gender equity through a Family Farm Teams approach

www.aciar.gov.au/publication/books-and-manuals/building-gender-equity-through-family-teams-approach

The farmer-to-farmer adult learning manual

www.aciar.gov.au/publication/books-and-manuals/farmer-farmer-adult-learning-manual

Business Training for Family Teams – A Facilitator’s Manual

www.canberra.edu.au/research/faculty-research-centres/csc/archive/family-farm-teams-program/family-farm-teams-resources/PAU-Business-Skills-Facilitators-Manual.pdf

CONTRIBUTING AUTHORS

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Coffee Industry Corporation Ltd

Reuben Sengere, Matilda Hamago and Emma Kiup

Curtin University

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Commonwealth Scientific and Industrial Research Organisation

Australian Centre for International Agricultural Research

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Improving livelihoods of smallholder families through increased productivity of coffee-based farming systems in the highlands of Papua New Guinea (ASEM/2008/036)

Improving Livelihoods of Smallholder Coffee Communities in Papua New Guinea (ASEM/2016/100)



INTRODUCTION

Aim of Module:

This module introduces the extension officer to the themes and structure of the training package.

The structure of each of the modules in the training package for extension officers and farmers is consistent throughout to simplify usability by extension officers when planning for and conducting training. To deliver effective extension training to farmers using the training package, extension officers need to become familiar with the structure and content of the package and the common themes integrated into all modules.

LEARNING OUTCOMES:

By the end of this module trainee extension officers will have:

- ✓ An understanding of the way the training package is designed and how to use it to deliver training
- ✓ An understanding of the main themes in the training package
- ✓ An appreciation of the qualities needed for a collaborative training approach

LESSON PLAN:

This module has four parts:

Section 1.1 Themes in the training package

Sections 1.2 and 1.3 Structure of the package and modules

Section 1.4 Skills for developing a collaborative approach to training

Section 1.5 Farmer training calendar

TIME REQUIRED TO COMPLETE THIS MODULE: 1 DAY

1.1 THEMES IN THE TRAINING PACKAGE

This training package has been developed to improve extension intervention strategies that seek to increase smallholder productivity and incomes and promote management practices that enable coffee production for smallholder families to be sustainable into the future.

The modules are underpinned by a set of principles related to a 'whole livelihood' approach using low-cost, labour-efficient and environmentally sustainable production methods to enable farm families to increase coffee productivity and quality, and therefore incomes.

Main categories of factors affecting smallholder production

The main categories of factors affecting smallholder coffee production identified in the research, and which are addressed in these modules, include:

- Bio-physical environment
- Agronomic and farm management practices
- Household labour and labour mobilisation strategies
- Household livelihood activities
- Agricultural extension environment
- Market accessibility

Key areas covered in the modules:

1. Understanding smallholder coffee farmers
2. Sustainable coffee-growing practices grounded in the low input system of production
3. Financial and technical aspects of the production process
4. Coffee marketing and the certification process
5. Promoting networking amongst coffee stakeholders

Three important cross-cutting issues through all the modules:

1. The role of women in coffee

Women's contribution to coffee production has declined in recent decades because of what they perceive as underpayment of their labour in coffee. Many women now prefer to invest their labour in livelihood activities like food gardening for markets because they have more control over the income earned. However, when women are paid adequately for their labour in coffee they can contribute much to coffee production, especially in harvesting and processing, and the additional income strengthens family well-being. The extension materials in these modules seek to enhance women's engagement and participation in coffee on a fair and equitable basis in ways that benefit them and their families.

2. Strengthening ecosystem services

Ecosystem services is a term used to describe the benefits provided by the environment, such as water, food or clean air. Throughout the modules there is an emphasis on coffee farming methods that generate ecosystem services, which in turn improve the sustainability of coffee production. Considered in these modules are low-cost, labour-efficient methods to promote ecosystem services which enhance nutrient recycling, reduce the impact of pests and diseases, suppress weeds, and reduce or eliminate the need for fertilisers, pesticides and herbicides. For example, having adequate shade can suppress weeds and reduce the need for manual weeding or the use of herbicides.

3. Coffee berry borer

This devastating pest is now affecting coffee production in many coffee-growing areas in Papua New Guinea. Strategies designed to minimise the impact of the pest are incorporated throughout the training package.

1.2 STRUCTURE OF THE TRAINING PACKAGE

The training package is designed to be very engaging, allowing learners to interact in multiple ways with the content. Activities include village-based training, posters, role playing, quizzes and hands-on training. There are also some practical field exercises and observations.

The first part of the package is an introduction. This contains the background to the development of the package and outlines the source material.

The package is then divided into 2 guides: one guide designed for training new extension officers and one guide designed for training coffee farmers. The modules in the package are listed below. However, further modules may be developed and added to the package if required.

Extension Officer Training Guide

Unit 1: Extension principles

This unit introduces the training package and its use. It then describes the role and expectations of the extension officer, that is, to have a good knowledge of coffee production, in particular smallholder production, be a trainer, a good communicator, listener, problem solver, facilitator of change and, most importantly, to be able to develop strong, respectful relationships with farmers, both male and female.

Unit 2: Knowing your farmers

It is important for extension officers to understand who they are working with and the diversity of situations amongst farmers. Smallholders are a diverse group with different extension needs and priorities. In other words, this unit will assist junior extension officers to understand what it means to be a smallholder with emphasis on them being low input coffee producers. Following on from the modules used to train extension officers are a collection of modules covering the technical aspects of coffee production as well as marketing which the extension officers will use to train farmers.

MODULE NO.	MODULE TOPIC
EXTENSION OFFICER TRAINING GUIDE	
UNIT 1: EXTENSION PRINCIPLES	
1	Introduction to the Coffee Extension Officer and Farmer Training Guides
2	The extension officer - roles and effectiveness
UNIT 2: KNOWING YOUR FARMERS	
1	Getting to know our coffee smallholders
2	What factors affect smallholder coffee production?

Farmer Training Guide

Unit 1: Becoming a coffee farmer

These are the first steps to becoming a coffee farmer. Farmers learn about the coffee tree (functions of each part, cyclical patterns of growth and cherry production), characteristics of different varieties, seedling production and the best practices for farmers to use when establishing a new coffee garden.

Unit 2: Managing your coffee garden

These modules cover all aspects of coffee garden maintenance (managing weeds, pruning, shade, drainage, pests and diseases, and soil fertility) and intercropping coffee. This is in the context of a low input system of production.

Unit 3: Harvesting and processing coffee

Often it is incorrectly perceived that the most critical steps in coffee production are in the production of healthy cherries. However, this is only part of the process. The rewards from producing healthy cherry will only be garnered if the cherry is harvested and processed using best practices. In this unit there is a very strong emphasis on quality, but using simple labour efficient methods to improve quality.

Unit 4: Coffee marketing

This unit focuses on the domestic coffee market and the operation of grower groups – this is important as there are many misconceptions about the coffee market and pricing among smallholders. The unit also includes modules on coffee certification and instruction on financial planning and management. Detailed record keeping, transparency and traceability are required as part of most certification criteria.

MODULE NO.	MODULE TOPIC
FARMER TRAINING GUIDE	
UNIT 1: BECOMING A COFFEE FARMER	
1	Knowing your coffee tree
2	Coffee nursery development
3	Establishing a new coffee garden
UNIT 2: MANAGING YOUR COFFEE GARDEN	
1	Weed control
2	Maintenance pruning and rehabilitation
3	Shade management
4	Drainage
5	Pest and disease management
6	Coffee berry borer management
7	Soil fertility and nutrient maintenance
8	Intercropping in your coffee garden

UNIT 3: HARVESTING AND PROCESSING COFFEE

- | | |
|---|------------------------------------|
| 1 | Coffee harvesting and processing |
| 2 | Coffee grading systems and pricing |
| 3 | Establishing a mini wet factory |

UNIT 4: COFFEE MARKETING

- | | |
|---|--|
| 1 | Understanding the domestic coffee market |
| 2 | Coffee certification |
| 3 | Fairtrade certification |

The complete Smallholder Coffee Production in Papua New Guinea Training Program also contains modules for both extension officers and farmers that have been prepared by CARE-International.

Refer to the table in the front of this book for a list of the CARE modules, how to access them and where they fit in the training program.

1.3 STRUCTURE OF THE MODULES

Module format

Each module in the package follows the same format.

The first sections prepare the extension officer for what the module will cover and what resources are required to complete it:

- Introduction to the topic
- The aim of the module
- Learning outcomes
- Lesson plan
- Teaching aids – these are listed so that the extension officer can source and prepare them prior to training
- Pre-training day activities – this is mostly related to the technical modules where some preparation may be required prior to training, possibly several weeks or months before the training
- Equipment – some equipment may be required for the technical modules so that the farmers can have a hands-on experience
- Preliminary activities
 - » **Coffee calendar** – In each module of the Farmer Training Guide there is an exercise to be undertaken using the coffee calendar. Farmers will identify the different stages of coffee berry development from flowering through to overripe cherry and then insert where other coffee activities fit into these stages of development
 - » **Quiz** - There is a quiz at the end of most modules. It is recommended that the quiz be undertaken prior to commencing training to give the trainer an idea of the level of knowledge that the trainee extension officer or farmer group holds. This will inform the trainer to place more emphasis on areas where their knowledge is weakest. Participants will repeat the quiz at the end of the module to determine how much they have learnt.

Module topics - The trainers will then work through the module topics with the trainee extension officers or farmers and do some activities and exercises throughout to reinforce the information that is being conveyed.

At the very end of each module is a summary of the key points communicated in the module and a list of reading resources for the extension officer to refer to if they require any additional information.

Symbols

The modules in the Farmer Training Guide contain symbols throughout that highlight certain information or tasks for the extension officer. This may include, for example, important information that is to be highlighted or shared with participants or reminders for the extension officer to undertake certain activities with the farmer group. The symbols include the following:



Additional information for the extension officer

This symbol highlights additional information available for the extension officer that does not need to be shared with participants.



Information relating to CBB

This symbol indicates that there is information relating to the coffee berry borer.



Farmer notes

This symbol indicates that there are supplementary notes that the extension officers need to distribute to participants.



Information for farmers that must be taken very seriously

This symbol indicates that the information is very important and must be given special attention by the extension officer.



For the Extension Officer

This symbol indicates to the extension officer that there is an activity to be undertaken by the group.



Danger poison

This symbol is a warning that the product is poisonous and should be treated with care.

1.4 SKILLS FOR DEVELOPING A COLLABORATIVE APPROACH TO TRAINING

The extension officer and farmer training package is built on a platform of collaboration.

Collaboration between extension officers and smallholder families

Effective extension requires more than an extension officer dictating to farmers the best practices required to produce coffee. Collaborating with farmers enables extension officers to:

- Identify the information and knowledge needs of farmers and direct training towards meeting their needs
- Become informed as to the tried and tested production strategies that farmers have adopted or abandoned – what works and what doesn't

Collaboration within families

For the practices recommended in this training package to be effective in improving smallholder livelihoods, it is important that men, women and youth work together as a family farming unit. For this to occur:

- Production strategies should be inclusive of all adult family members
- Labour shortages are the biggest constraint on coffee production. The benefits of equitable treatment of family members, including payment of labour, should be emphasised by extension officers

Recommendations for additional training

Training manuals have already been developed by other groups that focus on principles of families and communities working together.

Before starting the modules in the Farmer Training Guide it is recommended that extension officers undertake training under the CARE-CIC or Family Farms Team program to develop a collaborative approach to training.

CARE-CIC Training Manuals

<https://pngcdwstandard.com/resources-for-use-by-cdws-working-with-wards-communities-groups-and-smes/>

The PNG Family Farm Teams Manual

www.aciar.gov.au/publication/books-and-manuals/png-family-farm-teams-manual

Building gender equity through a Family Teams approach

www.aciar.gov.au/publication/books-and-manuals/building-gender-equity-through-family-teams-approach

The farmer-to-farmer adult learning manual

www.aciar.gov.au/publication/books-and-manuals/farmer-farmer-adult-learning-manual

Business Training for Family Teams – A Facilitator’s Manual

www.canberra.edu.au/research/faculty-research-centres/csc/archive/family-farm-teams-program/family-farm-teams-resources/PAU-Business-Skills-Facilitators-Manual.pdf

1.5 FARMER TRAINING CALENDAR

It is preferable that farmer training be delivered at appropriate times throughout the year to coincide with relevant activities in the coffee cycle. Careful consideration should be given to the demands on farmers' time because too much disruption of their time would be a disincentive to attend training.

Avoid delivering modules during the coffee season when farmers are busy harvesting, or when they are busy with special celebrations like end of school year festivities

Training content may also have to be adapted to meet the different needs of farmers. This may be determined by circumstances such as climate, level of farmer knowledge or distance from markets.

Calendar of delivery for modules in the Farmer Training Program

SOURCE	MODULE TOPIC	PREFERRED TIME OF DELIVERY IN COFFEE CYCLE
BECOMING A COFFEE FARMER		
ACIAR	Knowing your coffee tree	any time
ACIAR	Coffee nursery development	any time
ACIAR	Establishing a new coffee garden	any time
MANAGING YOUR COFFEE GARDEN		
ACIAR	Weed control	any time
ACIAR	Maintenance pruning and rehabilitation	After the main coffee season/flush period
ACIAR	Shade management	Before the main flowering period
ACIAR	Drainage	any time
ACIAR	Pest and disease management	any time
ACIAR	Coffee berry borer management	any time
ACIAR	Soil fertility and nutrient maintenance	any time
ACIAR	Intercropping in your coffee garden	any time
HARVESTING AND PROCESSING COFFEE		
ACIAR	Coffee harvesting and processing	Before the start of the coffee season/flush period
ACIAR	Coffee grading systems and pricing	Before or just after the main coffee season/flush period
ACIAR	Establishing a mini wet factory	any time
COFFEE MARKETING		
ACIAR	Understanding the domestic coffee market	any time
CARE	Kamapim ol prairiti	any time
CARE	Kamapim ol eksen plen	any time
CARE	Setim gutpela kastom bilong ronim grup	any time
CARE	Wok bilong meneja na memba na lida	any time
ACIAR	Coffee certification	any time
ACIAR	Fairtrade certification	any time
CARE	Family money management	any time

1.6 SOURCES OF FURTHER INFORMATION

CIC (2016) *The Papua New Guinea Coffee Handbook* (2nd Edition)

Curry GN, Webb M, Koczberski G, Pakatul J, Inu SM, Kiup E, Hamago MR, Aroga L, Kenny M, Kukhang T, Tilden G and Ryan S (2017) Final report, 'Improving Livelihoods of Smallholder Families through Increased Productivity of Coffee-based Farming Systems in the Highlands of Papua New Guinea' (ASEM/2008/036). Available at:

<https://espace.curtin.edu.au/handle/20.500.11937/54174> or www.aciar.gov.au/publication/asem-2008-036-final-report

Koczberski G, Sharp T, Nake S, Curry G, Sengere R, Nailina R, Koia M, Austrai- Songtava L, Wesley J, Peter E, Hamago M and Bue V (2021) Final report, 'Identifying opportunities and constraints for rural women's engagement in small-scale agricultural enterprises in Papua New Guinea' (ASEM/2014/054). Available at: <https://www.aciar.gov.au/publication/technical-publications/identifying-opportunities-and-constraints-rural-womens-engagement-small-scale>

Other training manuals complementary to the Extension Officer and Farmer Training Guides can be found at the following websites:

CARE Training Manuals

<https://pngcdwstandard.com>

Family Farm Teams Program

www.canberra.edu.au/research/faculty-research-centres/csc/livelihoods-and-learning-for-sustainable-communities/family-farms-teams-program



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