Cocoa, a tree of change rather than a change of tree

International Symposium “Cocoa, a tree of change”
Kumasi 28-29 October 2008

François Ruf
CIRAD
The starting point: African hegemony on the cocoa sector: until when?

Production mondiale de cacao par continent
« Cacaoculture de grands propriétaires »: seulement efficace quand les prix sont élevés

‘A country has to be killed’...It will not be Malaysia’ (1990)

Production de cacao en Malaisie et Brésil

Années

Milliers de tonnes

Prix (Us Cents / £)

Balai-de-sorcière et CPB

Malaisie

Brésil

Prix international

0

20

40

60

80

100

120

140

160

180

200

0

20

40

60

80

100

120

140

160

180

200

1. From Boom to Bust.
From wealth to risks of chaos

Competitiveness between producers, countries, regions, is not ‘static’,
- neither in terms of production
- or quality (showcase of Southern Philippines in 1990)
  (showcase of Côte d’Ivoire in the 1990s and 2000s)

It must be approached in a dynamic perspective

A model,

- as a tool to understand this dynamic of competitiveness

- putting cocoa at the crossroads of economic, ecological, institutional and political changes
FORREST

\[ \text{Land} + \text{Forest rent} \]

- Consumption of the forest rent
- Ageing of plantations
- Ageing of migrants
- Indebtedness
- Development of land rents and a land market

Ecological accidents

- Structural ecological change and increasing costs
  - weeds
  - pests and diseases
  - disturbed rainfall pattern
  - winds
  - timber scarcity
  - protein scarcity

COCOA BOOM

- More difficult access to land

Structural emergence of land and inter-generational conflicts

MIGRATIONS

- Pushing factors that free up labour flows from neighbouring regions
  - drought, flooding
  - Economic collapse
  - Technical progress and savings (green revolution)

- Pulling factors
  - Roads and tracks,
  - Logging companies recruitment
  - Information
  - Planting material

Fall in local yields and local supply

Technical, institutional and financial
Replanting difficulties

Market supply

Surplus

- Fall in absolute prices and relative prices
- DIVERSIFICATION if alternative crops and activities

Exogenous informations and Copying effect

COCOA RECESSION

Price rise often benefiting another region or another country
FOREST = Land + Forest rent

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Market supply Surplus

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DIVERSIFICATION

Technical, institutional and financial Replanting difficulties

Fall in local yields and local supply

Surplus

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Fall in local yields and local supply
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Market supply Surplus
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COCOA RECESSION

DIVERSIFICATION if alternative crops and activities
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Exogenous informations and Copying effect
2. Illustration of economic changes
Impact of prices and revenues on competitiveness
Production de cacao au Nigeria et Cameroun
1970/71 - 2007/08

Libéralisation et Augmentation du prix au producteur
Ghana: 1990s: also an efficient partial liberalization

1970s: a way about how to kill an industry

Cocoa. Production and real producer price in Ghana.
1960-2008

Low price, low production,
Low revenues…
.and nothing to buy
Despite some decisive improvements, the daily life and labour productivity of coca farmers remains relatively poor.
Producer Price and Purchasing power
A major trump for Southeast Asian producers
En interaction avec tous les facteurs de prix, de politique monétaire, de politique de non-taxation, de disponibilité de forêts, de migrations massives, cette traduction en réel boum du pouvoir d’achat a certainement joué un rôle clé dans le boum cacao de Sulawesi.

**Le boum cacao de l'Indonésie**

Sulawesi, relayé par les autres îles?

1970-2007
## Purchasing power of cocoa in the three main producing countries in early 2008

<table>
<thead>
<tr>
<th>Country</th>
<th>How many kg of rice can be bought by one kg of cocoa?</th>
<th>How many kg of cocoa are needed to buy one 100 cc motorcycle?</th>
<th>How many kg of cocoa are needed to buy one fertilizer bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>4.2</td>
<td>800</td>
<td>8</td>
</tr>
<tr>
<td>Ghana</td>
<td>1.5</td>
<td>2900</td>
<td>14</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td>1.1</td>
<td>5500</td>
<td>52</td>
</tr>
</tbody>
</table>

Sources: survey Ruf (CIRAD)
Fertilizer adoption and Cocoa price around Soubré (Côte d'Ivoire)

![Graph showing fertilizer adoption and cocoa price over years](image-url)
Yield per hectare and Fertilizer adoption around Soubre (Côte d'Ivoire)

Yield

Fertilizer rate of adoption

kg/ha

Number of Fertilizer bags

years
Prix du cacao au producteur en Côte d’Ivoire
1960 à 2007

Cassure en 1988 / 89
Dévaluation en 1994

Prix courant — Prix constant 1994
Conjonction des cycles de vie de la plantation et du planteur

« Notre papa est malade de la prostate il lui faut 1.300.000 F pour son opération. On nous demande 300.000F pour les premiers soins pour le sauver. A cause des mortalités des cacaoyers et du mauvais prix du cacao, on a rien envoyé ».

Ce planteur avait eu le courage de quitter son village et migrer vers les forêts du sud, pour planter le cacao et contribuer à la richesse du pays. 30 ans plus tard, il est trahi par le cacao et le prix du cacao.

- il n’y a plus d’argent pour fertiliser les cacaoyères,
- il n’y a plus d’argent pour payer l’hôpital.

Faute de pouvoir se « soigner mutuellement », le planteur et sa plantation : tombent malades ensemble et meurent ensemble.
Cocoa Production per Country
Côte d'Ivoire, Ghana, Indonesia
1955/56 - 2007/08

Thousands of tons

years

Côte d'Ivoire
Ghana
Indonesia
One of the explanation of the cocoa resilience in Côte d’Ivoire was the worsening itutaiaion of the coffee sector.
« Rubber makes you as a civil servant »

(presented at WCF, Washington, Oct 2006)

Production of natural rubber in Côte d'Ivoire

![Bar chart showing rubber production in Côte d'Ivoire from 1961 to 2018.]
3. Illustration of Ecological changes as Pushing factors towards higher or lower competitiveness
March 2005

Planting and cocoa hybrid adoption

Axim-Asasetre area. Western region, Ghana

<table>
<thead>
<tr>
<th>Planting Periods</th>
<th>Acres</th>
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<tbody>
<tr>
<td>&lt; 1960</td>
<td></td>
</tr>
<tr>
<td>1960-69</td>
<td></td>
</tr>
<tr>
<td>1970-79</td>
<td></td>
</tr>
<tr>
<td>1980-89</td>
<td></td>
</tr>
<tr>
<td>1990-99</td>
<td></td>
</tr>
<tr>
<td>2000-05</td>
<td></td>
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</tbody>
</table>

- Coconut
- Oil Palm
- Cocoa
- Rubber
On the opposite, the biological/ecological change also brings cocoa to a dangerous point.
From Ecological change to a change of tree
The cocoa/oil palm showcase: Kade, Eastern region of Ghana

<table>
<thead>
<tr>
<th></th>
<th>Cocoa farmers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>who diversify</td>
<td>who do not diversify</td>
</tr>
<tr>
<td>cocoa + oil palm</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Several hectares of cocoa</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>destroyed by fire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No fire in their cocoa farm</td>
<td>44%</td>
<td>56%</td>
</tr>
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</tbody>
</table>
4. Illustration of the **Interacting** Economic and Ecological changes
Cocoa. Production and real producer price in Ghana. 1960-2008

Production (X 1000 tonnes) 1994 real price (1994 cedis / kg)
Cocoa. Production and ecological change in Ghana. 1960-2008

Production (X 1000 tonnes)

1983 fires

Years

60/61 63/64 66/67 69/70 72/73 75/76 78/79 81/82 84/85 87/88 90/91 93/94 96/97 99/00 02/03 05/06 08/09

Production
Cocoa. Production and real producer price in Ghana.
1960-2008

- Production (X 1000 tonnes)
- 1994 real price (1994 cedis / kg)

1983 Fires
4. Illustration of Pushing factors: social/institutional changes
1. 18th century - Venezuela
   Sugar cane estates: slaves are freed
   This liberates labour and energy to generate a smallholder cocoa sector

2. 20th century – Eastern Indonesia: Sulawesi
   From the DI/TII rebellion in the 1950s to the peace agreement in the 1960s and the cocoa boom in the 1970s
   A network to spread information and knowledge about cocoa and about remote fertile places

3. 21th century – Western Indonesia: Aceh
   From the GAM rebellion in the 1970s to the Tsunami in 2004, the Helsinki peace agreement in 2005 and the expected cocoa boom in the 2010s
Cocoa adoption, price and peace in Aceh
Provisional estimate of the trend
Back to the cocoa belt of Soubré: Cocoa belt until when?
Ageing factors, inter-generational and social conflicts, policy difficulties, and economic alternatives
5. Food crops
   opportunities and constraints
   Complementary aspects and competition
Sulawesi cocoa smallholders’ capacity to respond the rocketing price of maize
Comparative prices of cocoa and maize do not explain much.
Revenus par hectare du cacao et du maïs
2001-2008

Revenu / ha (x 1000 Roupies)

Années

Revenus cacao
Revenus du maïs
Pourquoi cette réactivité sur le maïs?

- Une taille de la famille plus réduite en Indonésie favorise la commercialisation de surplus
- Une demande interne forte
- Changement biologique (maladies/dégâts du cacaoyer) et revenus relatifs
- Progrès technique: hybrides, engrais et machines
- Un réseau de commerçants bugis
- Crédit et transactions assurées par le réseau de commerçants
  - Hybrides
  - Engrais
One key of that impressive capacity of cocoa smallholders to respond to the rocketing price of maize: Hybrids made available to farmers through a network of middlemen.
Cocoa farmers in Noling who started to cut down cocoa and replant with selected planting material

57% of them say that they would have done it without the maize revenues but acknowledge that the maize opportunity encouraged them.

43% state that they would have not done it without the maize opportunity.

Food crop competing with cocoa or complementary to cocoa?

Maize and cocoa replanting in Sulawesi
A promising process
Some potential ‘lessons’ in terms of food policy and cocoa replanting in West-Africa ??
Migrations and innovations: Herbicides.
The Soubré showcase

Adoption of herbicides = 2004
Land renting contract = 1990s

Two indicators of a tentative increase of food crop production, but mostly for self-consumption - labour saving technology - kind of ‘fertilizer’

Adoption and use of herbicides on food crops in Soubré

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own land reserve</td>
<td>1 034</td>
<td>2 010</td>
<td>3 713</td>
<td>3 641</td>
</tr>
<tr>
<td>rented land</td>
<td>1 070</td>
<td>1 001</td>
<td>1 719</td>
<td>2 389</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2 103</td>
<td>3 011</td>
<td>5 432</td>
<td>6 030</td>
</tr>
</tbody>
</table>

Migrations and innovations: A beginning of organic fertilizer adoption: chicken dump
+- 2 to 3% of cocoa farms in Côte d’Ivoire and Ghana

(spread of information about its efficiency … in home villages)
Conclusion: A non negligible risk of cocoa decline in some African countries

Top priorities

- Seriously increase the cocoa Producer price in West-Africa. This is economically and socially crucial

- Replanting and fertilization, in interaction with
  - food crops and food crop markets
  - Labour saving strategies

- Accompany Farmers’ diversification strategies but taking in account the risk of re-conversion