SUSTAINABLE COCOA PRODUCTION IN SOUTHERN CAMEROON
Potential and Contraints of Integrated Pest Management (IPM)

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1. Background and Introduction

About 70% of the world's cocoa is grown traditionally in West Africa and as much as one third of the crop is lost every year due to pests and diseases. In Cameroon, Cocoa (Theobroma cacao Linn.) is a major perennial cash crops predominantly cultivated by smallholders in small scale in the humid forest zone; zone 4 & 5 (figure 1). It is an important source of farmers income in these regions. It is a low input system with no use of mechanisation in farm activities. The system relies greatly on diverse shaded canopy and chemical fungicides with relatively low productivity (Kazianga and Sander, 2002).
In Cameroon, pest and disease account to about 80% of yield loss in cocoa farms (Nyasse, 1997; Bakala and Kone, 1998) resulting to stagnant/decreasing yield, reduced income, poverty/food insecurity, deforestation and loss of biodiversity. Compared to other agricultural activities, cocoa has been a leading sub-sector in the economic growth and development of Cameroon.

1.2. Research Objective

To analyse the potentials and constraints to sustainable cocoa production in Southern Cameroon through the use of Integrated Pest Management (IPM) techniques. Specifically, the study probe into the following:
•Identify current Integrated Pest and Management practices by smallholders.
•Assess the factors that favour the adoption of the Integrated Pest Management (IPM) techniques.

2. Methodology of the Study

Ikiliwindi and Konye community of Meme Division in the South West Region of Cameroon, one of the major producing cocoa areas were chosen for the study (figure 2). Both primary and second data were collected. To attend the objectives of this study, semi structure interview was conducted to 20 smallholders using a guided questionnaire, focus group discussion with some members (president-manager and secretary general) of common initiative groups and cooperative, direct field observation and lastly key informant interviews conducted with some stakeholders (actors) in the cocoa sector using the Participatory Rural Appraisal method and tools. The 20 smallholders that the questionnaire was administered are graduated of the farmer field school (FFS) conducted by International Institute of Tropical Agriculture (IITA) under it Sustainable Tree Crop Program (STCP). The data collected were qualitative and the information's were presented in tables below.

3. The Current IPM Practice

From field data collection, it was identified that the current IPM practice introduced by IITA/STCP were as follows; shade management, clearing/weed control, pruning technique, period of harvesting, sanitation care of the cocoa tree, spraying, drying techniques, marketing and providing resistance varieties.
The smallholders ranked these listed practices into classes (first, second & third) in order of importance according to time of labour and capital requirement.
From the table 1, 2 and 3, pruning, clearing and harvesting were listed according to decreasing order (from the most to the least) concerning time in labour and capital investment in the activity.

Table 1: First Class

	Frequency	%
Pruning	10	50
Spraying	05	25
Clearing	03	15
Respond	18	90
Non respond	02	10
Total	20	100

Source: Survey data

Table 2: Second Class

	Frequency	%
Clearing	12	60
Pruning	04	20
Harvesting	01	05
Replacement of plant	01	05
Respond	18	90
Non respond	02	10
Total	20	100

Table 3: Third Class

	Frequency	%
Clearing	12	60
Pruning	04	20
Harvesting	01	05
Replacement of plant	01	05
Respond	18	90
Non respond	02	10
Total	20	100

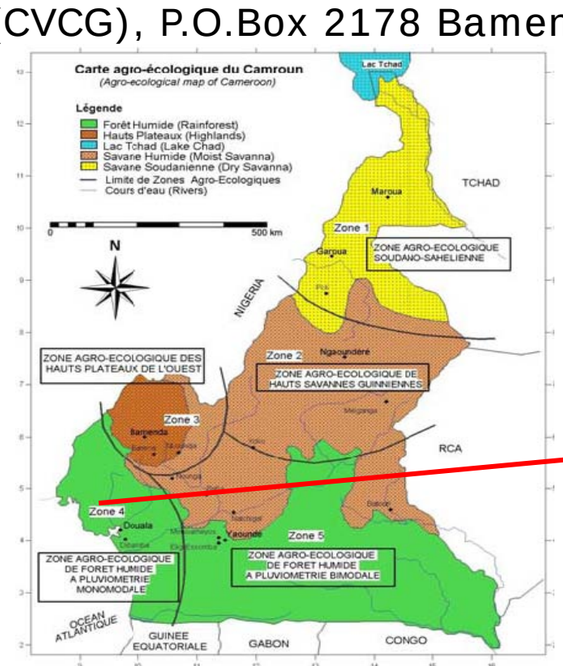

Figure 1: Main agro-ecological zones in Cameroon
Source: IRAD

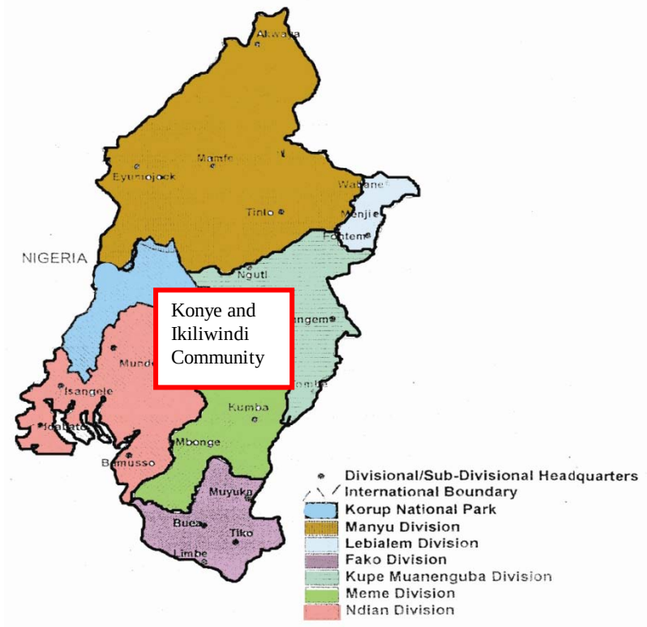

Figure 2: Map of the South West Region of Cameroon
Source: MINEF 2002

4. Motivation of Smallholders to Engage in IPM

From the data analysis, 100% of smallholders used chemicals (heavy spraying with pesticides) in the treatment of pests and diseases before participating in the farmer field school (FFS). While 100% of those interviewed said, they will continue to practice the Integrated Pest Management methods. Concerning why they are currently using the Integrated Pest Management (IPM), 55% said practicing IPM, production is good and yield encouraging, 25% said in future they are sure labour will be reduce and while 20% said less chemical application is required in IPM process resulting to reduce cost (Table 4).

Table 4: Reasons for current application of IPM

	Frequency	%
Production good and encouraging	11	55
Less labour requirement in future	05	25
Reduce chemical application	04	20
Total	19	100

Source: Survey data

Image 1: Cocoa pod affected with black pod disease
Source: Nfinn, 2005

Images 2: New cocoa tree developing from the cut parent plant
Source: Author

5. Factors Favouring the Adoption of IPM

•Traditional knowledge of smallholders in cocoa production

The indigenous knowledge of the smallholders plays a very important role in cocoa production.

•Favourable climatic and geographical conditions

The region is located at the foot of Mount Cameroon consist the highest rain fall region in Africa with its rich forest cover with a very short dry seasons and precipitation. These make the study area to have a very good soil and vegetation for cocoa cultivation.

•Current encouraging price of cocoa in the world market

The current world price stimulate smallholders to adapt to new production techniques in order to derive the extra benefits.

•Marketing structure of cocoa in the study area

The numerous licence buying agents and cooperative in the study area stimulate smallholders to search for better ways to produce more taken advantage of the marketing situation.

6. Conclusion and Recommendations

At present the cocoa sector is under danger. Therefore, since cocoa production is the principal export cash crop of smallholders in these regions, its protection and promotion will offer significant opportunities for poverty alleviation and sustainable development

Since Integrated Pest Management rely greatly on the cultural and agronomic aspect, smallholders should be very careful in carrying out these operations. Generally, it can be concluded that IPM requires extra labour for the process to effective accomplish.

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