



Current Cocoa production and opportunities for re-invest in the rural sector. Côte d'Ivoire, Ghana and Indonesia.

**Amsterdam, 23-24 May, 2007.
WCF meeting**

**Francois Ruf
CIRAD**

1. Akokoaso in the 1930s (Beckett 1944)
2. Models
3. Current investment in cocoa inputs
4. Current investments in cocoa plantings
5. Diversification turned into mere re-conversion
6. Diversification between danger and success
7. Seemingly successful tree crop diversification
8. The specific case of timber
9. Risks on food self-sufficiency
10. Potential lessons : towards which investments?



1. Akokoaso in the 1930s (Beckett 1944) as an introduction to sustainability and investment in cocoa farming

Cocoa farmers with

- surplus foodstuffs	32
- <u>sufficient</u> “	107
- inadequate “	40
* Food farmers	
seasonal supply only	10

	269

One major **strength** of family agriculture

“The **meat supply provides a different picture**, almost half the total consumption being brought in (through the market)

The sheep, goats, bush meat and snails together comprise the home grown meat supply,

but

over 45% of the total consumption is brought in, chiefly in the form of **dried fish** caught by fishermen from the coast towns”.

(Beckett 1944, 22.)

70 years later, as bush meat has gone with forest, what are we waiting for?





A strong need to help farmers to invest in fish ponds: a major health issue





From **Indebtedness** to **Diversification**

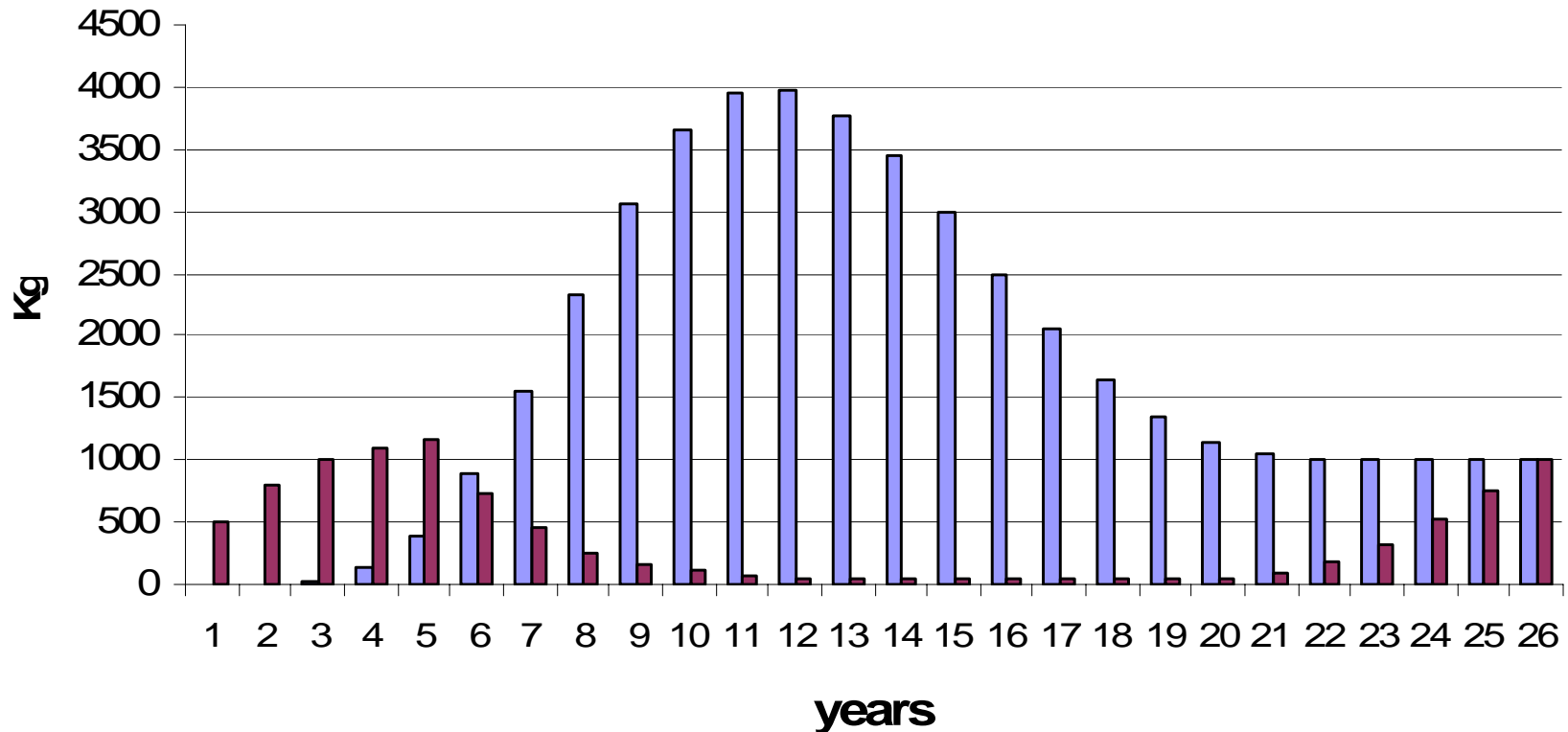
Indebtedness is another issue raised by Beckett before he starts talking about cocoa! (p 30-45).

Lack of cash, late payments, seasonal payments leads to structural indebtedness

- education, external help as said by Beckett,
- but also and more importantly :
diversification of revenues

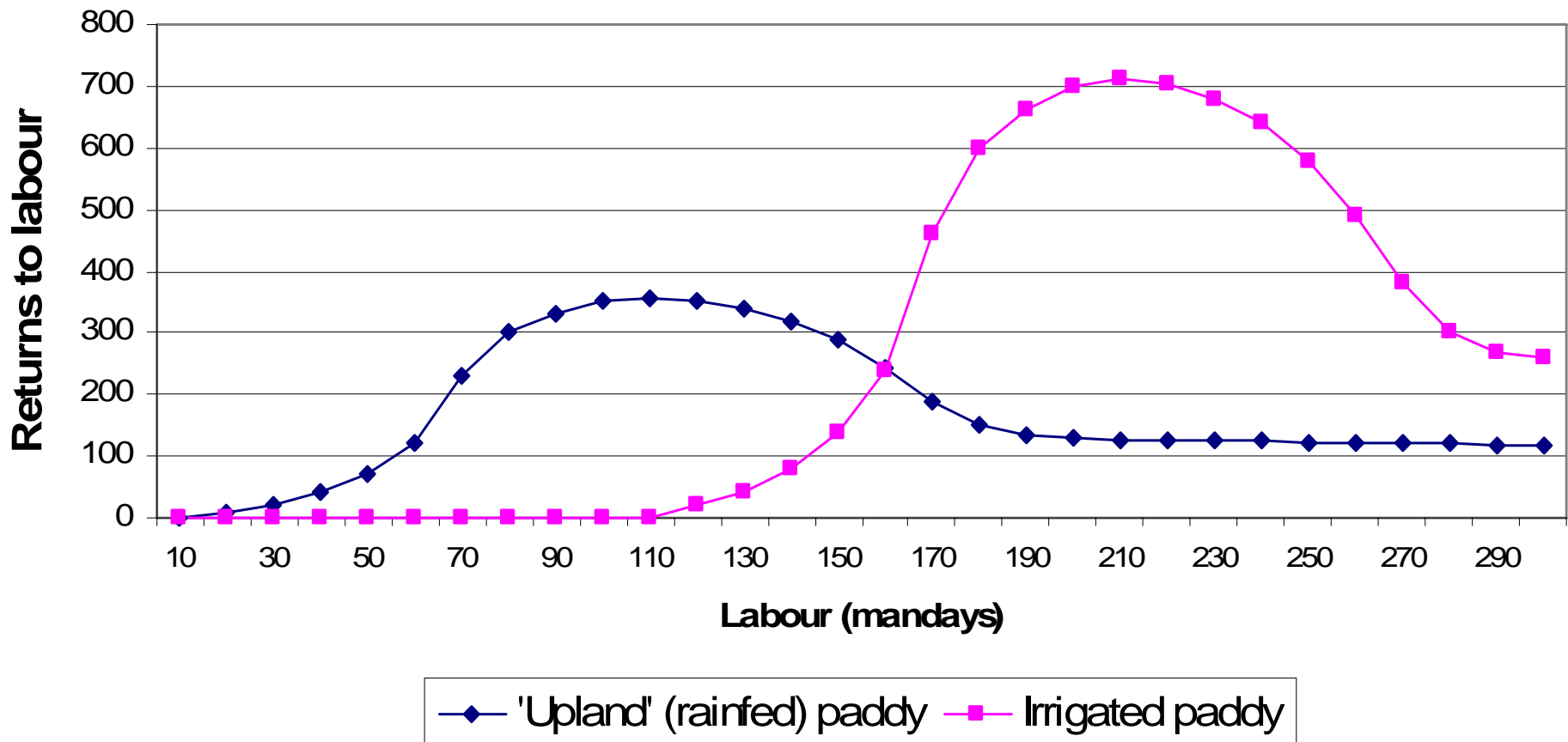
2. Sustainability and investment in cocoa the curve problem(s) and opportunities

Cocoa farm cycle and place of food crops
5-ha farm (1 ha per year during 5 years).Hyp.1



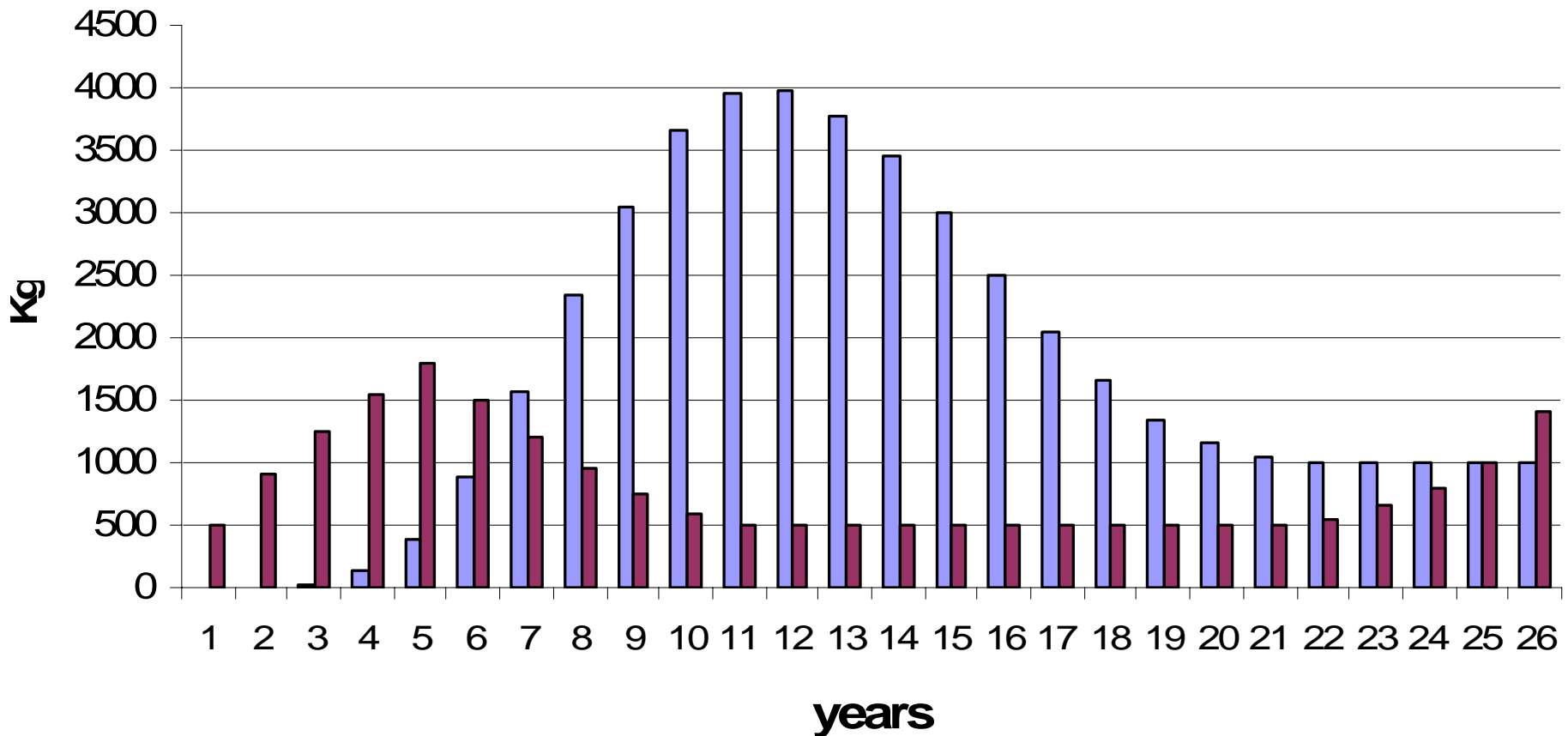
A logical evolution directed by the demographic pressure : less land, more labour to invest (Boserupian mechanism)

Model of returns to labour in rainfed and irrigated rice fields



A first more optimistic view : Cocoa does not necessarily and totally exclude food crops (Plantain, 'Coco assie')..

Cocoa farm cycle and place of food crops 5-ha farm (1 ha per year during 5 years).Hyp.2

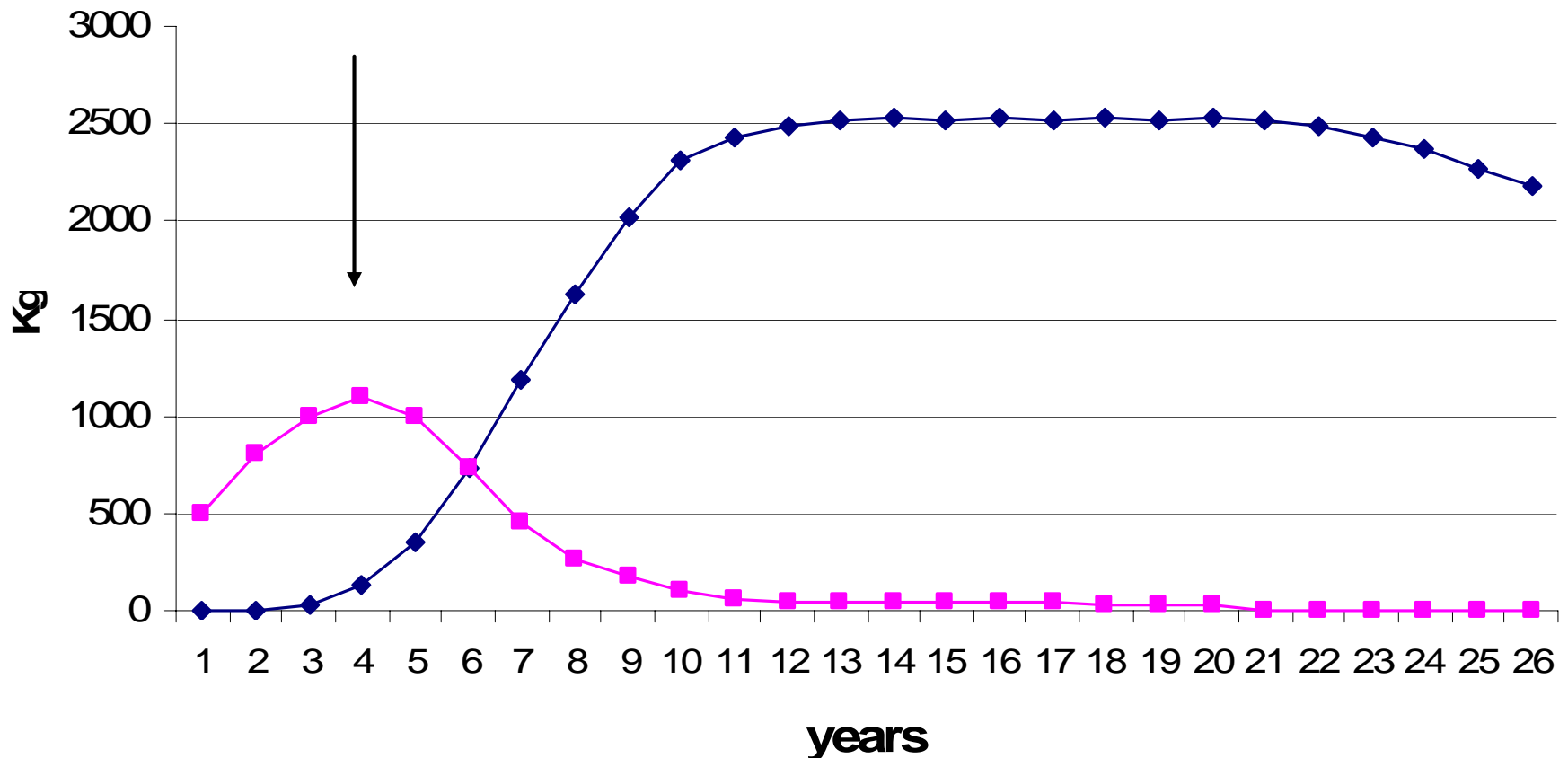


A more optimistic hypothesis in terms of tree life cycle and returns but in that case, the food problem ... may increase against a background of land scarcity

Cocoa farm cycle and place of food crops

Hyp.3. A longer longevity is an option

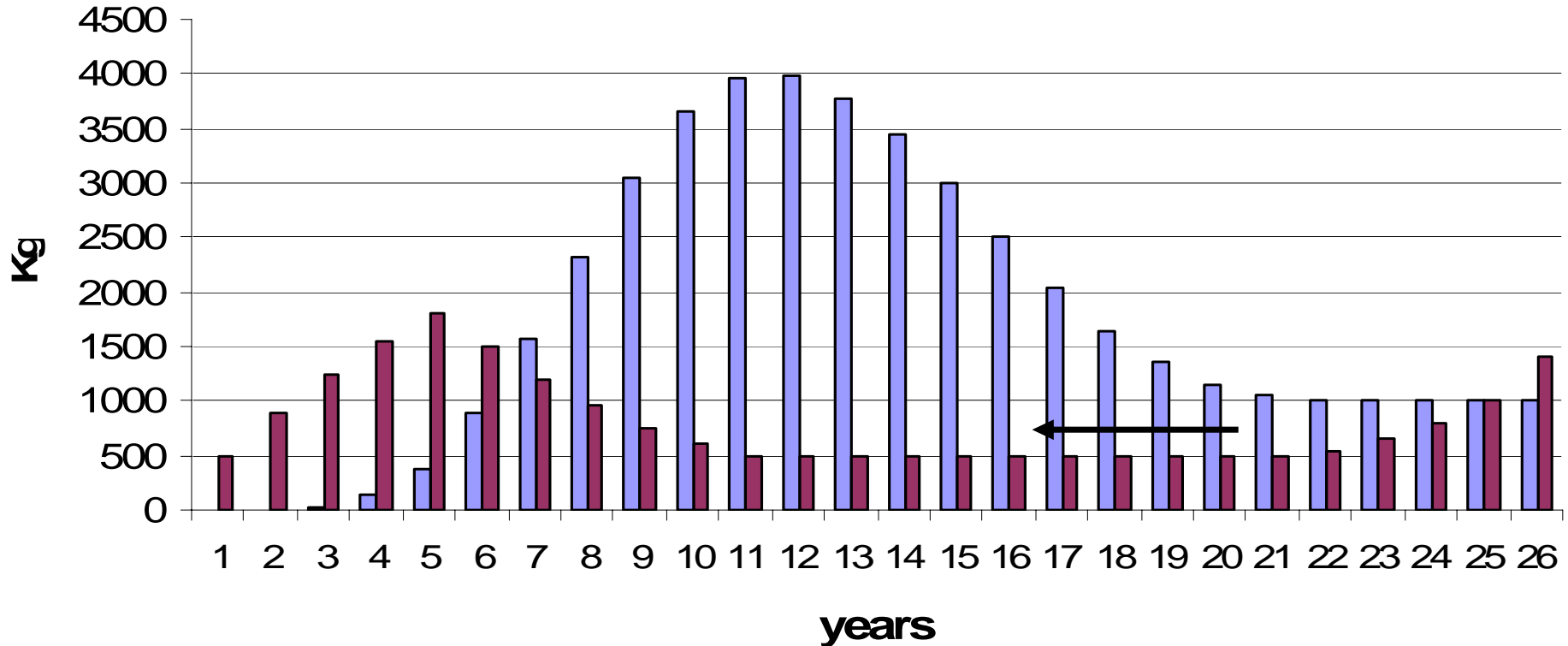
but marginalizes the role of annual crops, hence a risk



Hence a need to invest on research on food crops associated to cocoa trees, mostly at the initiative of cocoa farmers, during the mature phase.

Cocoa farm cycle and place of food crops

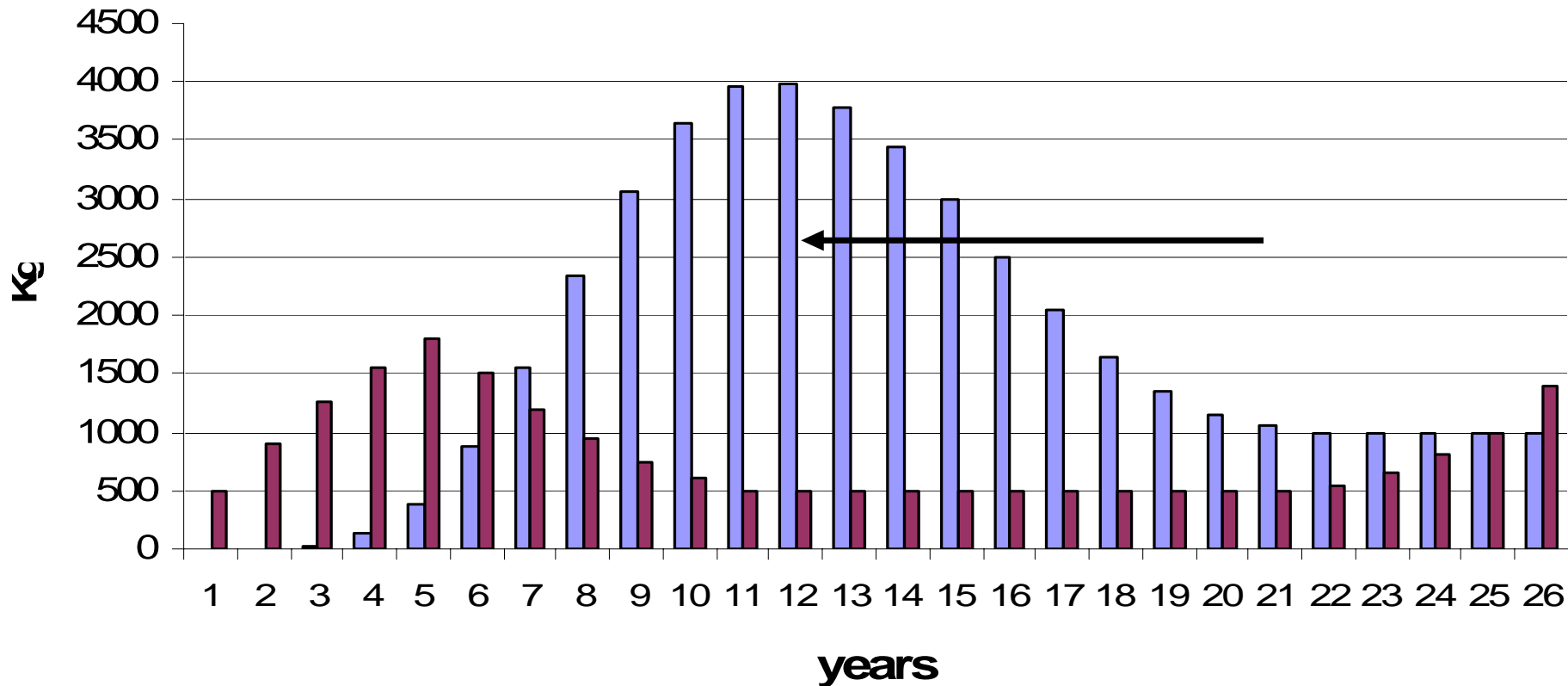
5-ha farm (1 ha per year during 5 years).Hyp.2



A need of different strategies of investment at the different points of the cycle, including the need for farmers to re-invest before it is too late.

Cocoa farm cycle and place of food crops

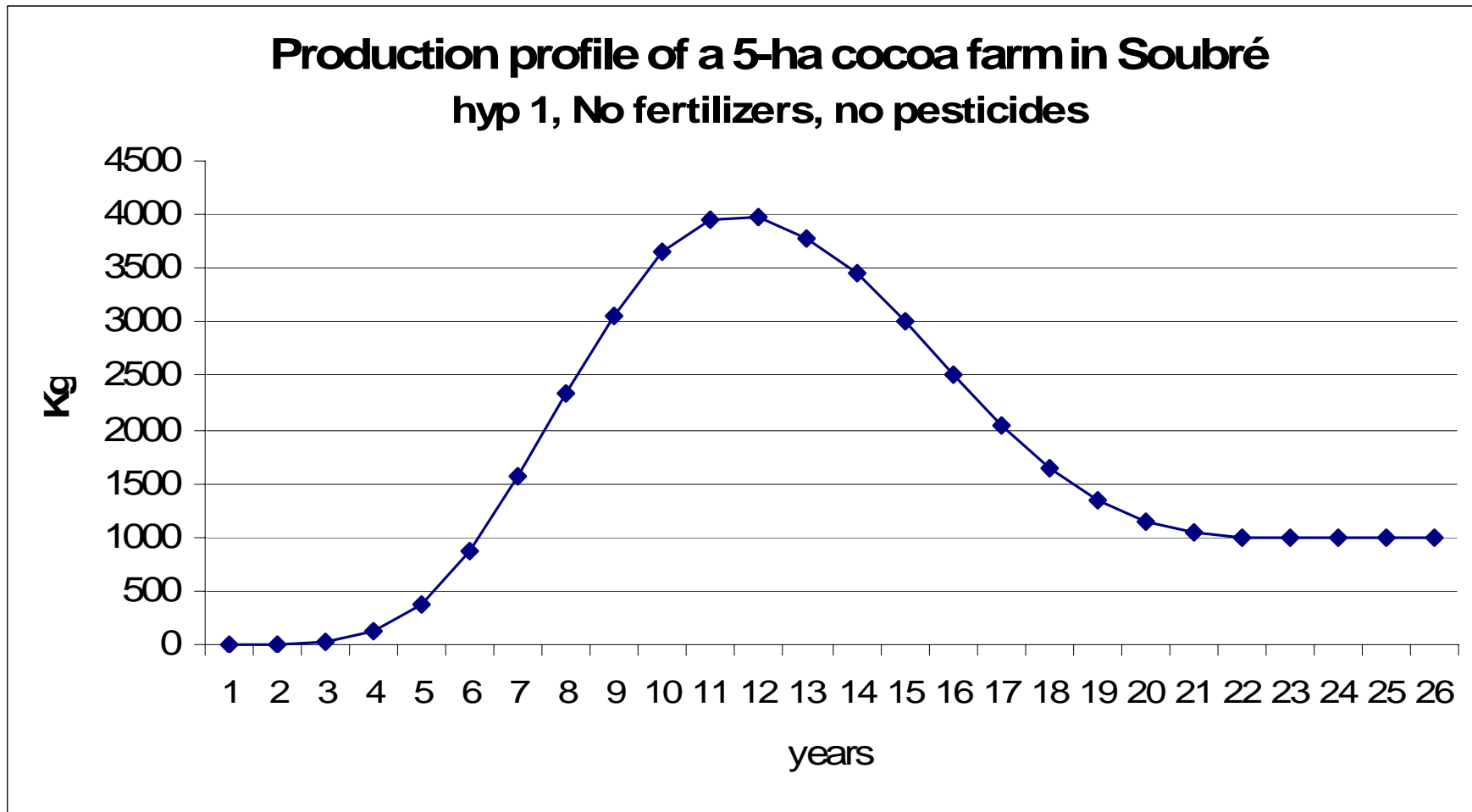
5-ha farm (1 ha per year during 5 years).Hyp.2



3. Current investments by cocoa farmers

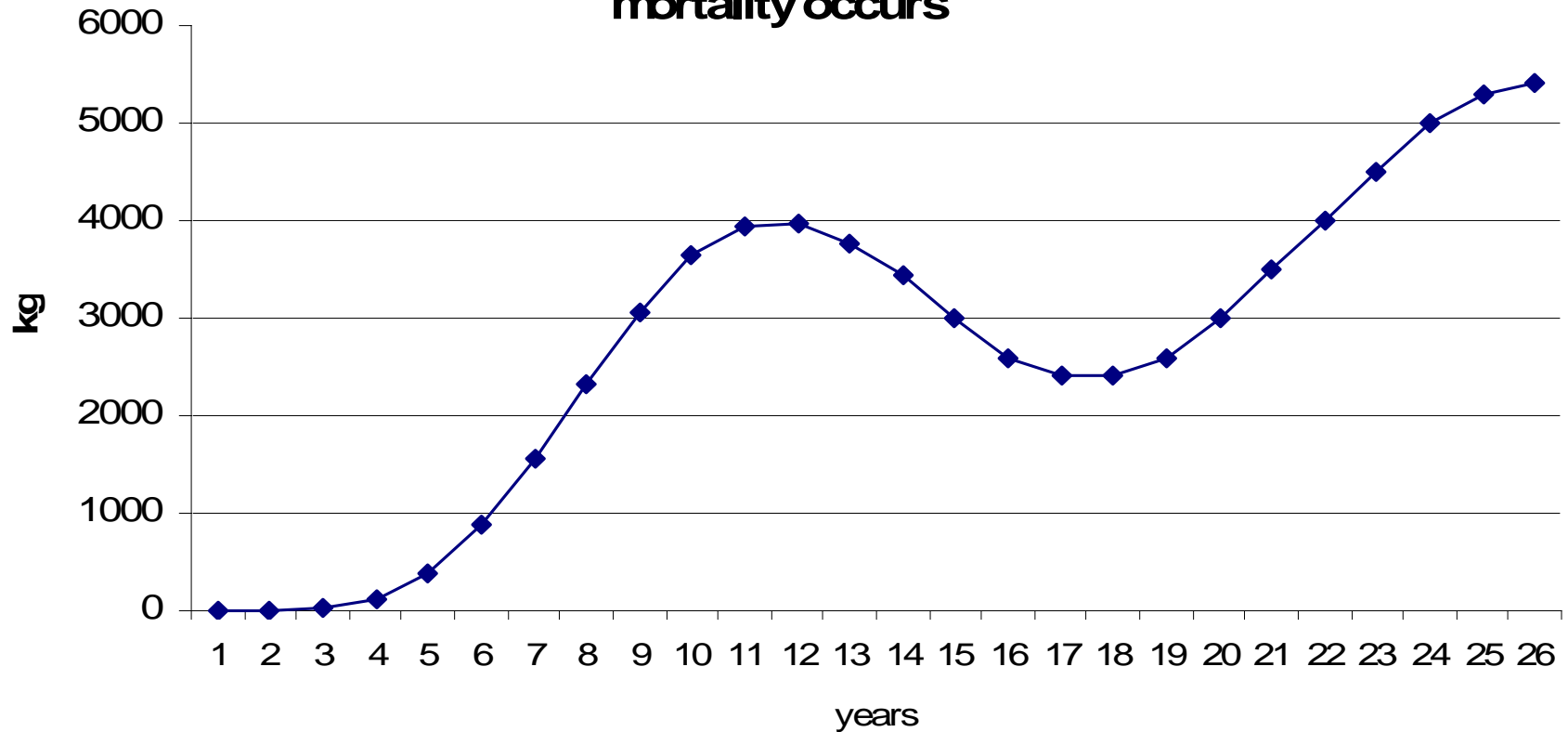
3.1 Cocoa intensification:

A first option: fertilizers:

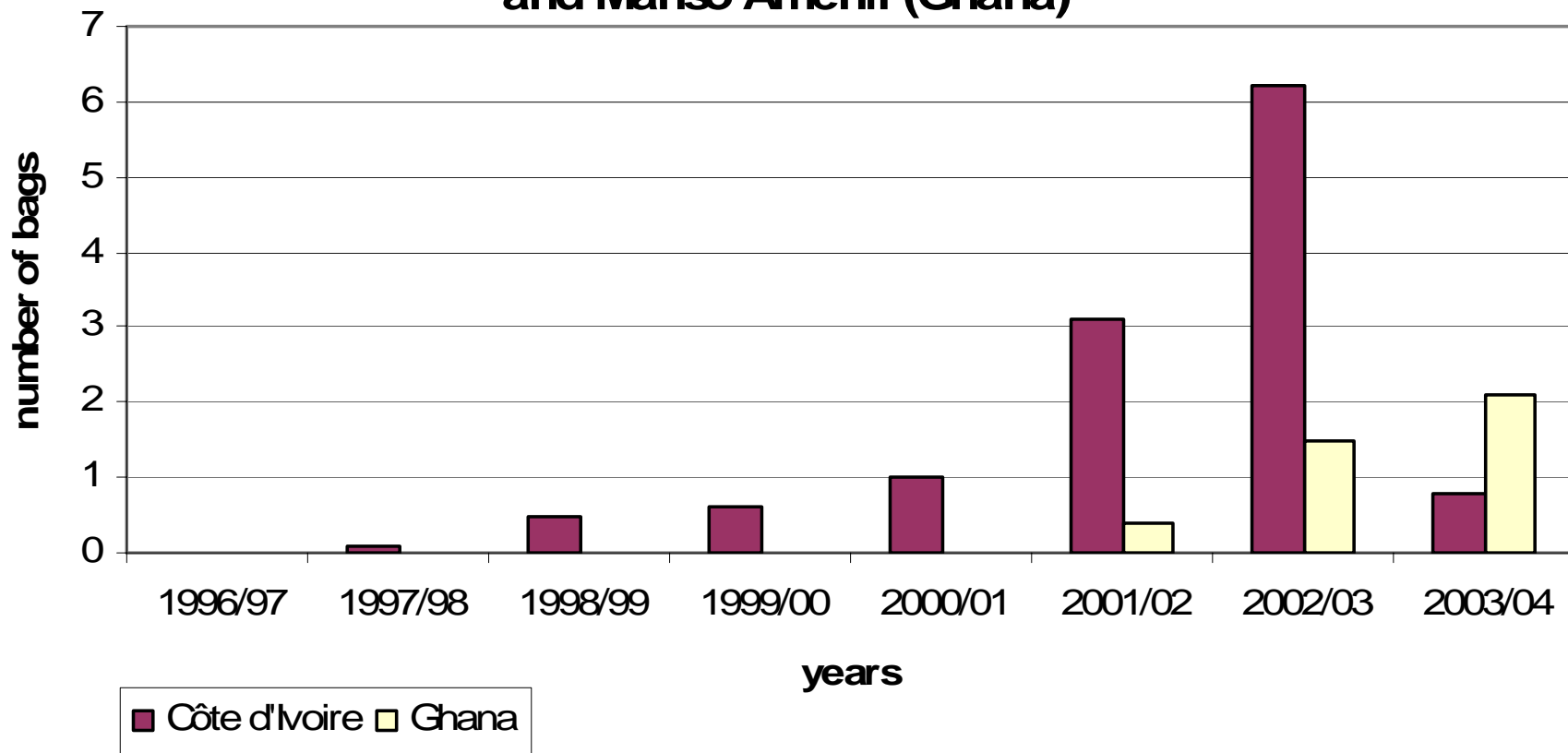


	Average migrants' arrival date	Year of the highest production after forest clearing	Production (kg)	year of the lowest production	Production
35 migrants	1980	1991	2519	1994	1450
		The year of first fertilizer adoption	Accumulated fertilizer bags over years	Production reached in average in 2002/03 2003/04	
	35 migrants	1996	85	4820	

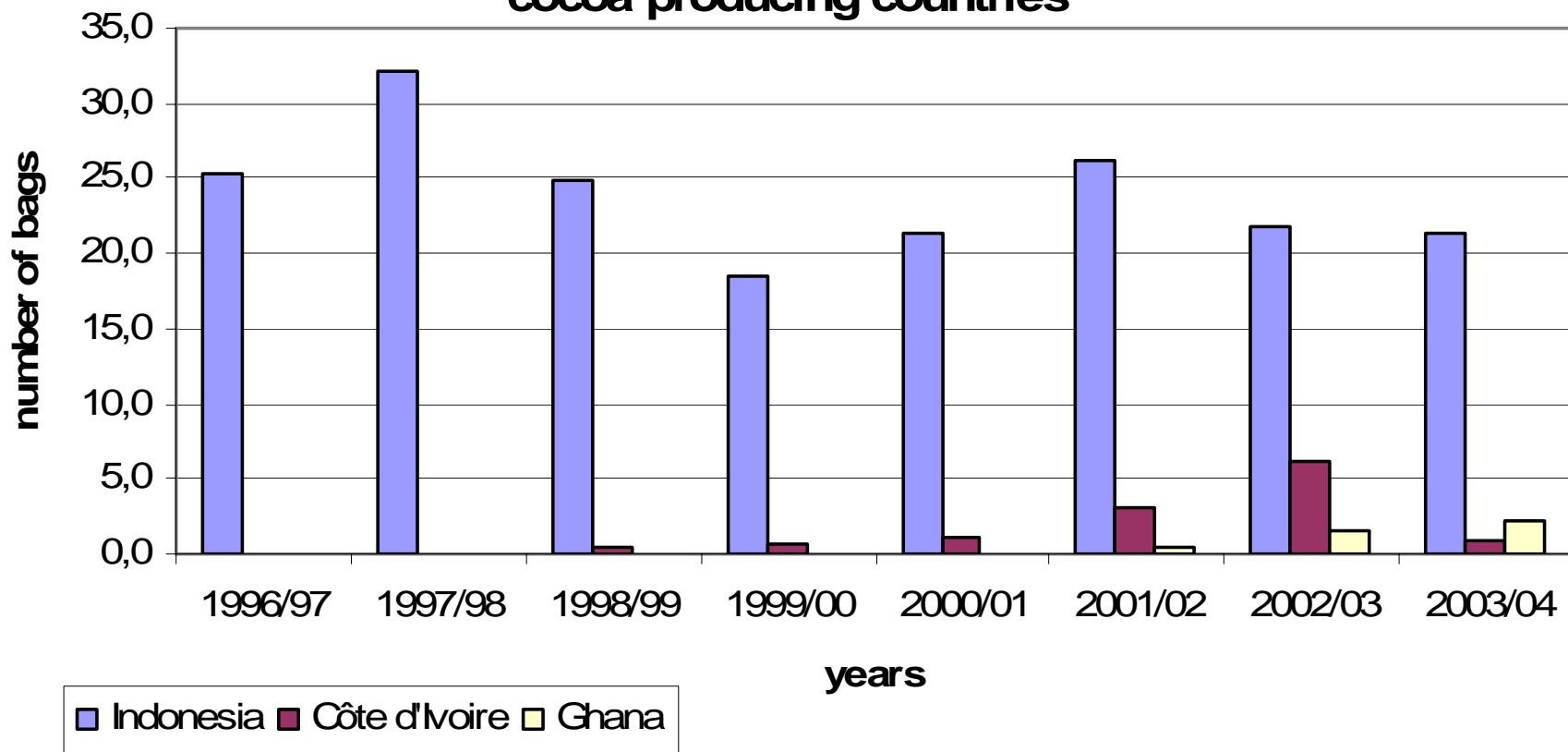
**Production profile of a 5-ha cocoa farm in Soubré
hyp 2, with fertilizers and pesticides
being applied before too much
mortality occurs**



Fertilizer consumption per cocoa farm in major cocoa producing regions of Soubré (Côte d'Ivoire) and Manso Amenfi (Ghana)

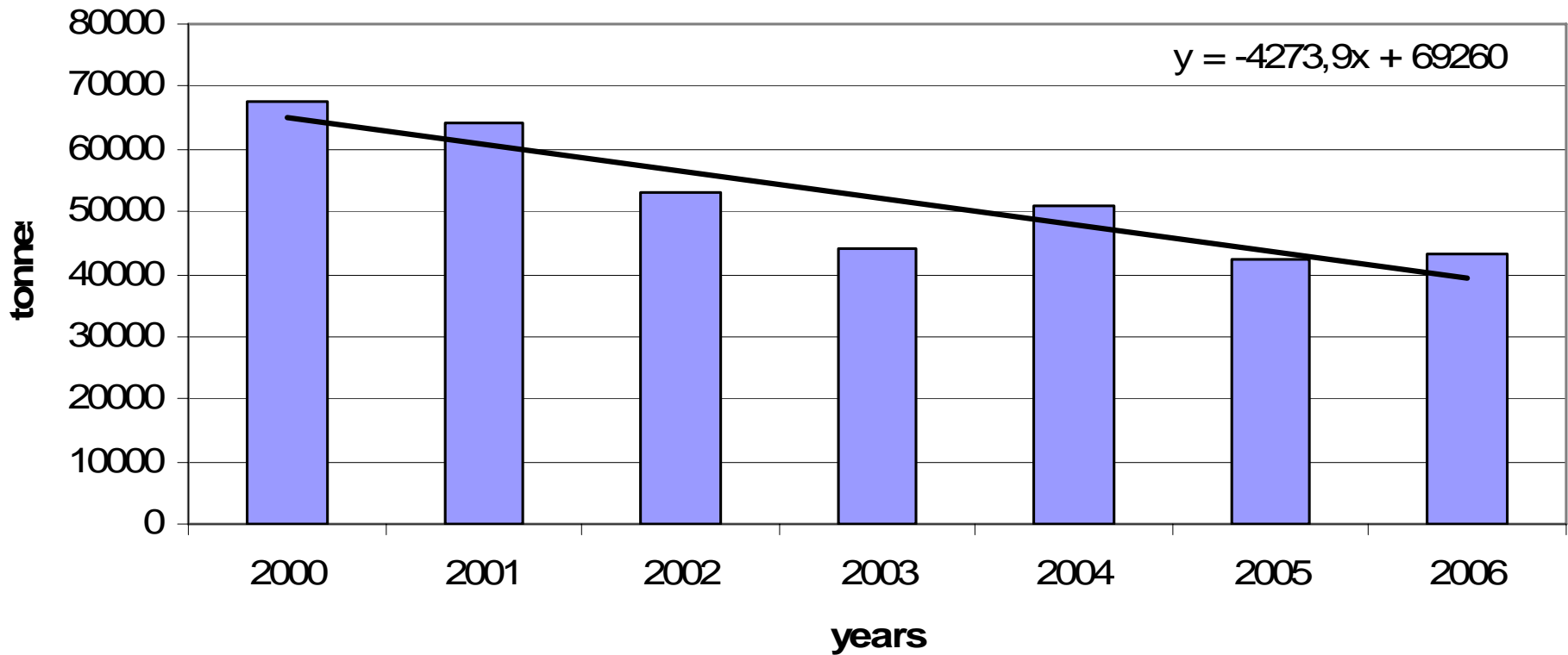


Fertilizer consumption per cocoa farm in major cocoa producing regions of the three main cocoa producing countries



Despite a more modern way of producing cocoa, Sulawesi does not escape the sustainability problem

Cocoa production profile of 19 farms in Noling and Tampumea





3.2 The case of CPB infestation and pesticides in Sulawesi

Farmers' perception of the way to control CPB (Noling and Lewonu)
What do you suggest as the best method of CPB control ?

No idea, does not know effective ways of controlling CPB	6%
Intensive spraying	12%
Intensive spraying + pruning	46%
Coordination of everybody's spraying	15%
Replanting (or possibly rehabilitation)	12%
Intensive spraying and high frequency of harvests	1%
More information about pesticides	1%
Add more fertilizers	3%
Side grafting	1%
smoke	1%
Bury the husk or attractive price for the husk	2%
	100%

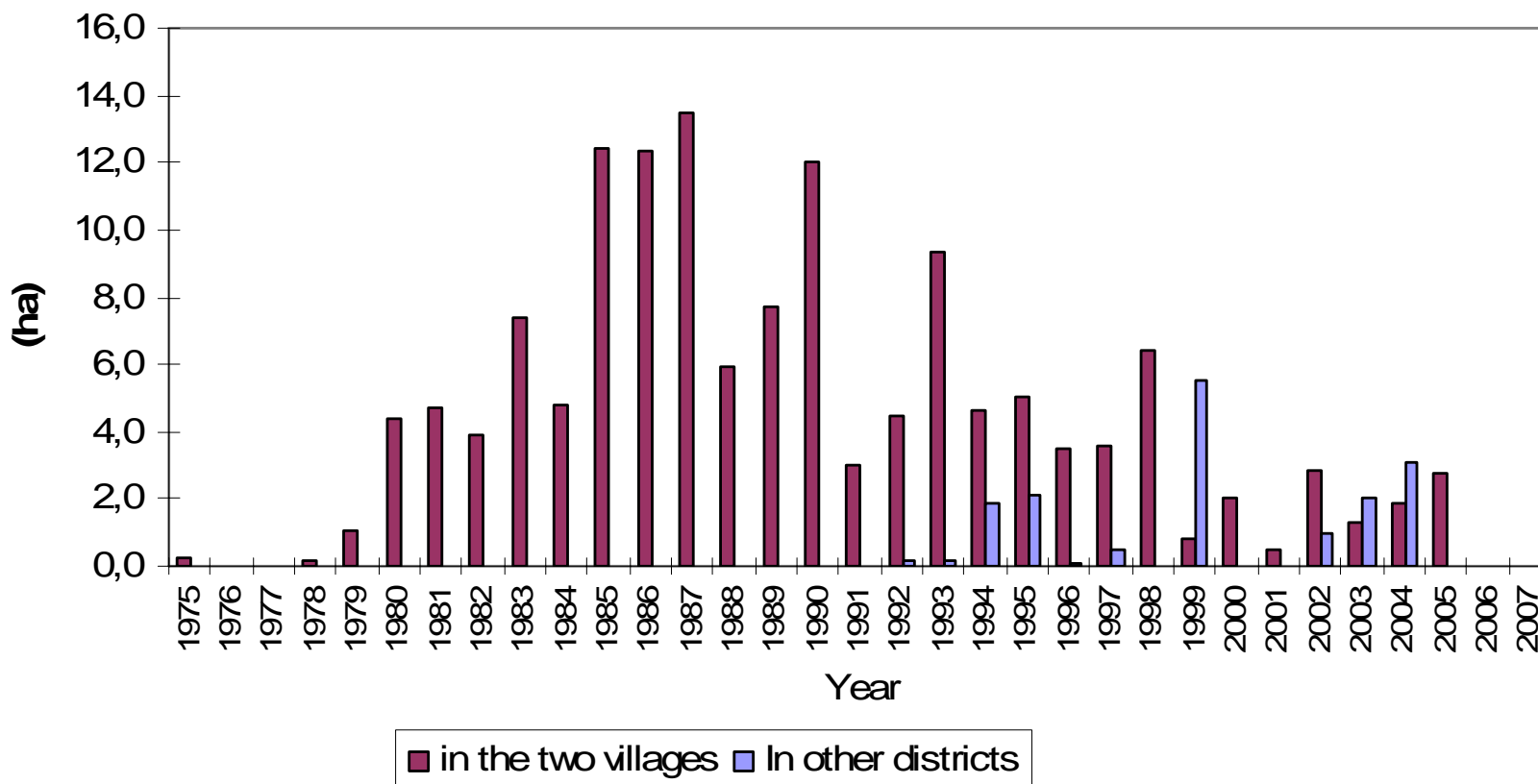
Sources: Survey by Ruf and Yoddang, 2007

Farmers' perception about the kind of help they need to control CPB (Noling and Lewonu, South Sulawesi)

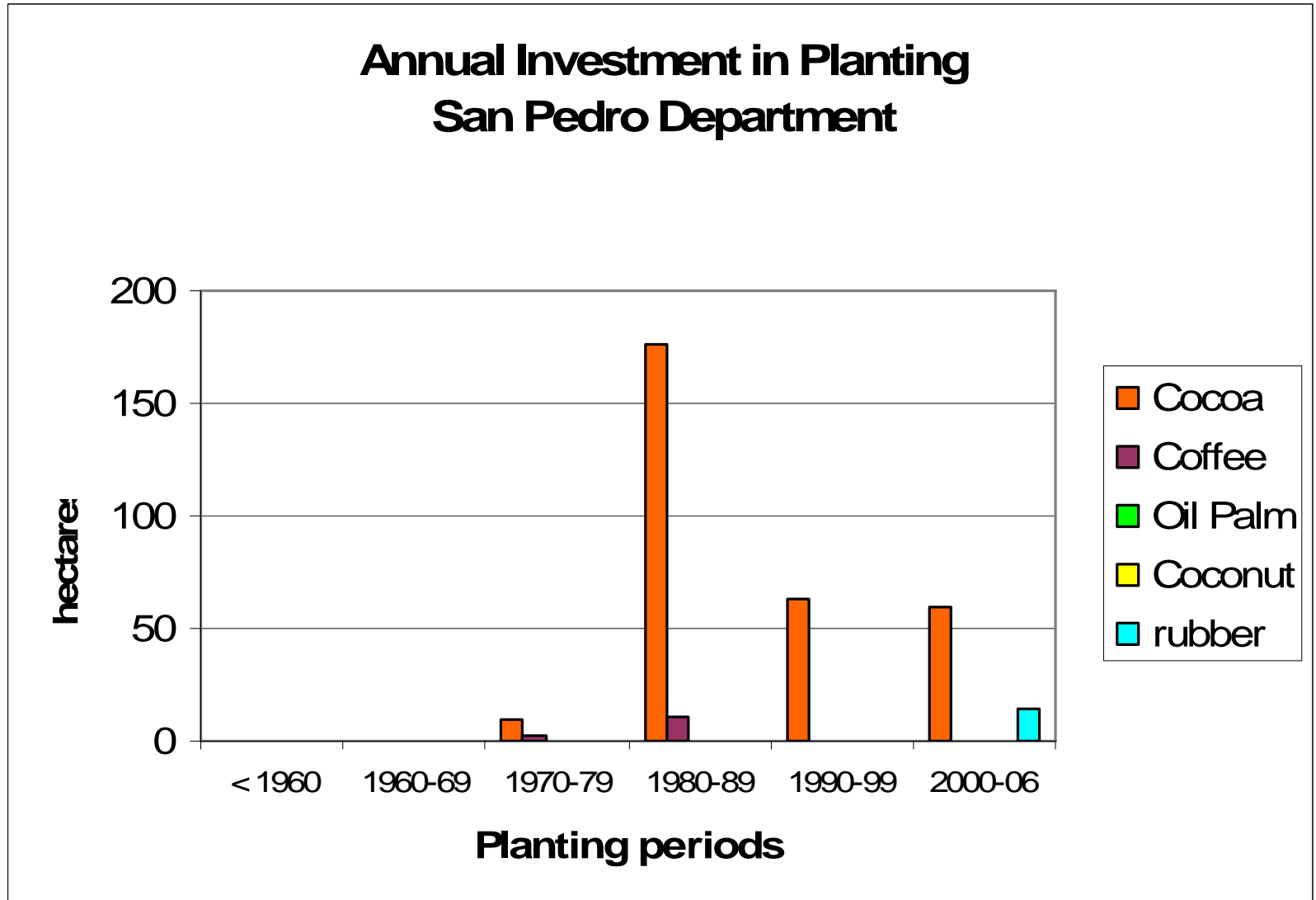
Some help in labour	27%
Some help in inputs	2%
Some help in labour and inputs	18%
Help to COORDINATE individual spraying	24%
Need information of effective pesticides	13%
Subsidies to cut down trees and replanting	6%
Seasonal Credit to be refunded after the peak season	1%
Help to coordinate the sleeving operation and/or subsidy	2%
Need ... of cash to feed the family	5%
An attractive oprice for the pod husk	1%
A better regulation to eliminatre the fake pesticides	3%
	100%

4. Cocoa planting Indonesia

**Cocoa planted area by 31 farmers of Noling/Tampumea
1/ in their own villages 2/ in other districts**

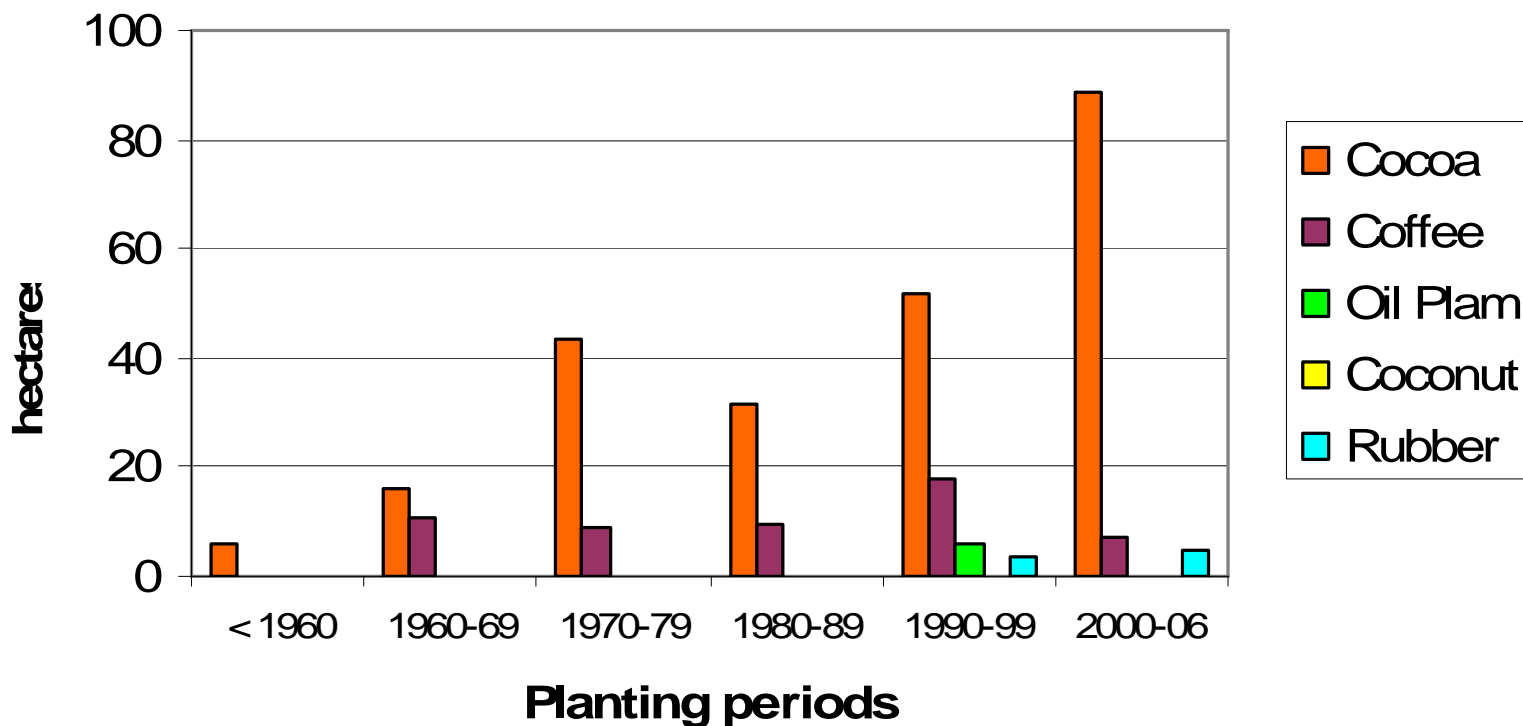


Côte d'Ivoire : still the same logical trend from a region ending its first cocoa cycle ..

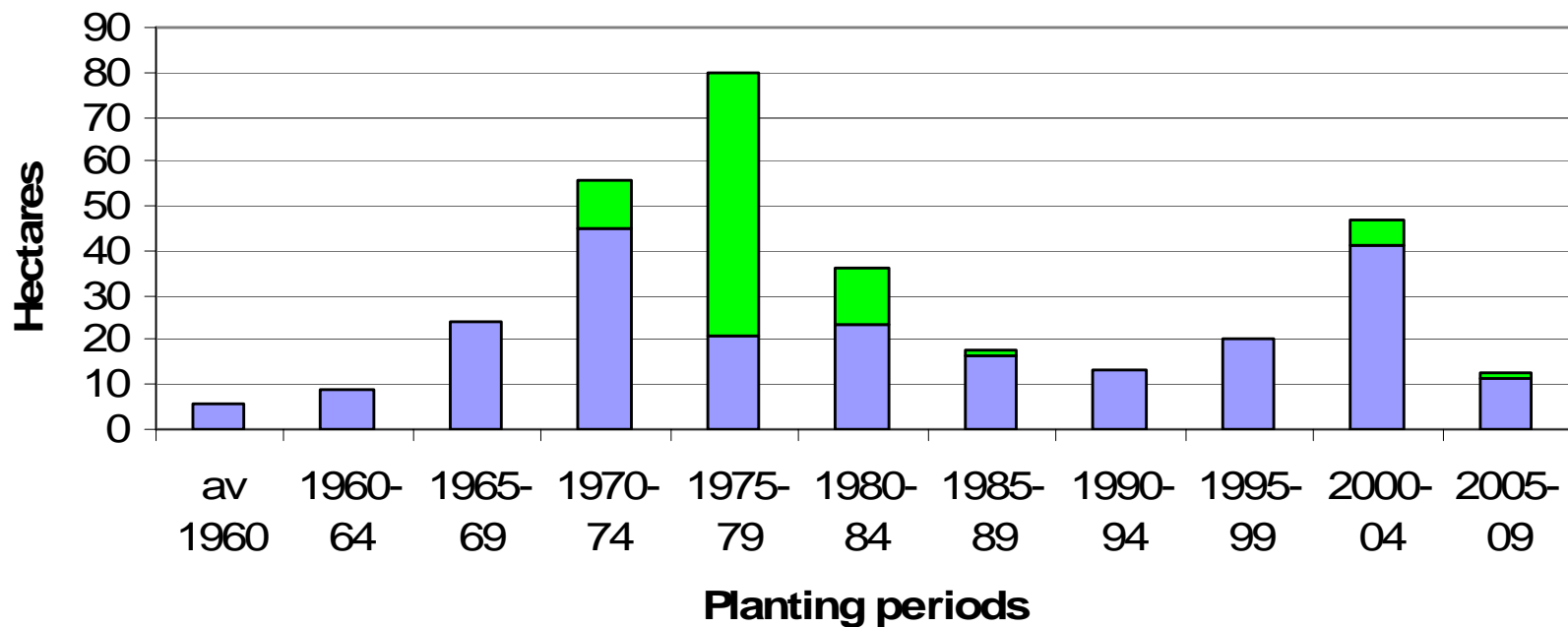


.. a « new » one. The change is in the « new »

Annual Investments in Planting in Bongouanou (N'zanfouénou, Akakro, Abongoua)



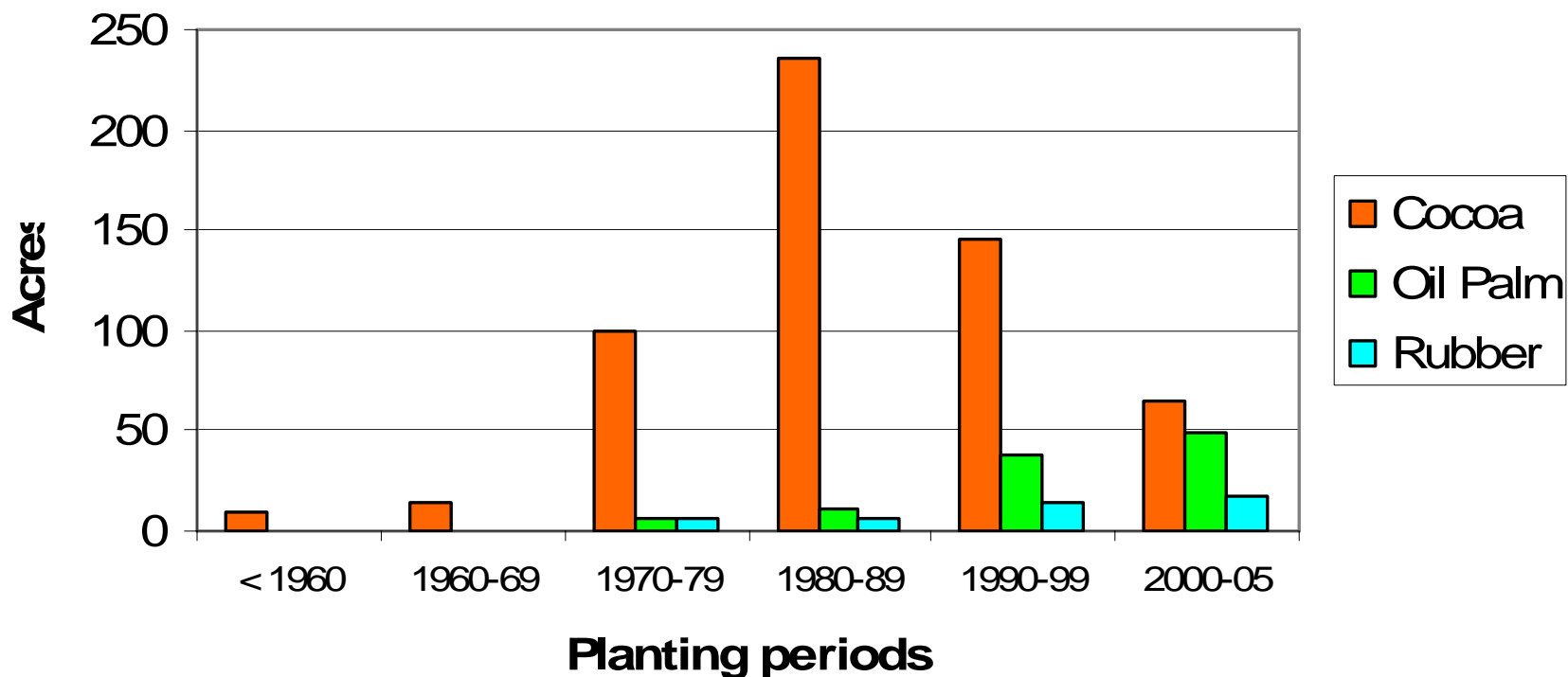
Structure of Cocoa farms in the Marahoué region Age and planting material



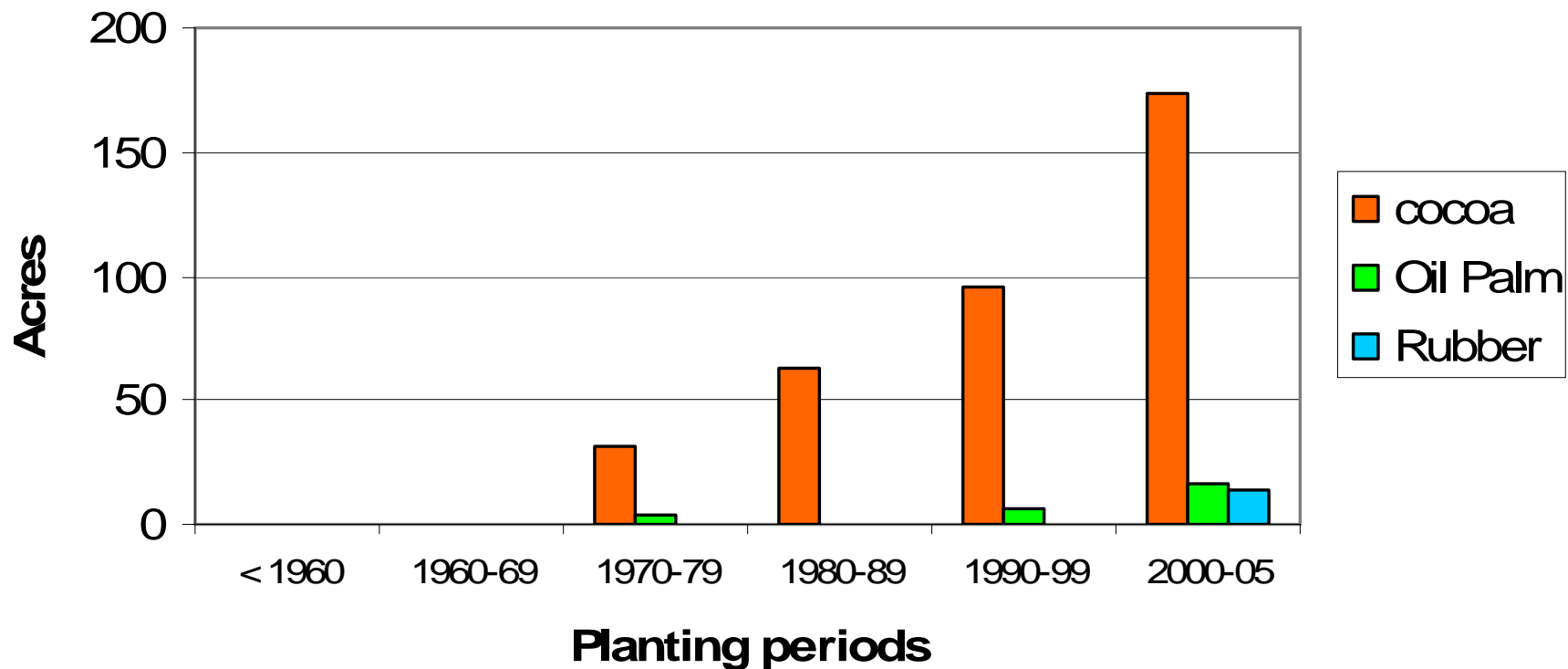
■ Tout Venant
 ■ Intermédiaire
 ■ Sélectionné

Ghana

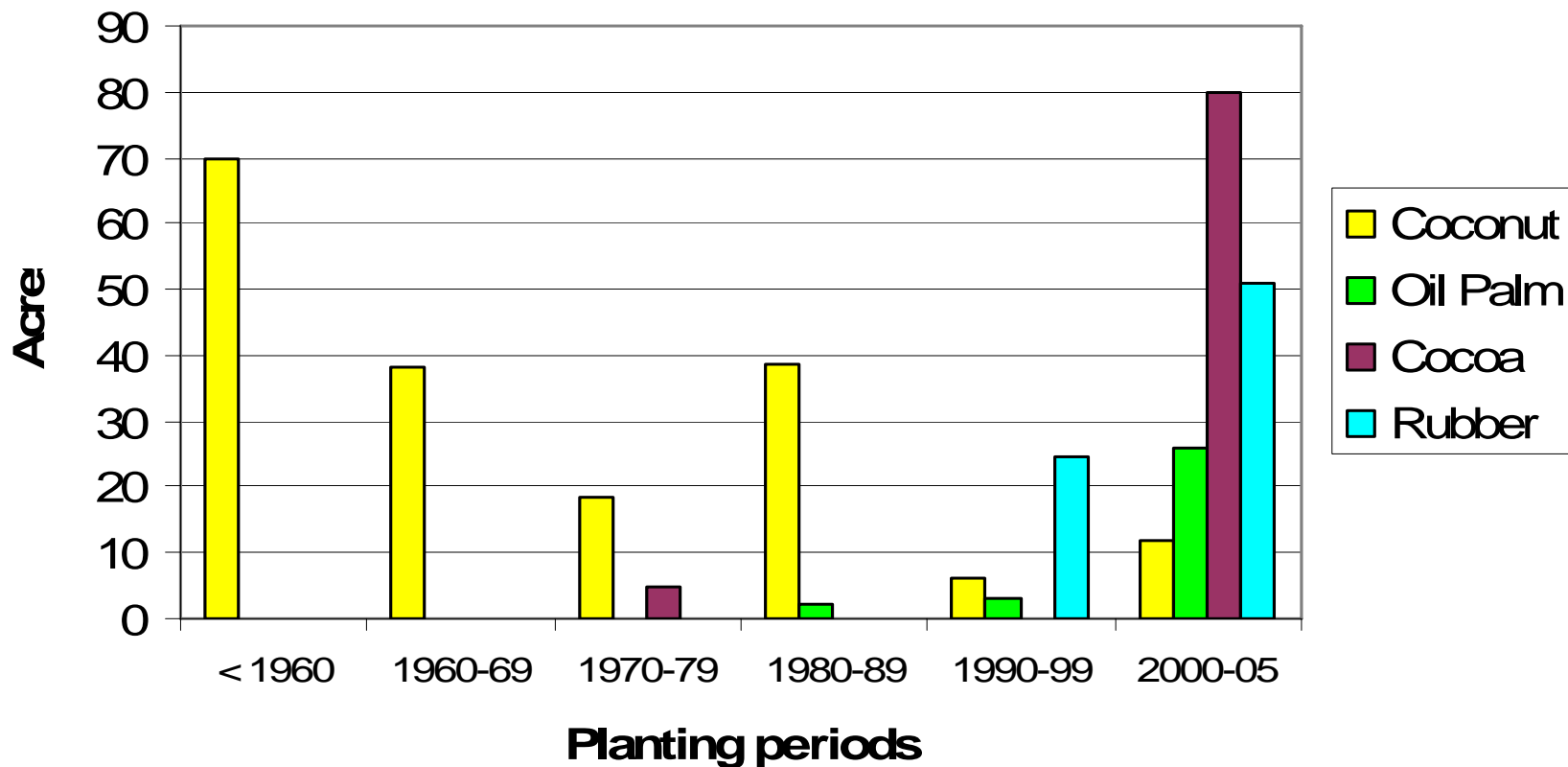
**Annual Investments in planting
in Manso Amenfi village
(Western Region)**



Annual investments in Obeng (Maso Amefi district, Western Region)

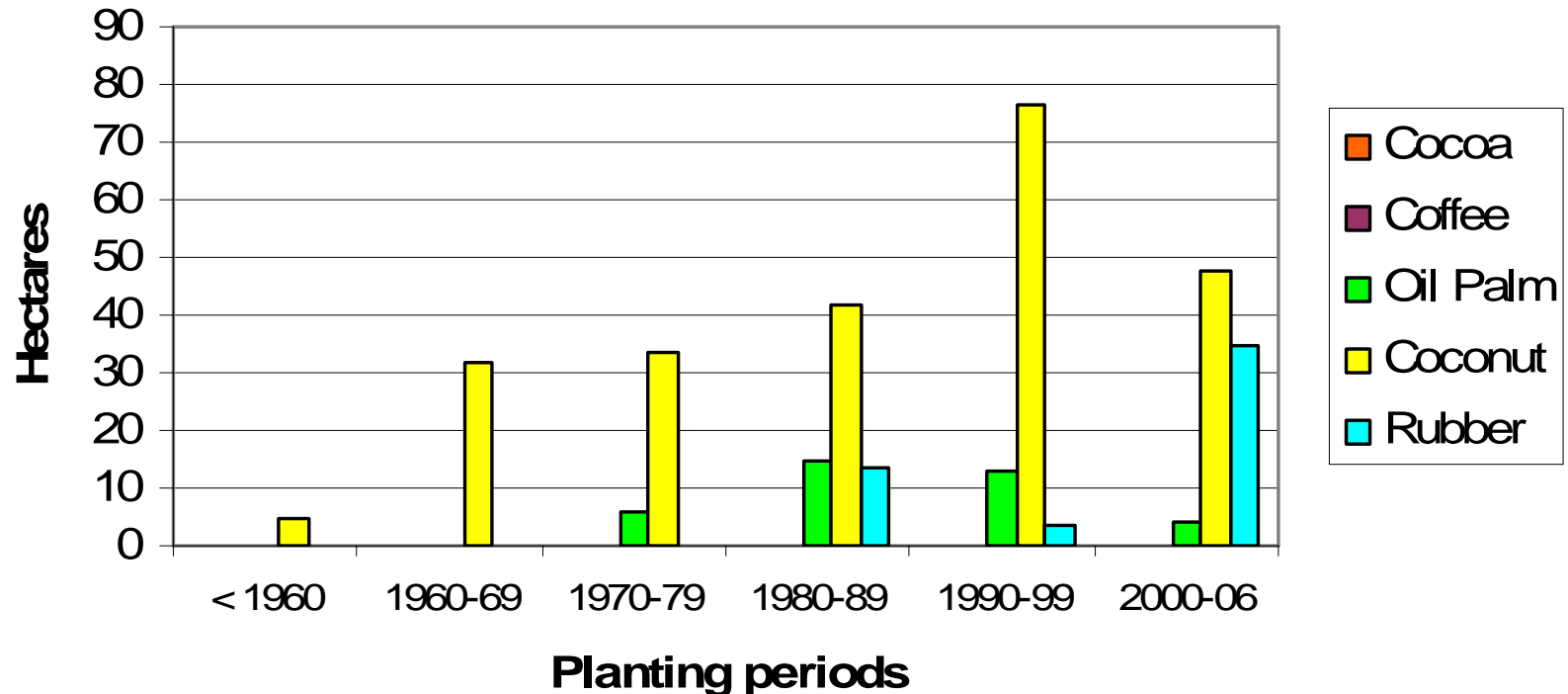


Annual Investment in Planting by cocnut farmers of the Axim region (Asanta, Nkroful, Saluma ..)



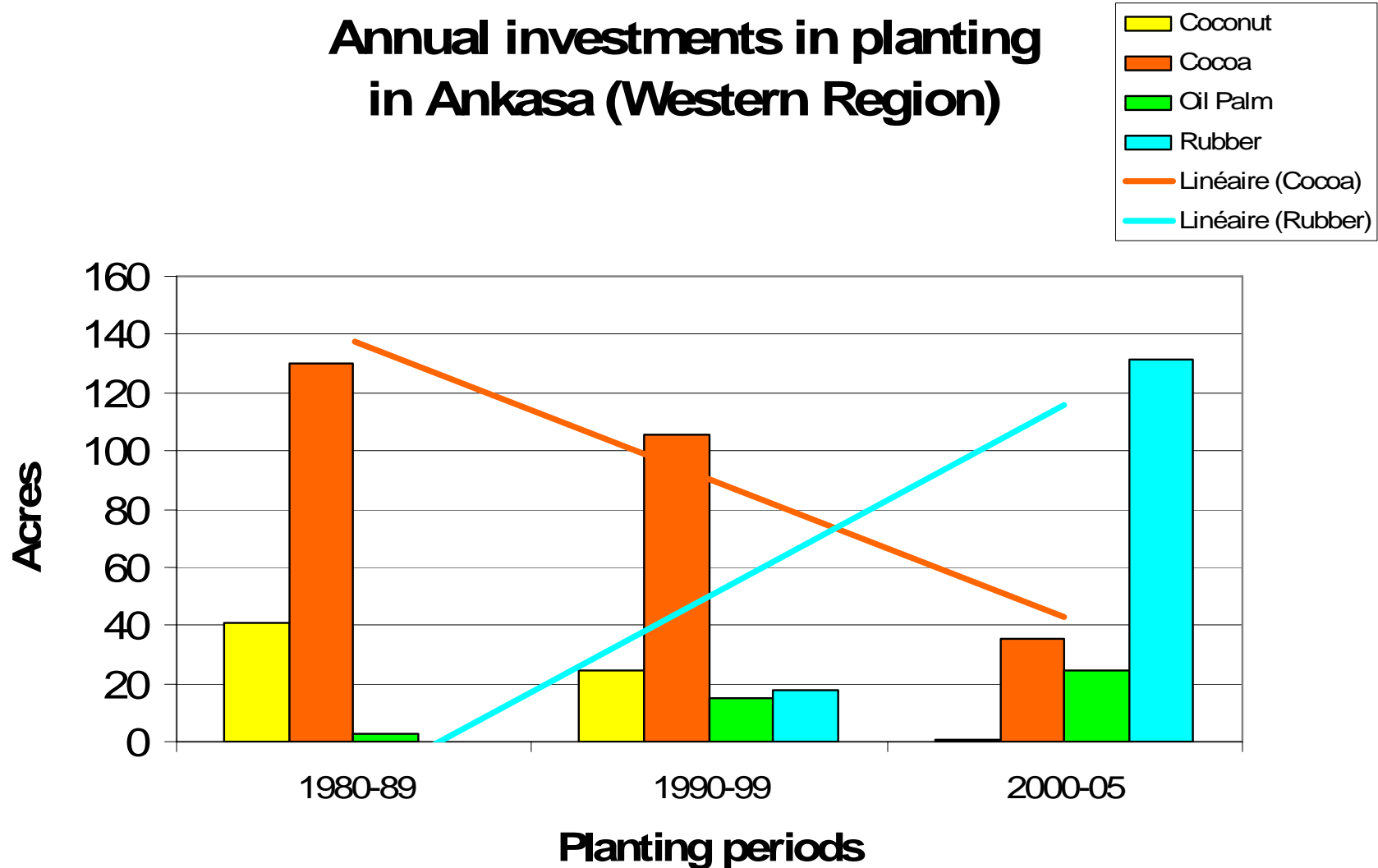
5. Diversification ... turned into mere re-conversion

**Yearly Planting in the department of Adiake
(Sud-Comoe region, Côte d'Ivoire)**

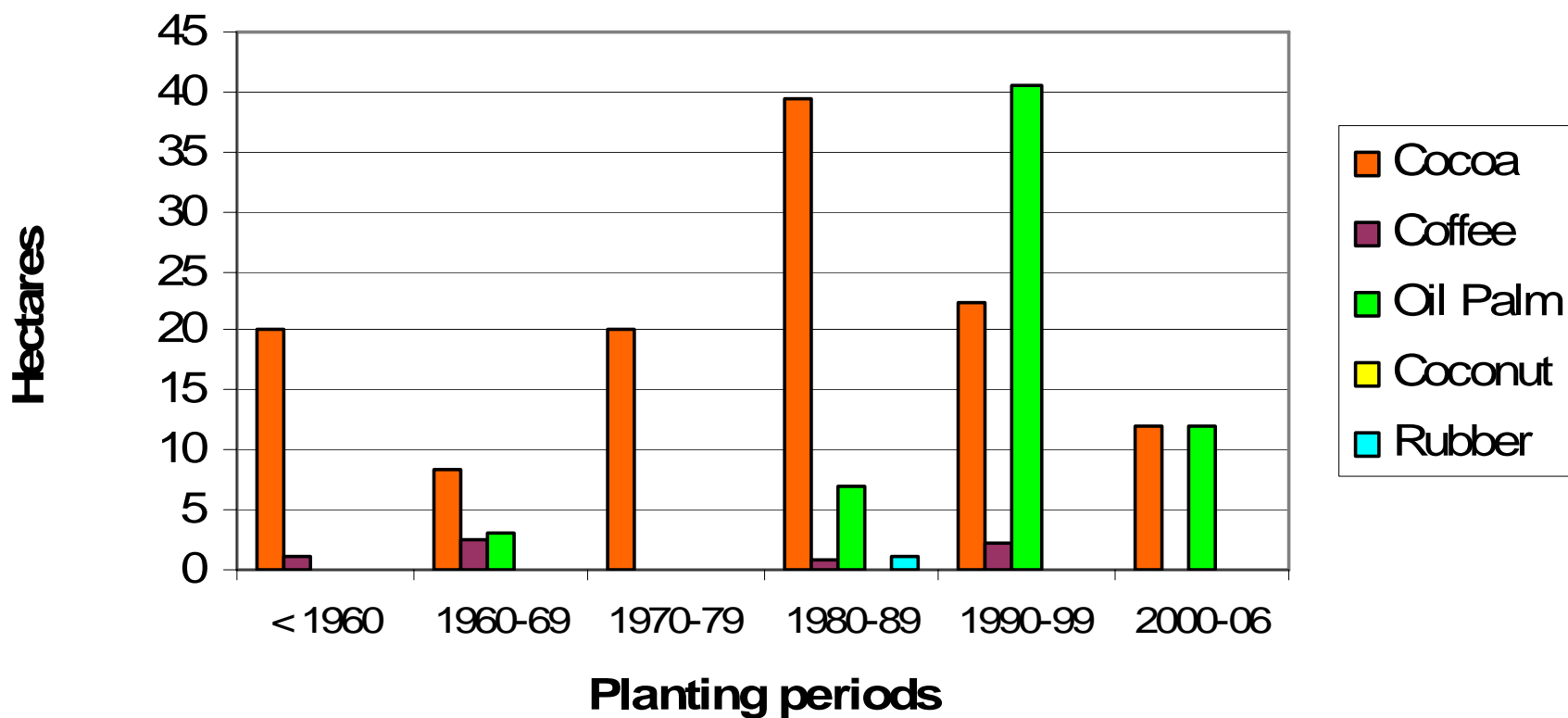


6. Diversification and zone between danger and success

Annual investments in planting in Ankasa (Western Region)

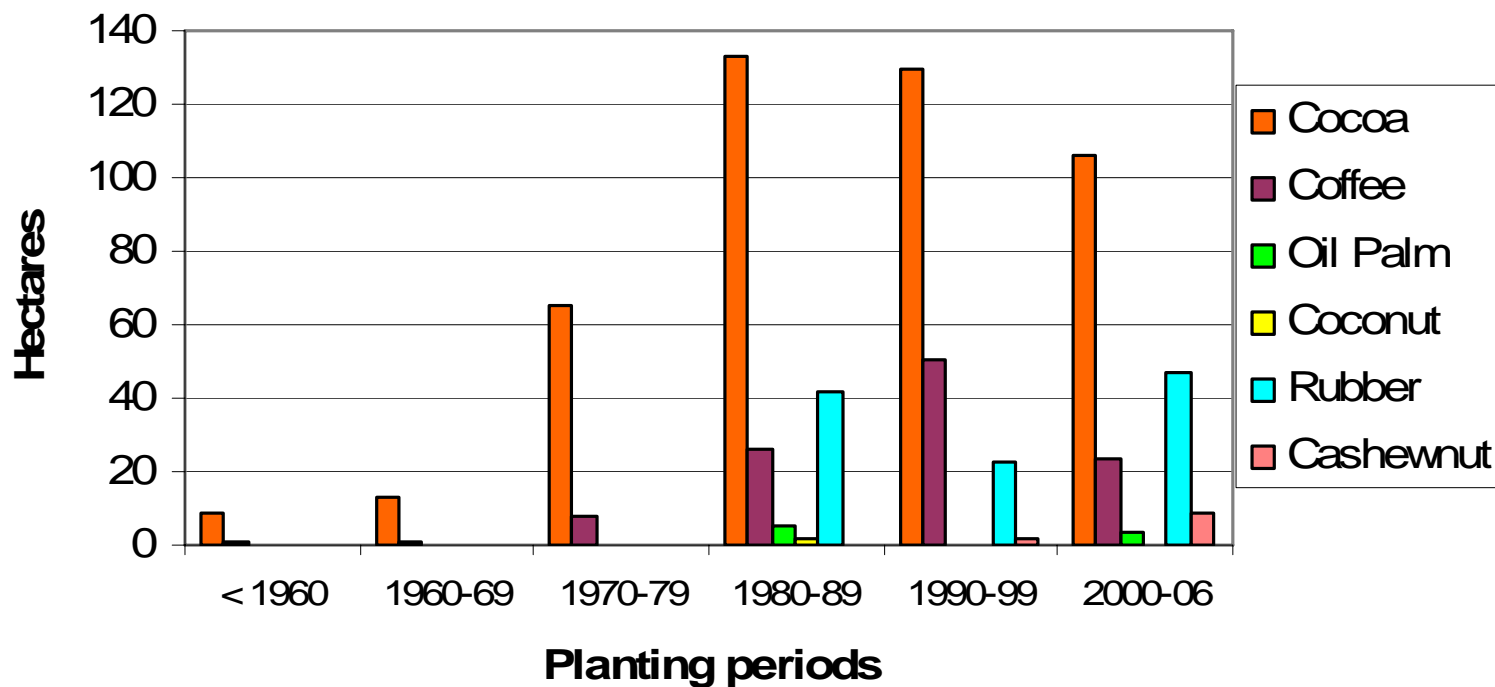


Annual Investments in Planting in the Sud Bandama region



Cases of seemingly successful tree crop diversification

**Annual Investments in Planting in the region of
Moyen Comoé**



Estimated revenues x 1000 cfaf in the early 1990s

	Cocoa	Coffee	Oil palm	Rubber	Total
All cocoa farmers	1147	484	0	131	1622
Sub-group of cocoa farmers who adopted rubber	707	159	0	621	1488

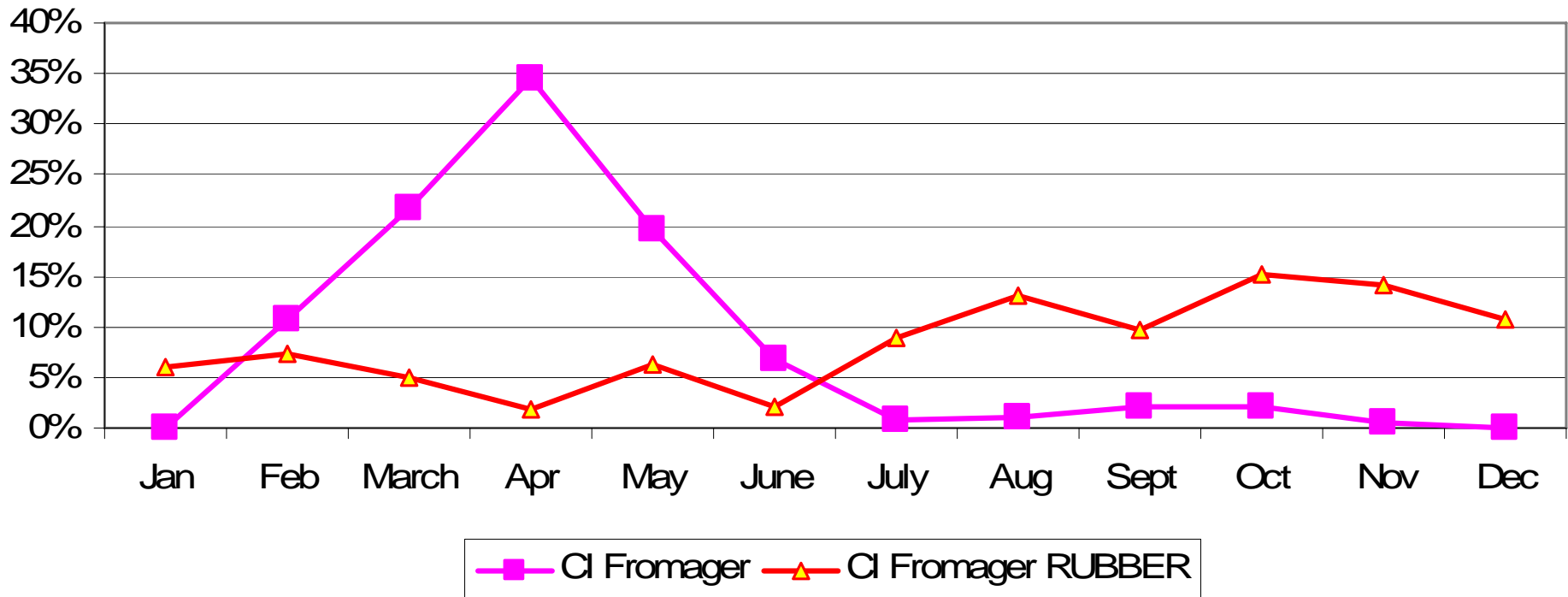
Sources : Survey F Ruf (CIRAD) 2006

Estimated revenues x 1000 cfaf in 2005/06

	Cocoa	Coffee	Oil palm	Rubber	Total
All cocoa farmers	648	191	0	486	1297
Sub-group of cocoa farmers who adopted rubber	502	27	0	2396	2926

Sources : Survey F Ruf (CIRAD) 2006

Monthly distribution of smallholders' cocoa and rubber sales in the Fromager region (Côte d'Ivoire)













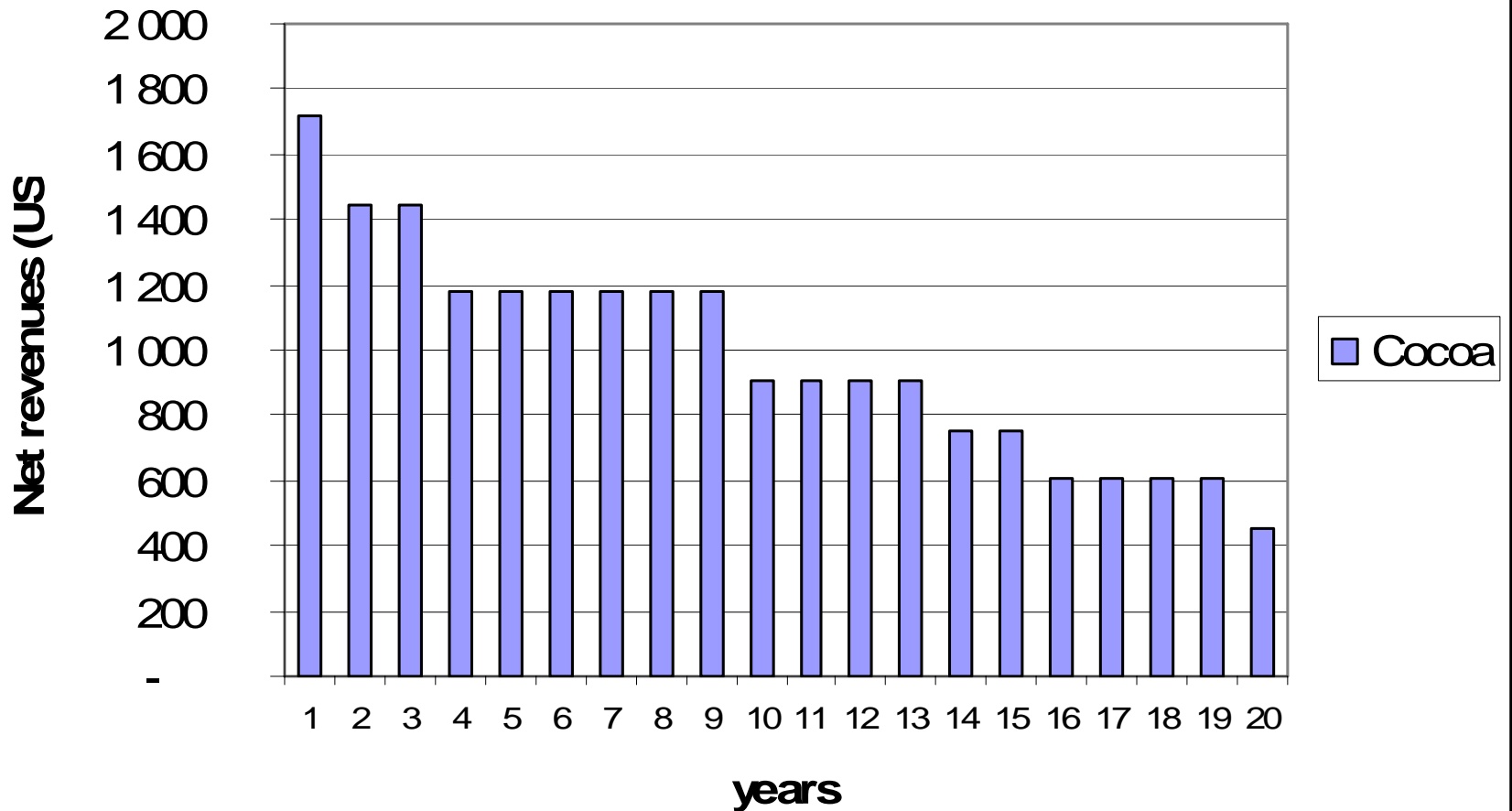




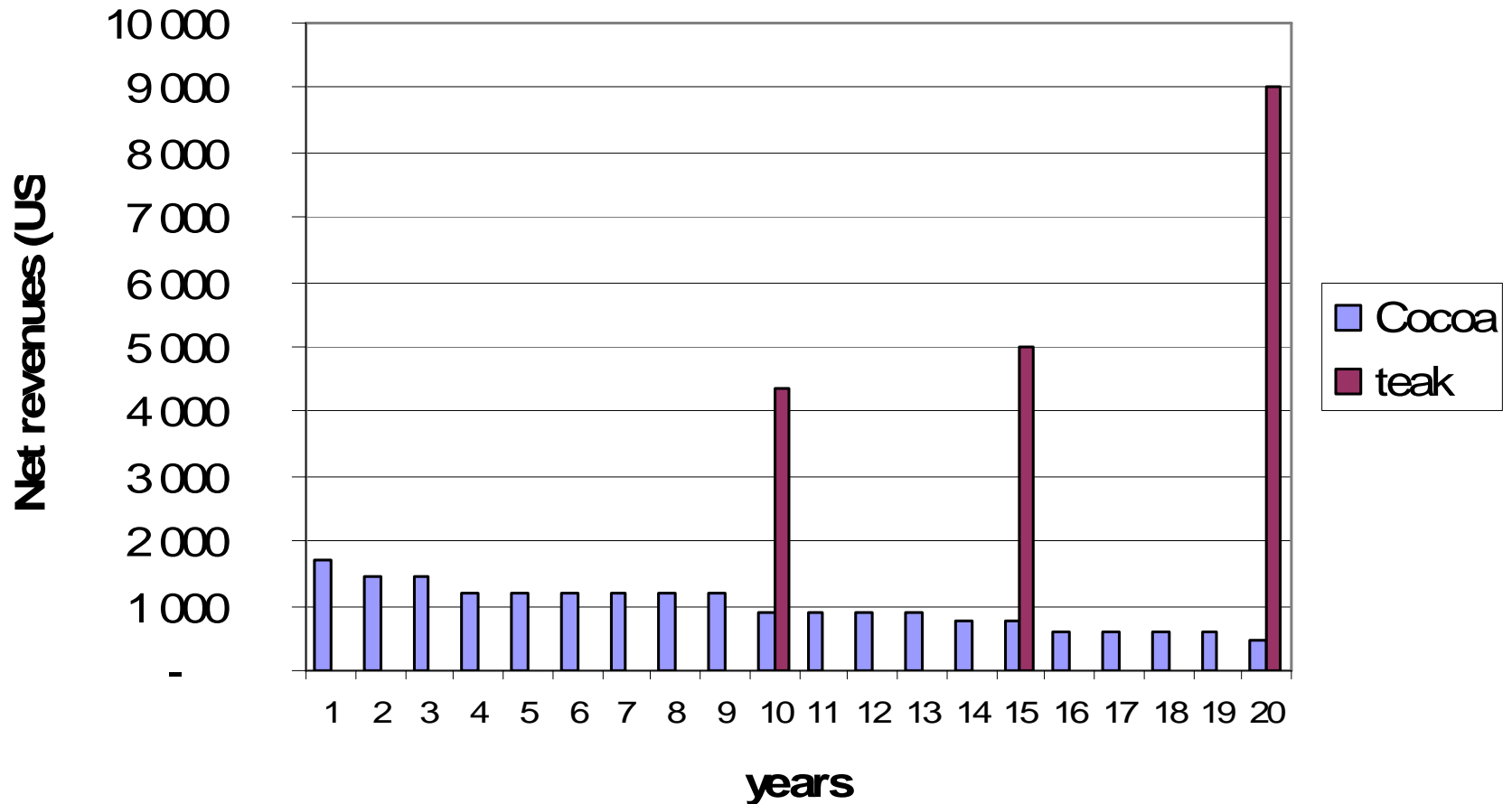
The specific case of timber



Budget simulation of a 14-acre cocoa farm (5 to 13 years old in year 1)

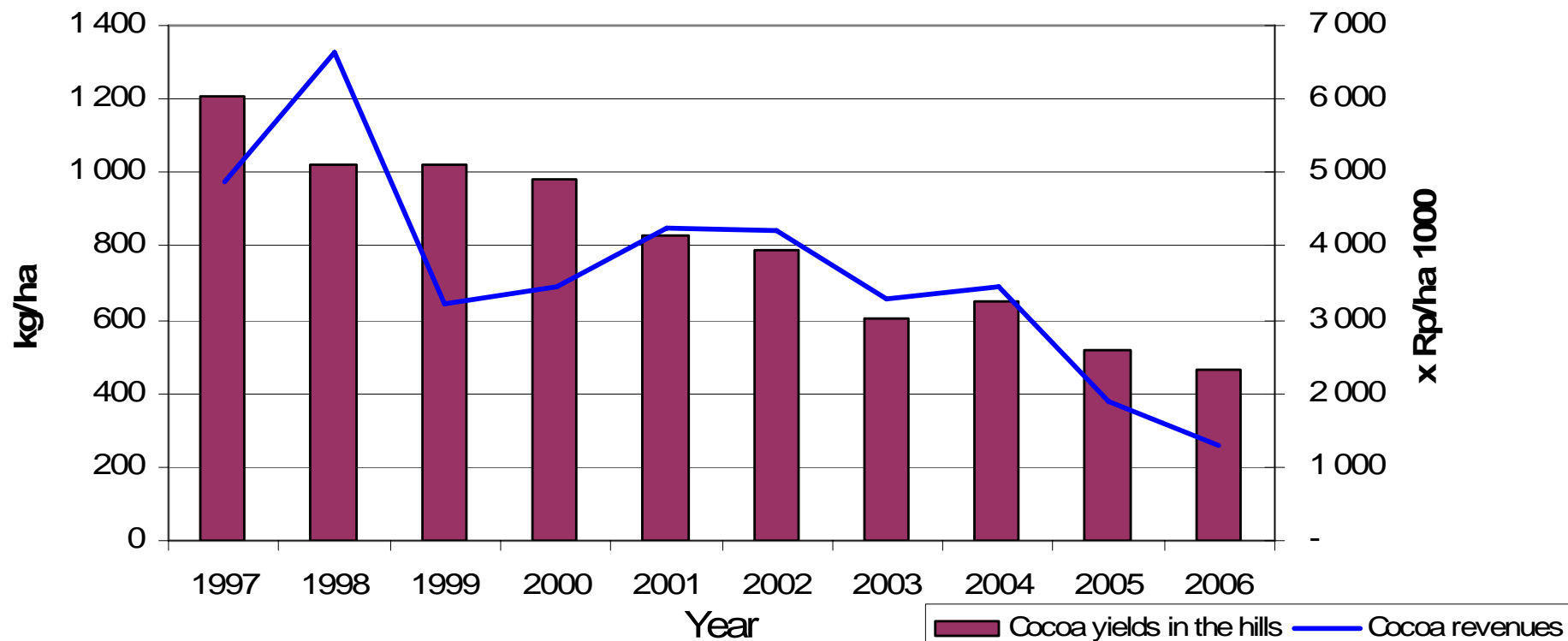


Budget simulation of a 14-acre cocoa farm and impact of 2.25 acres of teak



8. Food risks

**Cocoa yields and Cocoa revenues
deflated by the price of rice
in the hills of Tampumea**





Tackle food crop and nutritional requirements :

- Back to rice
- Move forward with fish pounds

- Timber, timber, and Timber,
 - National dialogues. The day of timber's farmer
 - Look for pension funds to invest in smallholder's timber
 - But without pre-conceived ideas and no 'compulsory agroforestry'

- Cocoa inputs :
 - planting material is a State responsibility,
 - fertilizers, organic fertilizers, more research on optimal use of fertilizers and pesticides
 - LABOUR : a need to improve productivity (herbicides...)

- Diversification, yes,
but
 - rapidly find kinds of moderate support in order to upscale the adoption (case of rubber in Ghana)
- - Investment should not be abandoned at the same time on cocoa.

- Marketing or infrastructures ?
- Farmers 'organisations but for what ?
Some unexpected target could be coordination in IPM
Something that may be more crucial than "training"
- Regional **Coconut** Research and extension programme / platform in West-Africa

