

# Agroecological strategies among Ivorian cocoa farm clusters:

## Links between farm characteristics and varying ecological cultivation strategies

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Cocoa agroforestry system in Côte d'Ivoire, © A. Tokou 2022

## Abstract

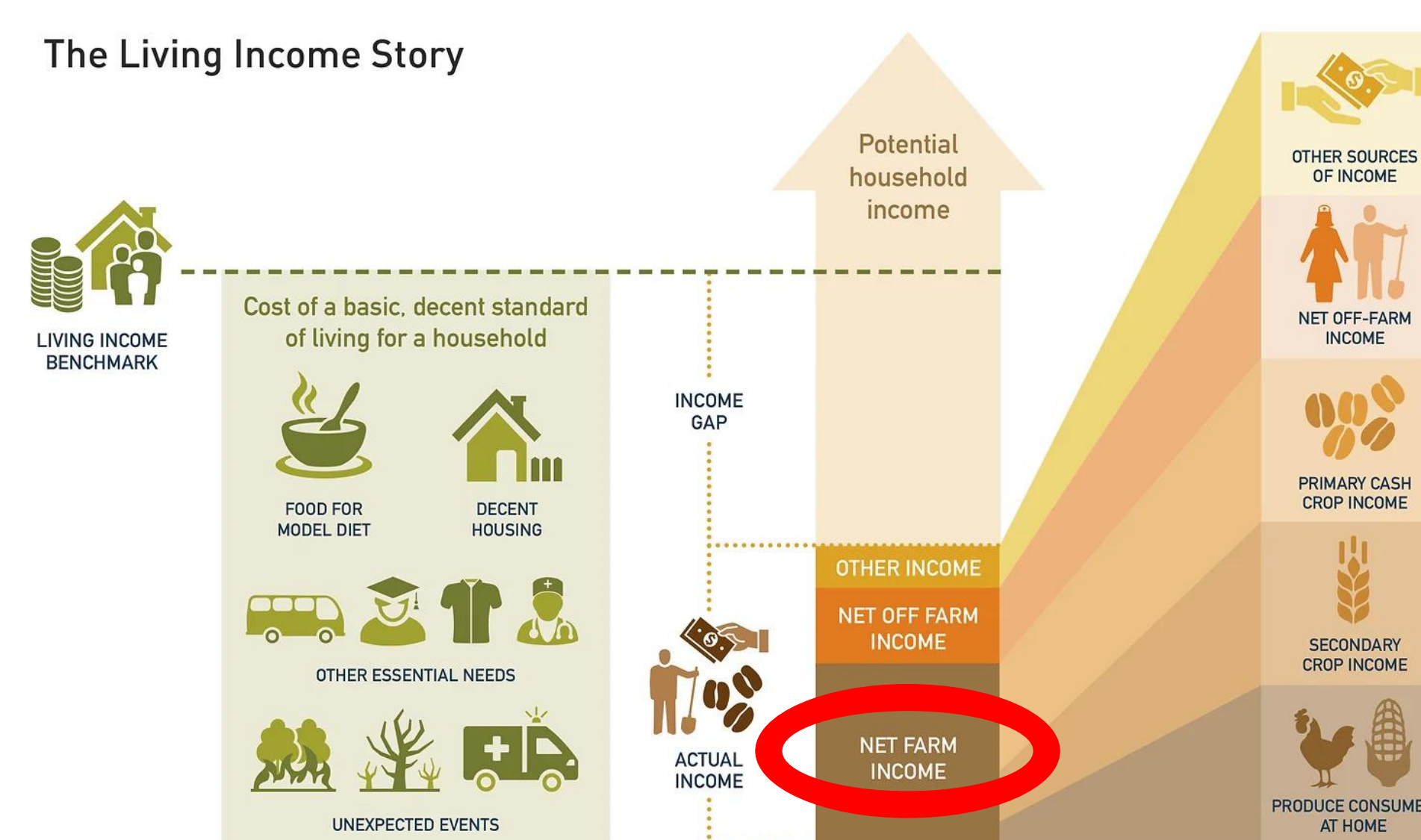
Focusing on the variances between different farm clusters and farmers' perceptions regarding most pressing production and livelihood challenges as well as difficulties with the application of sustainability training contents such as cocoa agroforestry systems, Farmer Business Schools, and on-farm diversification strategies, this study seeks to contribute to an improved understanding of impact factors for farmers' decision to apply agroecological cocoa cultivation practices in Côte d'Ivoire. These insights build an important basis to understand the potential of agroforestry systems to reduce cocoa farmers' living income gap. This study represents the first research question of the PhD project „Developing an assessment framework to co-design livelihood strategies for cocoa farmers benefiting from sustainable production: Enhancing living income in enabling environments in Côte d'Ivoire“, conducted as part of the research project „PRO-PLANTEURS Research: Accompanying research on measures to achieve a living income for smallholders and increase sustainable cocoa production“.

## Introduction

- Many efforts to deliver trainings on sustainable cocoa production by multiple value chain actors over past years
- Initial focus of mainstream sustainability interventions on Good Agricultural Practices but recent shift towards inclusion of agro-ecological elements, e.g. agroforestry systems and on-farm diversification
- Up until today, almost no insights on adoption rates and reasons for cocoa producers' decision to apply agro-ecological practices
- The study analyses adaptation rates and reasons for different household types and how these affect their living income gaps

## Living Income Approach

The Living Income Story



Source: Living Income Community of Practice, 2022.

“The net annual income required for a family in a particular place to afford a decent standard of living for all members of that family. Elements of a decent standard of living include: food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events.”

## Research design

### Research questions:

- RQ1: How do farm and household characteristics impact cocoa farmers' perceptions towards livelihood and production challenges, including the ability to adapt agroecological practices?
- RQ2: Where do cocoa producers from different farm types see most need for change regarding sustainability interventions and in their local enabling environment?
- RQ3: What are cocoa producers' attitudes towards agroforestry and diversification trainings?

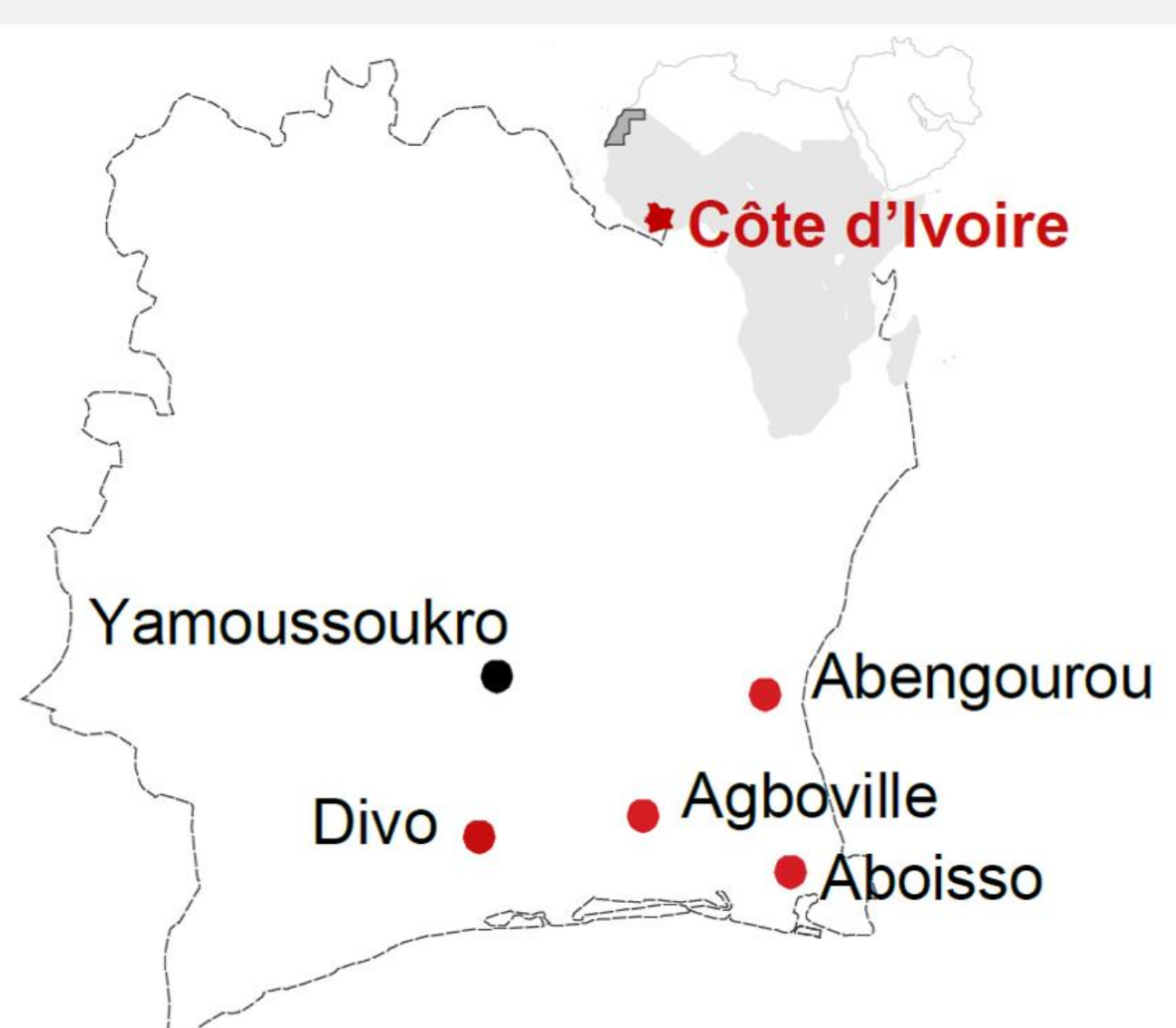


Figure: Regions PRO-PLANTEURS 1+2 (© GIZ)

### Mixed methods approach:

- Socio-economic household survey among PRO-PLANTEURS targeted cocoa farmers in Côte d'Ivoire (N=300, June 2022)
- Semi-structured interviews with cocoa farmers, cooperative representatives, and PRO-PLANTEURS stakeholders (ongoing)
- Expert workshop and focus group discussions (June 2022)
- Research areas: PRO-PLANTEURS project areas in Côte d'Ivoire (see map)



Cocoa tree, Côte d'Ivoire, 2022 © F. Ollendorf

### Data analysis:

- 4 HH-types based on Koné and Mawoudoudji (2022):  
Type1: younger smaller farm, type 2: older experienced farms, type 3: large cocoa farms; **type 4: female headed farms**
- Main factor analysis, hierarchical clustering analysis
  - Descriptive statistics and statistical tests
  - Regression analysis
  - Qualitative content analysis

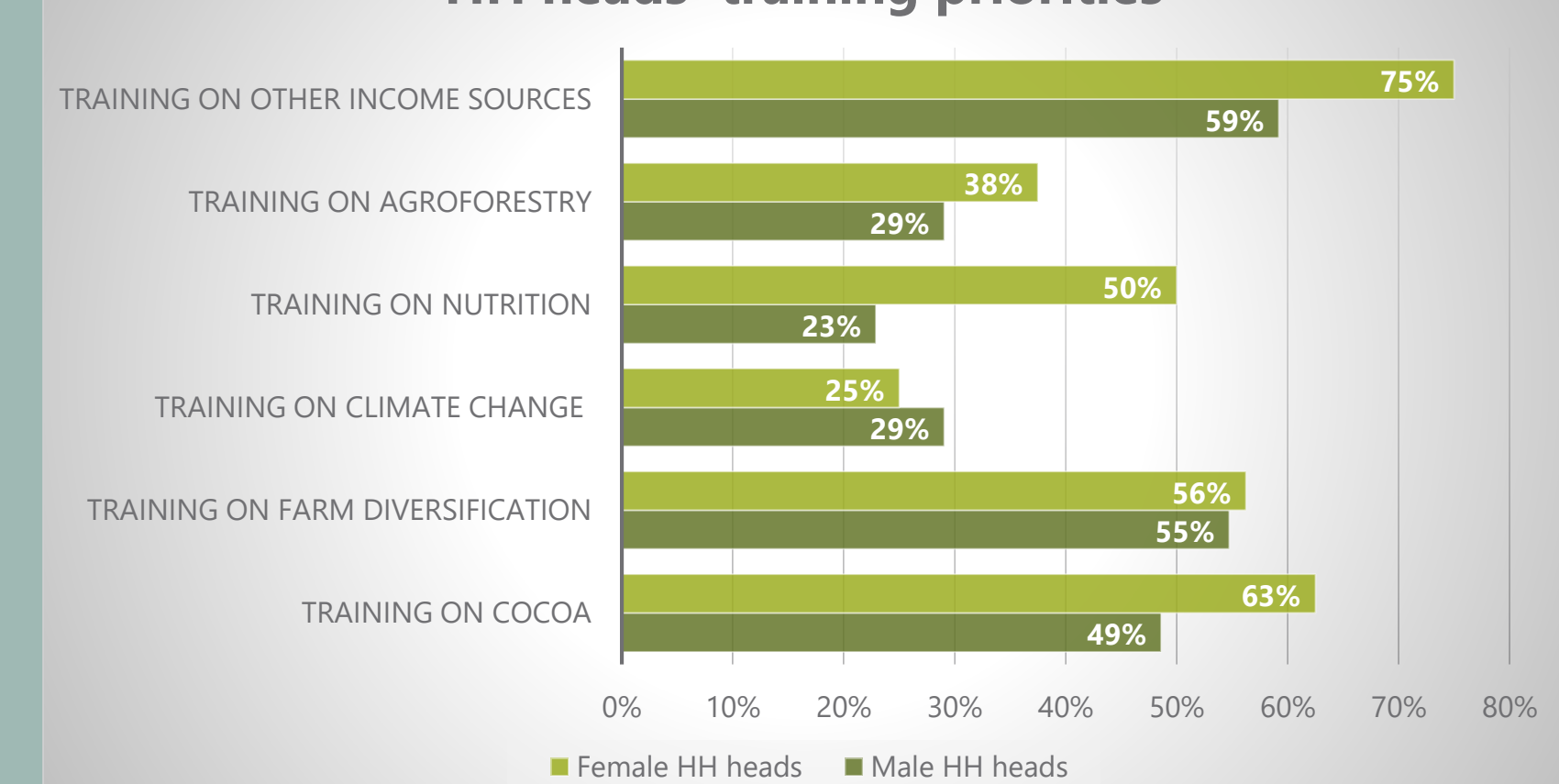
## First findings for farm type 4

### Selected HH head's characteristics and perceptions

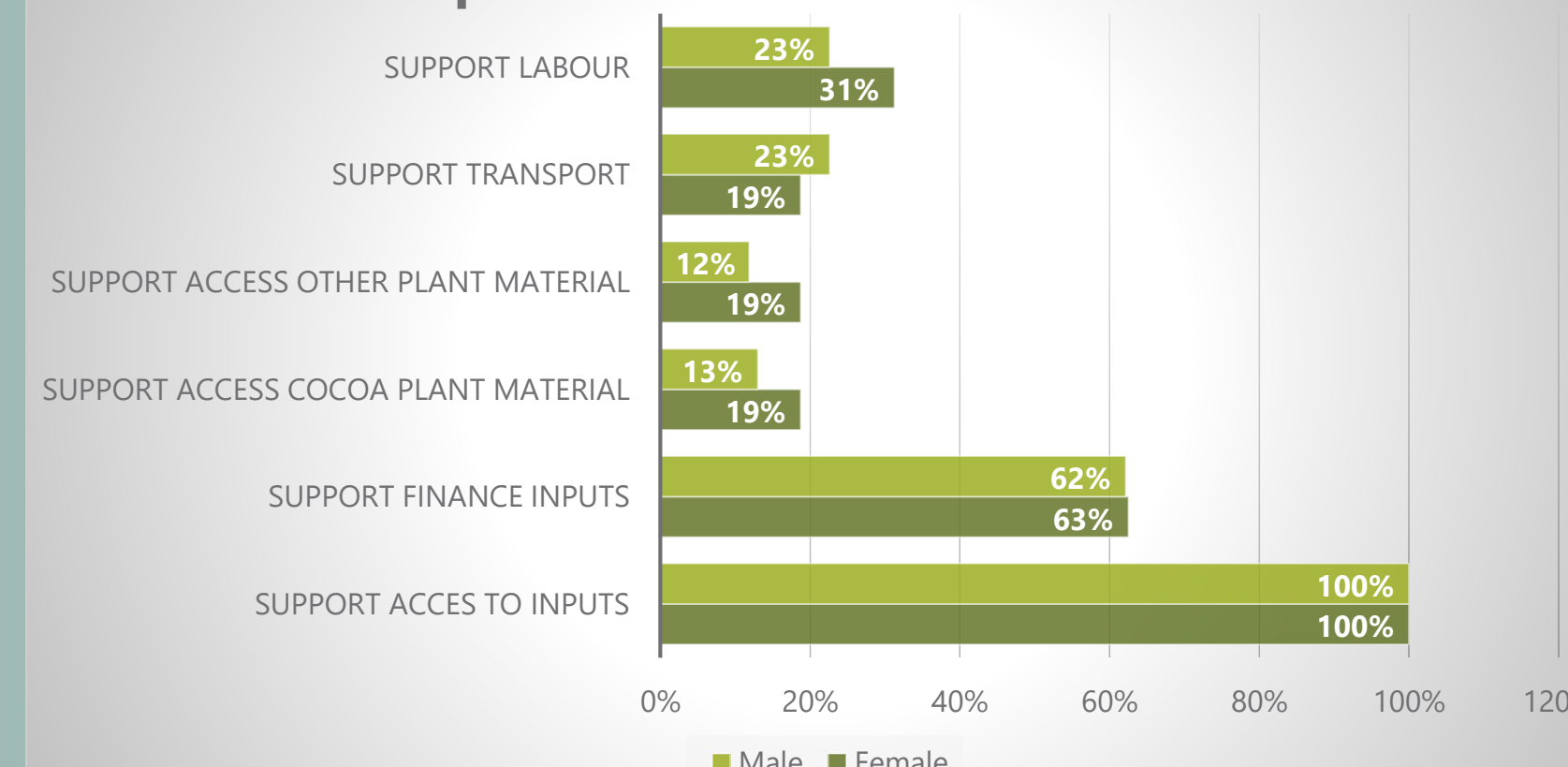
Variable	female HH head	male HH head
Mean HH size	4,7	7,3
Mean cocoa farm size (ha)	2,7	2,8
Mean yield (kg)	918	1675
Food situation (likert scale*)	2,6	2,7
Access to education (likert scale*)	3,3	2,8
Savings (likert scale*)	2,8	2,7

\* 1-5 likert scale with 1=very easy and 5 very difficult

### HH heads' training priorities



### HH heads' priorities of needs



### HH head's application of selected agroforestry training contents

Variable	female HH head	male HH head
Application of agroforestry training contents	32%	67%
Planting of shade trees	88%	88%
Forest conservation techniques	0%	11%
Wasteland management	0%	12%
Compost	13%	11%

## Outlook/next steps

- Further development and specification of the farm types
- Deepening understanding of success determining factors (positive deviance)
- Assessing socio-economic benefits of agroecological practices, esp. regarding reduction of Living Income gap

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