The ‘Livelihood’ Challenge and Sustainable Agriculture: Evidence from Smallholder Cocoa Farming Households in Nigeria

By Oluwafunmiso Adeola Olajide\textsuperscript{1} Ayodeji Ojo\textsuperscript{1}, Kehinde Adesina Thomas\textsuperscript{2} and Molatokunbo Seun Olutayo\textsuperscript{3}

\begin{itemize}
\item \textsuperscript{1}University of Ibadan, Dept. of Agricultural Economics, Nigeria
\item \textsuperscript{2}University of Ibadan, Dept. of Agricultural Extension and Rural Development, Nigeria
\item \textsuperscript{3}University of Ibadan, Inst. of African Studies, Nigeria
\end{itemize}

Email: preciousfunso@yahoo.com
Introduction

• Global Trade
  • Exchange of goods resources
  • Individuals/companies
  • Across borders: Legal/Illegal
  • Governments

Smallholder farmers (300,000 – 350,000)
some commercial plantations
Total land area: 1,400,000 hectares

Figure 1: Source: NEPC, 2017
Figure 2: Source: NEPC, 2017
Introduction

The Debate: Conventional or Agro-ecological Production

- Nutrient, market, environment, food safety, sustainability
- Wrong or right?
- Reframing?
- Context?
- What could be missing or what is being overlooked?
- ‘Livelihood’ challenge
- Complexities framing choices
- Consideration of existing VCs in the debate

Figure 3: Source: Oguntade, cited in MAFAP 2013
Problem Statement

• What complexities underlie farmers’ decisions in cocoa production
  • The trajectories into the sector;
  • current production practices
  • commercialization models

Agricultural Policy Research in Africa
The pathways to agricultural commercialization in Sub-Saharan Africa;
How do farmers engage with commercial agriculture from production to processing and marketing; and the effects these pathways have on women and young people
Methodology

• Study Area
  • Osun, Ondo and Ogun States
  • Low and High cocoa producing zones in each state

• Research Approach
  • Mixed method
  • Sequential exploratory
    • Qualitative
    • Quantitative

• Data Analysis
  • Descriptive
  • Probit and Tobit Regression Models
Results

- Local Political and Socio-Cultural structures (+ or – WOMEN) + URBANIZATION
  - Land
  - Labour
  - Migration
  - Wealth structure (urbanization influence is positive)
  - Gender roles

- Local Resource ‘markets’ and Resource Use/Allocation
  - land, labour, agro-chemicals and credit markets governed by economic and socio-cultural factors;
  - Conflicts

- Cocoa Production and commercialization
  - Decline in production driven by:
    - Poor technology, poor knowledge of the agro chemicals to use, low quality of chemicals, changing family structure etc.
  - Leading to
    - limited livelihood opportunities, poor income, nutrition etc.
    - Return’ or development of alternative livelihood activity-oil palm, food crops, grocery store, bike riding
Results

EFFECTS

- Poor social status
- Low well-being
- Worsening food security
- Limited livelihood opportunities
- Poor nutrition status
- Poor children education

CORE PROBLEM: Decline in cocoa production

ROOT CAUSES

- Age of Cocoa Trees
- Parasitic Organisms
- Lack of Improved Cocoa Varieties
- High cost of inputs
- Poor Knowledge of Agrochemicals
- Low quality chemicals
- Climate change
- Poor Enabling Policy Environment
- Poor Access to Extension Services
Results

- **Decision Making**
  - Production
  - Processing
  - Marketing
  - Use of own resource
  Over 70% taken by HH and the focus is increased revenue and improved social status (capital accumulation)

- **Commercialization**
  - Output (very high)
  - Land (high)
  - Labor (low) Nature of the ‘exchange’?

- **Cocoa Production and commercialization**
  - Decline in production driven by:
    - Poor technology, poor knowledge of the agro chemicals to use, low quality of chemicals, changing family structure etc.
  - Leading to
    - limited livelihood opportunities, poor income, nutrition etc.
    - Return’ or development of alternative livelihood activity
## Results

### Table 1: Estimates of Probit Regression

| Variables                      | Coefficient | Standard Error | P>|z| |
|--------------------------------|-------------|----------------|-----|
| Variety of Cocoa cultivated    | 0.56        | ±0.23          | 0.02|
| Family size                    | -0.07       | ±0.03          | 0.02|
| Non-farm income source         | -0.39       | ±0.22          | 0.07|
| Sex of Household head          | 0.02        | ±0.30          | 0.95|

Number of obs = 166  
LR chi^2(10) = 24.70  
Prob > chi^2 = 0.0060  
Log likelihood = -101.25244  
Pseudo R^2 = 0.1087
## Results

### Table 2: Estimates of Tobit Regression

| Variables                                      | Coefficient | Standard Error | P>|t| |
|------------------------------------------------|-------------|----------------|-----|
| Total expenditure \( (N) \)                  | 3.70e-08    | ±9.41e-09      | 0.00|
| Family size (Number)                          | 0.000       | ±0.000         | 0.00|
| Cocoa cultivated as main crop \( 0/1 \)       | 0.003       | ±0.001         | 0.03|
| Non-farm income source \( 0/1 \)              | 0.001       | ±0.001         | 0.58|
| Membership of Association \( 0/1 \)           | 0.002       | ±0.001         | 0.06|
| Farm Size (Hectares)                          | -7.57e-06   | ±0.000         | 0.83|

/\( \sigma \) | .0048784 .0005587 .0037751 .0059818 |

117 left-censored observations at Market Share <= .005
52 uncensored observations
0 right-censored observations

Number of obs \( = 169 \)
LR chi\(^2\)(11) \( = 24.70 \)
Prob > chi\(^2\) \( = 0.0000 \)
Log likelihood \( = 152.46332 \)
Pseudo R\(^2\) \( = -0.1584 \)