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COCOA AS INNOVATION
African Initiatives, Local Contexts and Agro-ecological Conditions in the History of Cocoa Cultivation in West African Forest Lands (c. 1850 – c. 1950)*

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Cocoa as Innovation: Some Debates

Polly Hill and Sarah Berry have hailed the "success story" of cocoa as the proof of Ghanaian and Nigerian farmers' capacity for initiative and organisation.[1] Cocoa is not exactly comparable to the other major export cash crops which have marked the economic history of West Africa since the 19th century, notably palm oil, rubber, groundnuts and coffee. Cocoa is not locally consumed, is not of African origin, and was only introduced in the 19th century. It has witnessed the most spectacular growth of all West African cash crops, with Ghana (the Gold Coast) becoming the world's largest producer in 1912 and Africa overtaking Latin America from 1919 onwards. Cocoa has had a particularly noticeable influence on the occupation of land, being a perennial crop with a life span of around 50 years.

Other authors are less sanguine about the diffusion of cocoa cultivation. They see it as no more than a modest adaptation of a traditional system of extensive cultivation which has had a negative impact in many ways, especially by taking up so much land

* I particularly thank W.G. Clarence-Smith for the English translation and condensation of a working text presented at the Conference "Cocoa Production and Economic Development in 19th and 20th Centuries" (S.O.A.S. 1993). This text has been taken up here and improved thanks to the attentive comments by A. von Oppen to whom I am grateful. Nevertheless this contribution retains its character of a synthesis condensing in a very selective manner the considerable literature which exists on cocoa cultivation in Ghana, Nigeria and the Ivory Coast.

1 Hill 1970, Berry 1974. Large private African plantations have always existed, but compared with Latin America they were, and still are, always of a modest size (a plantation of 20 hectares is considered as big in Ghana: Gastellu 1980) and play, in addition, a very small part in worldwide production. African cocoa cultivation is a smallholders' business, despite contrary suggestions by Polly Hill (Hill 1956; Gunnarson 1978). This statement, however, is not in contradiction with the existence of strong disparities in farm size and a tendency to concentration, nor with the recognition of an entrepreneurial spirit among the most important farmers, nor with the use by a majority of smallholders of labourers and remunerated workers (Hill 1970, Gunnarson 1978, Howard 1980). For a historical overview of the expansion of cocoa culture see Hopkins 1973, Munro 1976, Austen 1987, Phillips 1989.

2 This point of view focusses on the destructive effects of the slash-and-burn technique used to open the plantations. The field is planted with food crops the first year, then with cocoa the first or second year. The other varieties disappear in the shade of the mature cocoa trees (the tree produces for four to five years). This land-use system remains very extensive where there is abundant land (trees are more productive on forest than on fallow land; it takes less labour, which is the scarce factor, to clear new patches of forest than to reclaim or replant old trees) and discourages technical intensification; the resulting deforestation is considered to have climatic effects and to reduce the biological diversity (ORSTOM-UNESCO 1983, Losch (coord.) et al. 1996; for a more differentiated point of view: Rougerie 1990). At any rate, the absence of noticeable economies of scale in cocoa production explains why extensive cultivation technologies are not characteristic of African cultivators.

and wasting natural forest resources.[2] The expansion of cocoa is seen as having been imposed by the political and economic structures of colonialism with little real initiative shown by smallholders, except for the adaptation to constraints at minimum cost.[3] Current problems of land scarcity, together with difficulties encountered in the intensification of cultivation and the replacement of old cocoa trees, appear to add weight to such sceptical interpretations. It is even suggested, controversially, that Africa can no longer compete with American and Asian producers, especially the latter.[4] According to these points of view, the history of cocoa cultivation in Africa could be summarized as a "renewal without overthrow" of social and economic structures (Gourou 1960) and as the play of the "bio-ecological cycle" of cocoa. The original adoption of cocoa cultivation is explained mainly by the "staple theory" and by the "vent for surplus production hypothesis", according to which the producers, under production incentives of the international market, more or less mediated by colonial restrictions, mobilised forest land resources not or little utilized up to then (Myint, quoted by Berry 1975). Subsequently, it is argued, the spread of production happened mainly through simple imitation of the oldest centres of cocoa cultivation, favoured by out-migration of planters from these centres under pressure because of the "freezing" of land due to the perennial character of the cocoa tree (or, as in the case of Gold Coast, due to pests associated with cultivating techniques considered to be rather primitive by colonial experts).[5] Consequently, the bio-ecological cocoa cycle would thus have induced particular "stages of development of peasant production" (Barlow and Jayasuriya 1986), strictly fixed by the perennial character of the crop and by its life-cycle. The question of a further expansion of peasant cocoa cultivation, against the exhaustion of forest resources and the rarification of the labour factor, would depend almost entirely, according to this model, on the foresight of the national authorities and on past economic policies (during the "cocoa boom"), in order to assure an improvement of cultivating techniques and to facilitate the access of cocoa cultivators to the capital necessary for this improvement in a new context of land and labour shortage. In the African cases, these conditions are not given (Cleaver 1963).

These critical notions, however, rest on retrospective criteria to which the history of cocoa cultivation cannot be reduced, and which miss the complexity of the process. To regret that cocoa growers relied on extensive techniques which privileged the remuneration of labour, to denounce the destruction of the forests which resulted from this, and to condemn the inevitable dependence of producers on the vagaries of the international market, in no way instructs us on the conditions, nature and consequences of this "economic revolution".[6] The purpose of this paper is not to judge the process of innovation but to think it through, assuming that no innovation can be considered independently of its context and history.

Under the aspect of innovation, the study of the spread of cocoa cultivation must integrate the important role of social discontinuities in the process of origin and spread

3 For a historical, exclusively "dependista" interpretation of African export productions, in particular of cocoa, see Afana 1966, Amin 1967, Stavenhagen 1969, Assoumou 1977, and Almeida-Topor & Lakroum 1994.

4 This question has been discussed in Ruf 1995 and Jarrige 1994.

5 Urquhart 1956. For Nigeria: Galletti et al. 1956; for Ghana: Green and Hymer 1966; for Ivory Coast: BDPA-IFCC 1963.

6 According to the term of McPhee 1926

of the innovation. It is particularly important to know the connections at work between groups, networks and heterogeneous interests, which, nevertheless, are mobilised around "product innovation" and reinforce "process-innovation" (Trellon 1992, Olivier de Sardan 1995, Flichy 1995). Concerning the cocoa cultivation in West Africa, a first type of analysis looks at the emergence of innovators and of the imitation process which become effective according to the social characteristics of individuals and groups. These studies refer mostly to the "epidemiological paradigm" of "diffusion studies" (Rodgers 1983, Mendras and Forsé 1983) in relatively homogenous, limited regions,[7] or to a particular type of "migrant cocoa farmer" (Hill 1970). A second type of analysis deals with larger and heterogeneous social units and takes into account contextual and cultural as well as political and spatial discontinuities.[8] A third type of study on cocoa innovation regards comparative syntheses on several countries. This is a type which has been, to my knowledge, not much explored, except for broad outlines (Hopkins 1973, Bates 1981, Hart 1982) or to underline a particular political aspect (Hopkins 1966, Post 1972).[9]

These essentially historical and sociological studies underline the role of socio-cultural, economical and political variables in the adoption strategies of cocoa cultivation of African producers. However, they do not take into account, in general, the interference of the bio-ecological cycle of the resources used with the sequences of innovation. The "bio-ecological" model, favoured by economists and agronomists, on the other hand, is based on the evolution of agronomical conditions, such as changes in the forest as a natural and renewable resource, the life cycle of the cocoa tree, and environmental conditions necessary for cocoa cultivation. The most sophisticated version is presented by Ruf and Jarrige, for it takes into account the variables put forward by historians and sociologists. They stress the overlapping cycles which determine the volume of production, cycles affecting the farmer, the farm, the region, the nation, and even the world distribution of centres of cocoa production.[10]

The objective of this contribution to the subject of the "making of African landscapes" is to stimulate comparative analysis at the largest level between the principal cocoa-producing countries in forest Africa (i.e. in comparable ecological settings). In addition, I want to take more into consideration, through historical reconstruction, the social effects of the bio-ecological characteristics of the exploited resource.

In the following analysis, the principal stages of the spread of cocoa cultivation in West Africa are examined, focussing on the three main producing countries: Ghana (formerly Gold Coast), Nigeria and the Ivory Coast (the story in Cameroun and other

7 For example: Hopkins 1978 and Clarke 1981 on Nigeria; Dunn and Robertson 1973, and Austin 1987 on Ghana; Groff 1980, Arnold 1983 and Ekanza 1983 on Ivory Coast.

8 For example, within the large Yoruba complex: Berry 1975; or within a whole country such as Ivory Coast: Chauveau and Dozon 1985 and 1995, Chauveau and Léonard 1996.

9 The work of Bixler (1972) is very general and mainly concerns the question of the international market.

10 Jarrige and Ruf 1989, Ruf 1988, Ruf 1991, Ruf 1995, Jarrige 1994, Chauveau 1995, Clarence-Smith and Ruf 1996, Chauveau and Léonard 1996, Clarence-Smith 1996. Previously, certain authors such as A.F. Robertson (1982) and C. Okali (1983) drew our attention to the structural effects of the cocoa cycle on the organisation of kinship and domestic groups or on the organisation of labour and work contracts. In this respect, the article by M. Fortes on "Time and Social structure" (1949), concerning Ashanti social structure, is in many ways a pioneer work, although the spatial dimension of the "cocoa cycle" is not sufficiently underlined.

parts of Central Africa is different in many ways). For convenience, the definition of these stages (whose periodization and chronology are approximate, as the pace of innovation differed from one country to another, and, within the countries, from one region to another) draws on the model of the "diffusion studies" by Rogers and by Mendras and Forsé. These phases are distinguished according to the carriers of the innovation: the phase of the pioneers, of the innovators, of the "first majority" ("general diffusion"), and of the "late-comers" ("massification" of innovation). This model, however, implies a relative stability of institutional conditions in which the innovators can evolve. It is therefore complemented by an emphasis on changes of these conditions and on the gradual establishment of new institutions and rules in fields as varied as social organisation, local power, relations with colonial authorities, tenure regulations, employment of agricultural workers, professional organisation of the producers, etc. These changes arose from adjustments negociated between the different groups of actors involved in cocoa cultivation and contribute towards a profound transformation of the "institutional landscape" in the process of diffusion of "product-innovation". The making of West African forest landscapes under the effect of "cocoa innovation" was indissolubly linked with the making of institutional landscapes, while the latter depended on the agro-ecological characteristics of the new resource.

The chronological limit of this study, the post-war years of the Second World War, is justified by the fact that after this period the spread of cocoa cultivation does not arise anymore from an innovation process. At that time, the importance of cocoa cultivation in the formation of peasant forest economies in Ghana and in the Yoruba country of Nigeria had become such that these had no other choice than to convert to this kind of activity. In the Ivory Coast, this process had not yet advanced as much as in the other countries (for reasons pertaining essentially to French colonial policies). But even there, in the immediate post-war period the *verrou* ("bolt"), meaning "forced labour", was lifted and in conjunction with the spread of coffee cultivation, the trajectory of the peasant plantation economy rejoined those of the two other countries. The delay of the development in Ivory Coast subsequently gave enormous leeway for the dynamics of cocoa to this country which, 60 years after the Gold Coast, became the largest cocoa producer in the world.[11]

11 Indicators of the development of production in the three countries (in thousand tons)

Harvest	Ghana (Gold Coast)	Nigeria	Ivory Coast
1900–1901	1	negligible	negligible
1910–1910	41	4	negligible
1920–1921	118	18	1
1930–1931	227	51	20
1940–1941	241	103	43
1950–1951	266	112	57
1960–1961	440	198	94
1964–1965	566*		126
1970–1971		308*	
1995–1996	375	145	1050*

*indicates the maximum recorded production.

Sources: Up to 1980: Cocoa statistics, Gill & Duffus; from 1980, *Bulletin trimestiels de statistiques du cacao*, ICCO (compilation kindly communicated by B. Losch).

The Introduction of Cocoa, from c. 1850 onwards

Non-Africans aiming to secure their local position only played a minor role in introducing cocoa into West Africa in the second half of the 19th century. Europeans permitted the process of cocoa innovation, but they did not play a particularly important part in diffusing the new crop. Missionaries, especially from Protestant denominations, were the first Non-African outsiders to affect the diffusion of cocoa, and the only ones to have had some influence.[12] At the end of the century, European estates were laid out. But, contrary to many current interpretations, they had little impact, except perhaps as a source of seed purchased or stolen by African pioneers.[13] Lastly, at the beginning of the 20th century, the colonial administration set up botanical gardens, but these tended to follow on from rather than to initiate the expansion of cocoa (Green and Hymer 1966, Berry 1975, Vuillett 1925).

Africans were the main historical actors involved in this initial phase, notably migrant workers employed as labourers or artisans on the Spanish plantations of Fernando Póo or the Portuguese plantations of São Tomé and Príncipe. Tetteh Quarshie, blacksmith, protestant, and migrant worker in Fernando Póo, was typical of this stratum. Indeed, he has passed into the country around 1878.[14]

The "Pioneer" Cultivators, 1880s and 1890s

From about the 1880s, cocoa farms were set up here and there by a specific fraction of the African coastal population, who combined commercial and agricultural pursuits, employed non-family labour, were integrated into the European and Christian society of the coastal ports, and had a direct experience of the fluctuations of international commerce (Hopkins 1978). In Nigeria, the cocoa pioneers were traders in the Lagos area, freed slaves and their descendants. In Ghana, they were notables from the Akwapim Ridge, inland from Accra, who were already deeply involved in palm oil and rubber production and trade (Hill 1970, Dummett 1971, Arhin 1980). Around the present frontier between the Ivory Coast and Liberia, the cocoa pioneers were notables from the Tabou region, producers of palm oil, wild rubber and coffee, and probably suppliers of labour for maritime jobs in colonial economies (Chauveau and

12 For Ghana: Hill 1970, and Dickson 1971; for Nigeria: Berry 1975, Hopkins 1978, Peel 1983. The economic influence of the Christian missions in the Ivory Coast is much less apparent because of the firmly lay character of the French administration. Such an influence rather came in from Protestant missions of Liberia in the southwest of the Ivory coast (Behrens 1974, Chauveau and Dozon 1985).

13 On the weak influence of European plantations established on the continent see Hopkins 1973, Phillips 1989, Green and Hymer 1966, and Austin 1996a, for Ghana; Vuillet 1925 for the Ivory Coast. Clarence-Smith (1994) underlines the hardly known role of African plantations on Fernando Poo (a domain of Creole and European plantations), but also, inversely, the role of Creoles or "Creolized" Africans in the pioneer phase of cocoa innovation on the continent.

14 Sampson 1969; for a less heroic version of this personality: Dickson 1977. Tetteh Quarshi, originating from Akwapim country, has given rise to a popular enthusiasm which has no equivalent in Nigeria, vis-a-vis the pioneers of cocoa cultivation who rose mainly among Creoles, traders and descendents of freed slaves. Some of them, like Quarshie, had been workers, sailors or artisans on the Portuguese and Spanish plantations of the islands of São Tomé and Principe, and Fernando Po (Hopkins 1978).

Dozon 1985, Behrend 1974). The often expressed view that the first Ivorian cocoa was planted in the south-east of the century is thus incorrect.

For these pioneers, cocoa was a potential replacement for older economic activities, which were in crisis. It was not a question of mobilising unemployed or underemployed resources, as the "vent for surplus" theory would have it. Brokers were threatened by the concentration of European trading activities in the 1870s, while producers and traders of palm oil faced steeply falling prices in the last third of the century. Cocoa cultivation was not destined to become the sole activity of pioneers, but merely to re-establish the equilibrium between risks and opportunities in a pre-existing and complex mix of economic pursuits. Nor was cocoa the only new commodity to play this role. Wild rubber and palm oil for the export trade and cola nuts for African markets were other replacement products from the forest zone.[15]

The development of cocoa cultivation was more than an economic phenomenon, for it implied the mobilisation of significant relational and cultural resources. The strategies of the pioneers were based on their close relations with missions, some of them being preachers. They also had close links with the rural political élite, some of them being chiefs and notables, or at least related to such figures, while others were the urban representatives of their rural communities of origin. As privileged intermediaries in such networks, they were especially well placed to obtain cocoa seeds, which some of them traded, and labour. In Nigeria, planter-preachers crisscrossed the hinterland, spreading the biblical word and cocoa seeds together, while simultaneously recruiting workers for their coastal plantations (Hopkins 1978).

During this pioneer period of cocoa innovation, the restrictions due to the agro-ecological peculiarities of cocoa did affect access to labour but not so much access to land. The only exception, which gradually became the rule, were migrant farmers of the Akwapim Ridge in the Gold Coast whose conversion to cocoa cultivation happened in the context of a previous migration movement caused by lack and low fertility of land for cultivating oil palms.

The "Innovators", 1890s up to 1910s

According to Mendras and Forsé, the innovators are those who make up their minds in the next phase, "for they adopt a new form of behaviour which is normally copied by others later. They are respectable people, and that is why their example is followed". In the case of West-Africa, cocoa innovators were considerably more numerous than the earlier group of pioneers. Innovators were often migrants with some previous experience of cocoa, either directly, as with labourers in the plantations of African pioneers or Europeans, or indirectly, as with traders and artisans and people related by familial or religious ties to the pioneers. Innovators were not marginal people, but persons of sufficient or social standing to be able to distance themselves from established norms, especially by grafting an ideology of personal promotion onto that of

15 Hill 12970, Roberts 1993, Wilks 1975a, McCaskie 1983 and 1986, Austin 1987, Dunn and Robertson 1973, Konings 1986, Berry 1975, Agiri 1974.

lineage accumulation, but without breaking with their communities. Innovators had access to better information than other rural dwellers, and these were able to test the possibilities of the new crop without taking too many risks, given the margin of security accumulated through earlier activities. Like pioneers, they were not solely concerned with cocoa, but followed diversified economic strategies, often including a commercial component (Hopkins 1978, Hill 1970).

As with the pioneers, innovators were responding to a situation of economic crisis, but one to which the expansion of colonial power had given new dimensions, and which now spread well beyond the costal fringe. Both the administration and European trading houses pursued a policy of marginalising African commercial intermediaries, whether "Creole" coastal brokers or interior traders. Concessions for gold deposits in Ghana were handed over to large European mining firms. Palm oil prices fell further, and extraction became confined to areas with the best natural conditions for oil palms and poor conditions for cocoa, such as south-eastern Nigeria. Rubber prices fell from 1907 onwards, consequent on the growth of Asian plantation output, and the network of rubber collectors and traders turned *en masse* to cocoa cultivation.

The crisis also had social and political aspects. In Nigeria, the frustration felt by marginalised intermediaries led to a kind of "politicisation" of cocoa cultivation, which appeared as a means of both economic and political emancipation for the African coastal bourgeoisie. Moreover, the "colonial peace" resulted in readjustments of relations between local brokers and interest groups. Thus the mass demobilisation of professional Yoruba armies in Ibadan and Ilesha was followed by former soldiers adopting cocoa cultivation rather than mere subsistence agriculture.[16] Again, the Ashanti dissidents, expelled for counselling collaboration with the colonisers, propagated an ethic of personal betterment and invested first in rubber and then in cocoa. On return to Ashanti after the British occupation, they were zealous promoters of cocoa.[17]

The diffusion of cocoa corresponded to new or altered social relations. Planters, who were often traders as well, spread the use of permanent or temporary labour contracts. This attracted peasants from peripheral zones to the coastal areas where cocoa was now well entrenched, either as permanent immigrants or as seasonal labourers. Slavery and pawnship, widespread in Akan and Yoruba lands, were also used to mobilise dependent labour.[18] Colonial measures to stop the slave trade had already led chiefs and notables to intensify the use of unfree labour in agriculture, notably palm oil, rubber and kola nuts, and, in Akan areas, in gold production.[19] This in part explains the prominence of rural notables among cocoa innovators, for they had access to servile labour.

Innovators also changed systems of tenure, favouring and implementing more secure rights to land. In the 1900s, there was a rush of experimentation in the establish-

16 On the particular political and economic conditions of the different Yoruba States: Berry 1975, Clarke 1981, Peel 1983, Beer and Williams 1975.

17 Addo-Fening 1973, Wilks 1975b, Mc Caskie 1983 and 1986, Arhin 1986. Austin (1996) discusses the class origin of these innovators.

18 Hopkins 1973, Arhin 1979, Austin 1987, Berry 1975, Falola 1985, Peel 1983, Clarke 1981.

19 Hopkins 1973, Arhin 1979 and 1983, Wilks 1975a, McSheffrey 1983, Sutton 1983, Austin 1995 and 1996b, Agiri 1974, Clarke 1981, Falola 1987.

ment and "invention" of new rights of access to forest land, varying greatly from region to region according to different local contexts. The precocious land shortage in south central Ghana led the Akwapim, Shai and Krobu innovators to buy forest land from their northern and north-eastern neighbours, developing and systematising an earlier technique for the expansion of palm oil production (Hill 1959, Field 1943). In Ashanti, where a new centre of cocoa cultivation grew up from 1905, access to forest land remained subject to the payment of rent by strangers to local chieftaincies, which Ashanti from other regions also had to pay (Tordoff 1965, Busia 1958, Fortes 1948). In the Yoruba zone of Nigeria, land rights were not uniform and included free access to communally owned forests, lineages receiving a symbolic gift in return for usufructory rights, and rent demanded by lineages or local states (Berry 1975).

There were significant organisational innovations in this period, owing nothing to the colonial administration, as well as growing strains between groups of producers. The migrant cocoa farmers in the Gold Coast formed companies or lineage groups in order to buy land collectively (Hill 1959 and 1970). In the Lagos area, the Agege Planters Union was set up in 1907, diffusing seed and organising labour recruitment (Hopkins 1978). Producers also banded together to hold up sales of cocoa when prices were thought to be unfairly low (Miles 1978, Johnson 1972). This had earlier antecedents, for the Krobu had already refused to sell palm oil in the 1860s, and it was to become especially important for cocoa in the inter-war years (Wolfson 1953, quoted by Miles 1978). As innovators were a much larger group than pioneers, and came from more diverse social backgrounds, conflicts between growers made their appearance. The first generation of pioneers had somewhat different interests from young indigenous cocoa growers organised in youth associations (*asafo*), migrants obliged to pay rent, brokers, or representatives of the urban élite (Johnson 1972).

The case of the Ivory Coast stands out as different in this phase of innovation. The pioneer zone of Tabou in the south-west did not give to further diffusion of cocoa, although the pioneers had the same "sociological profile" as their colleagues in Ghana and Nigeria. This was partly due to fortuitous circumstances. The delimitation of the frontier with Liberia cut Tabou off from its former hinterland, and the outbreak of the first world war swept away the German firms which were the main purchasers of cocoa and coffee in this region (Chauveau and Dozon 1985). The French authorities also concentrated infrastructural developments in the south-east of the colony and designated the south-west as a labour supply zone. Furthermore, the French probably retarded cocoa's "take off" in the south-east for about two decades by imposing forced cocoa cultivation on the population between 1908 and the First World War.[20] The Ivory Coast was also different because of the prominence of foreigners among pioneers and innovators, especially on the commercial side: Senegalese, Ghanaian rubber traders, and a small group of French and Lebanese immigrants (Bigo 1992, Harding and Kipré 1992).

Other regions later to become part of the cocoa zone were excluded from this phase of cocoa diffusion because of specific local conditions. Bio-ecological factors played a

20 Yayat d'Alépé 1979, Semi-Bi-Zan 1976, Groff 1980, 1987 and 1989, Ekanza 1983, Chauveau and Dozon 1985, Domergue-Cloarec 1974, Anouma 1976.

role, while regions such as south-western Ghana and eastern Yorubaland were partially cut off by the slowness of infrastructural development.[21] These regions often provided labour for the expanding cocoa zones, and, in the case of western Ghana, for gold mining companies. Migrant labourers followed a strategy of obtaining a right to grow cocoa themselves as a result of their labour, and land was fairly easy to obtain in areas such as western Yorubaland, served by the new railway. At the same time, migrations by established cultivators out of zones of land shortage were already occurring, for instance from south-central and south-eastern Ghana.

General Diffusion, 1910s and 1920s

Two processes were occurring simultaneously in this period, with the effect of widening regional differentiation. Migration out of areas where land was in short supply and cocoa trees were ageing grew in volume, intensifying an earlier process in southern Ghana, and beginning a new movement out of Ashanti into Ahafo (Dunn and Robertson 1973, Konings 1986, Fortes 1948). The direction and size of population movements in these "pioneer fronts" was determined by both bio-ecological and socio-economic factors. In effect, agricultural colonization starting from the earlier centres of cocoa cultivation was stimulated by growing land pressure in these areas due to the perennial character of the cocoa tree (and by the swollen shoot epidemy which began around 1920 in the Eastern Province of Ghana and in the districts of Ilaro and Ibadan in Nigeria); by the fall in prices of export products which were, up to then, competing with cocoa (rubber, palm oil); and by migration strategies of subordinate social groups faced with obstacles in access to land (young people, descendants of slaves, strangers to the local communities).

At the same time, cocoa cultivation was taken up in new areas by the local population, for example in the Ife and Ondo states of Yorubaland, as well as in the north of Ashanti an in Ewe country in Ghana (Berry 1975, Tordoff 1965, Amenumey 1969). In the Ivory Coast the lessening of colonial constraints resulted in the adoption of cocoa in Asikasso, and then in other Anyi regions (Ndenié, Sanwi) and in Abron lands, but the existing cocoa zone of the south-west was abandoned (Groff 1980 and 1987, Tauxier 1932, Chauveau and Dozon 1985).

This period formed an important watershed, in that the diffusion of cocoa was no longer governed by problems of inducements to cultivate, but rather by obstacles to the free dispersion of the crop. Cocoa as a commodity had ceased to be a novelty, and this "normalisation" of the crop created opportunities for new kinds of innovation in economic activities related to cocoa, while also leading to new social and regional cleavages. Innovation had succeeded, but the spread of cocoa was held up by elements

21 Some West African forest or coastal regions responded less than others to the pedo-climatic demands of cocoa (e.g. in Southwest Nigeria: Galletti and al. 1956, Gourou 1960, Buchanan and Pugh 1966) or did not respond at all (e.g. the coastal savanna zone of Mid- and Southwest Ghana). Elsewhere, in the favourable zones for cocoa but outside the major centres of cocoa cultivation in Ghana and Nigeria, economic reconversion took place towards established export crops: palmoil, rubber, cola (e.g. in Ahafo and Southwest Ghana: Dunn and Robertson 1973, Konings 1986, Roberts 1993).

of pre-existing socio-economic structures, spatial discontinuities in modern forms of transport, and, in the Ivory Coast, ill-adapted colonial policies.

Cocoa cultivation spread further down the social hierarchy in this period, albeit not to the very bottom. Slaves, descendants of slaves, and pawns were probably still excluded from growing cocoa as a general rule. The greatest "democratisation" occurred for people from the oldest zones, especially through emigration. "Social juniors" were able to exploit forest resources with less social constraint than in their region of origin. At the same time, elders were less in need of labour from their junior kin, to the extent that they had access to immigrant labour.[22] Cocoa was also more "democratic" in newly opened up regions. Labourers from distant lands, some already coming from the northern savannas, gained access to land through money rent (Nigeria) or sharecropping (the *abusan* system spreading in Ghana at this time).[23] Labour migrants also returned home from spells in older cocoa zones to open up their own plots, as with the Ondo and Ekiti, who had worked for Egba and Ibadan farmers in Yorubaland. But the Ivory Coast continued to lag behind, for rural notables were still the main growers of cocoa. The Akan and south-western regions of the Ivory Coast provided labour, not only for Ivorian notables but also for Ghana.[24]

The partial "democratisation" of cocoa cultivation was accompanied by a certain withdrawal of the élites from agricultural functions, but in ways which may have increased rather than reduced overall levels of social differentiation. The élites moved into specialised activities linked to cocoa, which were generally more profitable than actually growing the crop, such as trade, transport credit, and political and other "arbitrating" functions.[25]

Largely because of relative prices, cocoa was pushing aside other perennial cash crops, to the point that the British authorities were seriously worried by the dangers of monoculture in the 1920s.[26] The two major exceptions to this tendency were crops grown in areas unsuited to cocoa, such as the coastal fringe and the Niger delta, and timber extraction. Even the mining sector in Ghana was threatened by the growth of the cocoa economy, as migrant workers preferred transporting cocoa to unpleasant and badly paid work in the mines (Tordoff 1965).

Differences in the speed of cocoa development between the British and French colonies remained significant. This was the beginning of the "lorry age", which together with continuing railway construction, helped to spread cocoa much further than

22 Regarding the Yoruba country: Berry 1975 and 1985, Peel 1983, Clarke 1981; regarding Ghana: Austin 1987 and 1988, Tordoff 1965, Fortes 1949, McCaskie 1986, Poku 1969, Johnson 1972, Miles 1978.

23 For Nigeria: Swindell 1984, Berry 1975, Beer and Williams 1975, Clarke 1980, Forde 1942; for Ghana: Robertson 1982, Austin 1987, Sutton 1983 and 1989, Howard 1980.

24 Austin 1987, Chauveau and Dozon 1985, Chauveau 1987, Coutouly 1920.

25 For Nigeria: Beer and Williams 1975, Berry 1975 and 1985, Clarke 1981; for Ghana: Arhin 1986, Austin 1987 and 1988, Tordoff 1965, Dunn and Robertson 1973, Gunnarson 1978, Hill 1970, McCaskie 1986, Miles 1978, Johnson 1972, Howard,1980. For a comparative analysis of relations between cocoa producers and African businessmen in Ghana and Nigeria: Hopkins 1966.

26 E.g. Colonial Reports, Ashanti 1919 (quoted by Busia 1958). This viewpoint was shared by French colonial authorities in the Ivory Coast (Chauveau and Dozon 1985). The reasons given for these worries were fears of scarcity of food products in the cocoa areas and fears of the disappearance of the forest. In reality, cocoa cultivation tends to increase the production of food crops, which are planted together with young cocoa plants, in the pioneer phase.

before. But the French authorities decided to give priority to "imperial" routes to the Savanna regions, to the detriment of the forest zone. They insisted on highly unpopular obligatory collective cocoa areas to grow cotton and rice, and demanded a great deal of forced labour for public works. They also backed small European planters and gave the Lebanese a commercial monopoly. Rural notables producing cocoa found that diversification into trade, transport and credit was closed to them, unlike their colleagues in neighbouring British colonies.[27]

The spread of cocoa cultivation led to political changes, especially in a context of Indirect Rule in British territories. Chiefs were increasingly involved in extensive land litigation, and tended to pocket rents paid to the stool as their own revenue. They became the targets of popular resentment, especially in years of difficulty for the cocoa economy, while also continuing to represent the interests of cultivators vis-á-vis the authorities.[28] These changes were not matched in the Ivory Coast, where chiefs and notables still tended to lead "primary resistance" movements against colonial penetration or to act as the passive agents of the authorities. Relations between chieftaincies also became strained in the British territories. Thus Ashanti claimed suzerainty over Ahafo in order to colonise this forest borderland, while Ibadan exploited its old hegemonic claims to expand cocoa cultivation to the south (Dunn and Robertson 1973, Berry 1975). Ethnic relations were altered, as the "pioneer" cocoa producers achieved higher status, and the gulf grew between employer groups and regions from which migrant labourers came. This said, those who acquired the most status from cocoa were also the first to exhaust their resources of forest land.

Organisations relating to cocoa cultivation moved to the fore, serving as arenas where different indigenous interests confronted one another: producers, brokers, chiefs and urban intellectuals. Traditional organisations were altered to fit new circumstances, as with the "chief of the cultivators" representing young farmers in the Akan regions, or movements structured like old warrior organisations in Yorubaland.[29] The Ivory Coast witnessed fewer such developments, although a Comité des Planteurs de Sanwi was set up. As cocoa prices fluctuated wildly and tended to fall sharply in real terms, organisations increasingly articulated the grievances of producers, although protests were generally confined to the economic sphere. In 1918, the Egba rose in rebellion in Nigeria, when taxes were raised at a time when cocoa prices were low (Beer and Williams 1975). In Ghana, there were cocoa hold-ups in 1921–22 in the old cocoa zones, and in1927 in Ashanti (Austin 1988, Miles 1978, Johnson 1972, Hopkins 1966).

More "modern" forms of organisation were also tried in the British territories. The most ambitious of all were due to Winfried Tete-Ansa, a Ghanaian resident in Nigeria.

27 There were, however, some exceptions among planters native of the Southwest (Beugré Owo and Alépé 1992). Along with Libanese-Syrians, it was mostly traders originating from the Gold Coast, from Senegal and from the Northern savannas (the Dyula) who devoted themselves to the transport and purchase of the crop (Harding and Kipré 1992).

28 For Nigeria: Berry 1975, Peel 1983, Aronson 1971, Beer and Williams 1975. In Ghana, and particularly in Ashanti country, the grabbing of land rent by holders of chiefly titles seems to have been much more systematic and conflictual, and indebtedness there was an important element in social stratification: Arhin 1986, Austin 1987 and 1988, Tordoff 1965, Gunnarson 1978, Howard 1980, McCaskie 1986, Miles 1978, Busia 1958, Allman 1990, Rohdie 1968.

29 Berry 1975, Beer and Williams 1975, Beckman 1976, Miles 1978.

He set up a federation of cocoa cooperatives in Nigeria and Ghana in 1925, an industrial and commercial bank in 1928, and a company charged with selling cocoa in the USA through an Afro-American lobby in 1930. His plans failed through a combination of colonial hostility and organisational deficiencies, but this should not obscure the remarkable scope of his schemes (Hopkins 1966, Harneit-Sievers 1995).

The "Massification" of Innovation, from the 1930s to the Post War Era

Mendras and Forsé define the individuals who are the last to take up an innovation as a mass of "sceptical individuals", finally making up their minds through a process of imitation. But this is all too easy to slip from the description of a sociological profile of historical actors to an interpretation which is individualist, psychological and ahistorical, and which neglects the cumulative effects of the diffusion process, both contextual and institutional. In reality, the commodity itself is no longer an innovation by this stage. Rather it has become a resource to be fought over. It is in fact the "massification" of the product that constitutes novelty, leading to further organisational and institutional innovation.

The 1930s witnessed the final act in the "democratisation" of cocoa cultivation. In the areas where cocoa had already been grown for a generation, about 30 years, there was a clear tendency for the social emancipation of dependent individuals and households, notably pawns, slaves and descendants of slaves. Most of these people had benefited little from formal legal liberation following colonial conquest, either because they felt that their lot was acceptable, or because they feared the consequences of emancipation. In the Ivory Coast former slaves were at the mercy of forced labour imposed by administrators and settlers, and were even "entrusted" to chiefs who had collaborated with colonial rulers. By the 1930s, conditions were different. Servile groups enjoyed new possibilities for economic promotion, through wage work and urban or rural migration, the latter allowing them to obtain a plot outside their region of origin. Moreover, masters found that immigrant workers constituted a more flexible and cheaper form of labour than dependents, once labour markets had become better organised.

The inflow of migrant labourers, by this stage in large part from the savanna regions, and the improvement in communications permitted a further "democratisation" of cocoa cultivation for non-servile elements. Migrants of Akan or Yoruba origins, culturally close to their host societies, found it especially easy to move from the status of labourer to that of farmer. More generally, the relative shortage of labour compared to the expanding acreage, especially in Ghana, put labourers in a favourable position. Sharecropping became the norm, and labour contracts included the possibility of access to land. The fall in cocoa prices in the 1930s made payment in cash more difficult, further strengthening sharecropping.[30]

30 Hill 1956, Austin 1987, Sutton 1983. On the evolution of the contract and social clauses of the *abusan* in Ghana, in terms of historic sequences in the spread of cocoa cultivation, see Robertson 1982.

The Ivory Coast continued to lag behind the other territories, however, because the French hesitated to "liberate" the dynamic of indigenous cocoa farming from its most archaic constraints, notably the *Code de l'Indigénat*. It is true that African farmers got round some obstacles, for example by "poaching" labourers from Upper Volta destined for European enterprises, and by migrating westwards in spite of legal restrictions on the geographical mobility of "natives". Nevertheless, it was only after the abolition of the *Code de l'Indigénat* in 1946–47 that the Ivory Coast was truly able to follow in the footsteps of British territories, albeit with a coffee component which was peculiar to the Ivorian case.[31]

The adoption of cocoa came to be driven more by necessity than by opportunity in this period. The need for cash became ever greater, not only for current transactions, but also to obtain matrimonial goods, and to fulfil social obligations. Cocoa cultivation more than ever appeared as the most obvious way to obtain cash. This "democratisation" of cocoa through necessity was most complete in the old zones of cultivation. There the status of cocoa cultivator had become a kind of minimal social norm, so that people who grew no cocoa were misfits, outcasts or foreigners.

Relations between host societies and immigrant farmers also began to deteriorate. Rents and other payments from migrant farmers ceased to be sufficient to meet the need for cash, so that members of host societies increasingly took up cocoa cultivation themselves. Indigenous peoples began to reconsider their liberal habits of ceding land to strangers on which to grow cocoa. Indigenes began to use their own cocoa groves as "markers" on the land, to prevent the elders from giving in to any further temptations to alienate land to immigrants. At the same time, migrants began to assume a more "offensive" attitude in their quest for land, and treated the forest more and more as a kind of "mining" resource, to be exploited and abandoned.

A great increase in debt in the 1930s and the ageing of cocoa groves acted as other constraints pushing the cocoa frontier forwards. When cocoa plots were mortgaged, debtors usually chose to leave their creditors and migrate elsewhere to open up new ones. By this stage, the old zones of cultivation also faced declining returns from ageing cocoa trees, and it was technically easier and financially more remunerative to open up new plots in the forest than to attempt to regenerate decaying farms.

The sharp fall in cocoa prices in the 1930s and early 1940s were yet other factors which might lead to an expansion in output through necessity rather than opportunity, though by no means always. A defensive strategy (Yung and Bosc) was to increase output in order to compensate for a fall in income. However, it is also true that new planting often diminished as prices fell. Moreover, poor prices led to a lowering of the level of inputs used in cultivation. This may in turn have facilitated the spread of disease, most notably in the case of the "swollen shoot" infection of the late 1930s in Ghana and Nigeria. Coffee production also expanded in south-eastern Ghana and in

31 On the diffusion of cocoa in Ivory Coast as a whole: Chauveau and Dozon 1985, Chauveau and Léonard 1996. On forest regions of the Southeast where the cocoa and coffee production was concentrated until the postwar years: Rougerie 1957, Dupire 1960, Boutillier 1960, Chaléard 1979, Affou 1979, Ekanza 1983, Groff 1980, Arnold 1983. On the historical conditions of the emergence of Baoulé (Baule) agricultural colonization: Etienne and Etienne 1968, Lesourd 1982, Chauveau 1987. On the diffusion of cocoa cultivation and migrations in the West and Southwest: Köbben 1956, Hecht 1981 and 1985, Chauveau and Richard 1983, Dozon 1985.

the Ivory Coast, providing alternative opportunities for forest zones not particularly well suited to cocoa, as in the case of the Ewe and Baule regions. At the same time, cocoa expanded to areas which in the 1920s had stuck to crops such as palm oil, kola nuts or rice.

The global increase of production between the 1930–31 and 1950–51 harvests in the three countries (see note 11) conceals in reality a shift of the principal centres of peasant plantation agriculture. The moderate increase of production in the Gold Coast covers an important decline of cocoa cultivation in the historical centre of the Eastern Region, an exhaustion of production in Ashanti and in the old pioneer zones of the Akim, and a redeployment of migrations towards Ahafo and Sefwi. The strong increase in production of Nigeria (more than doubling) indicates a shift of production towards the Eastern Yoruba States. In the Ivory Coast, even though production remained low in comparison with Nigeria and above all the Gold Coast, its volume almost trebled. It would be appropriate to add here, by the way, the even more important volume of coffee,[32] whose system and zones of production are notably analogous to those of cocoa. The take-off of Ivory Coast production, following the abolition of obligatory services and the introduction of free circulation, can also be explained by the bringing into production of regions peripheral to the historical centres of production in the East, the forest plateaus of the Baule country and some areas of the forested West (in which migrations of colonization of the Dyula from the North and, progressively, of the Baule developed).

At the other end of the social scale, declining returns from cocoa accentuated élite strategies of diversification out of the crop, especially in the old cultivation zones. Apart from the established tactic of moving into services connected to cocoa, there was a new emphasis on access to modern social and political resources. Education for children was especially keenly sought after in Yorubaland, and there was a general scramble for political power and influence. A new chapter was opening in the history of cocoa, in which acquiring the levers of political control over a fully constituted peasantry was to become the key to wealth.

The politicisation of cocoa was linked the growing strength of cultivators' organisations and their increasing tendency to act in defence of their economic interests in a context of severe economic disruption. The price crash of 1930–35 was the longest and most pronounced ever, but the 1937–38 crisis was also serious, and the war made it impossible to export large amounts of cocoa in 1940–45. This gave rise to major social movements, sometimes coordinated at a territorial or even interterritorial level. The hold-ups in Ghana in 1930–31 and 1937–38 are the best known of these.[33] In Nigeria, there was the challenge to export firms by cocoa cooperatives in 1937–38, the union of cooperatives against the Central Board set up during the war, and the foundation of the Nigerian Farmers' Union in 1945.[34] This was the period when the Ivory Coast first experienced such movements, with a hold-up and boycott of imported goods in

32 63 000 t in 1949–50, 58 800 t in 1950–51.
33 Hopkins 1966, Rohdie 1968, Gunnarson 1978, Miles 1978, Roberts 1993, Austin 1988.
34 Post 1972, Beer and Williams 1975, Beer 1976, Harneit-Sievers 1995, Deutsch 1995.

1930–32, similar movements in 1937–38 and 1949–50, and the creation of the *Syndicat Agricole Africain* (SAA) in 1944.[35]

It was in the attempt to gain political control over the "cocoa rent" that the most innovative social processes could be seen in this period. Following Hopkins (Hopkins 1966), one can say it was in the 1930s that control over this resource through political independence first became an issue. In the early 1950s, the nationalist élites were suddenly won over by the virtues of marketing boards and caisses de stabilisation, as vehicles for clientelism and political power.

However, on closer inspection, communal and political life in the cocoa regions was also very marked by the successive steps in the diffusion of cocoa cultivation. The "cocoa cycle" was translated by the movement of the main economic centres but also of regional stakes, which was not without consequences for the relations between different identity groups. In Ghana as well as in Nigeria, protest movements and associations of producers and merchants combined professional, local political and anti-colonial considerations. In Ghana, the form of organized actions in the cocoa provinces of the South and in Ashanti reflected also the removal of production from the Eastern Province towards Ashanti, then towards the new "cocoa frontier" of Ahafo and Sefwi (Post 1972, Dunn and Robertson 1973). In Nigeria, political and communal strategies in Yoruba country equally correlated with the position of different regions in the cocoa cycle (decline of Ibadan in favour of the Eastern States) (Beer 1976). In the same way, in Ivory Coast, the activity of the S.A.A., closely associated with the one of the R.D.A. party (*Rassemblement Démocratique Africain*), was very marked by the shift of the principal producing regions from the "old" Anyi country of Assikasso and Ndényé towards the region of Bongouanou, then to Dimbokro in Baule Country (Chauveau and Dozon 1987, Chauveau 1987, Chappell 1989).

Conclusion

In this very summary outline of the history of cocoa cultivation in Ghana, Nigeria and the Ivory Coast the following main conclusions can be drawn:

a) The comparison of the spread of cocoa cultivation in the three countries yields a number of regularities which have to do undoubtably with the bio-ecological properties of the new plant resource exploited in similar ecological environments. Extensive techniques of slash-and-burn and interplanting of cocoa with food crops on newly cleared areas have proved to be remarkably well adapted to the bio-ecological characteristics of the cocoa tree as well as to those of the environment, to the abundance of forest resources and to the necessities of food production. Even if the area productivity of these techniques did not correspond to the criteria of colonial agronomists, they probably assured a high productivity of labour and invested capital.

b) One has to contradict, however, to the widely spread idea that indigenous techniques in cocoa cultivation were a "natural" extension of primitive techniques already known by forest populations. It has to be emphasized, instead, that the bio-ecological conditions of the environment and of the plant resources mattered less in

35 Amon d'Aby 1951, Bony 1980, Chauveau and Dozon 1985 and 1987, Gbabo 1982, Loucou 1976.

the expansion of cocoa cultivation than their "translation" into resources for the reworking of these conditions by the different successive groups of innovators (Ingold 1992).The extensiveness of cultivating techniques corresponded to agro-economic initiatives and choices in the context of a social and economic environment in full change. One can, by the way, hypothesize that the adoption of extensive techniques on this scale did not correspond to a technological regression (always regarding the criteria of colonial agronomists for technological progress), but to a genuine innovation (Richards 1985).

c) In the course of their impact on the environment, different groups of social actors involved in cocoa cultivation were induced to face, negotiate and introduce new conventions and new norms for access to resources (land, labour force, seeds and marketing channels). Access to these economic resources depends in fact on access to networks, organisations and institutions whose regulation is of a social and political as well as of an economical character.[36] It is precisely this far-reaching process of institutional innovation which is ignored by the "vent for surplus production hypothesis". The latter focusses on the quantitative effects of the use of new resources, without caring for the institutional conditions of access to resources involved, nor for the "social indexation" of the adoption of cocoa cultivation according to the social position of the actors and groups of actors.

d) Even though the bio-ecological characteristics of the cocoa tree and of the forest environment became effective only through their translation by different groups of actors in the course of their social and economic activity, this translation was obviously not independent of the bio-ecological characteristics of the newly exploited resources. Among these were the long life-cycle of the cocoa plant and its low demands on cultivation in comparison with the majority of food crops, but also its sensitivity to diseases and parasites in certain regions. These were clearly the cause of the constant opening of new pioneer frontiers from the successive regions already exploited, of migrations of agricultural colonisers and labourers, and of the shifting of the main centres of production. During the process of diffusion, other bio-ecological characteristics of the cocoa tree (falling production with age, difficulties in regeneration or replanting) increased delocalization of the most productive plantations. It is these bio-ecological characteristics which position the different groups of actors but also the different regions within a country in relation to each other. With the increasing scarcity of forest land but also of labour (because plantations are open to family dependents and, to a lesser degree, to agricultural labourers themselves), bio-ecological conditions play an increasing role in social and political relations between the groups of actors and the different cocoa regions.

e) The history of the diffusion of cocoa cultivation in Ghana, Nigeria and Ivory Coast could be a typical illustration of the "African frontier" hypothesis put forward by I. Kopytoff (1987) and already applied by D.A. Chappell to the Ivory Coast (1989).

36 For example, concerning the conventions of transferring land use rights, work contracts, organization of diasporas of migrant planters, relations between village authorities, migrants and state agents, etc. These new rules and conventions did not, however, displace those existing before cocoa innovation. On the phenomenon of "proliferation of institutions" in a context of instability of the institutional and economic environment, cf. Berry 1989 and 1993.

On the one hand, cocoa cultivation and the translation of its bio-ecological characteristics by the social actors in the course of their actions has in fact largely contributed to the reproduction and recomposition of African societies and their ethnic identities in the interstices of social space by the exploitation of this new resource. On the other hand, this was not a reproduction of the identical but necessarily a "reinvention" of the institutions, not only among the migrants but also among the autochthonous populations, redefining at the same time the relations between the different societies. It can also be emphasized that, in Kopytoff's words "to be a frontiersman is to be an entrepreneur", not only from an economic point of view but also and perhaps primarily with regard to the rearrangement of social and political institutions.

While, however, towards the end of the period examined here, around 1950, the "cocoa frontier" had already been established in its broad outlines in Ghana and Nigeria, this was not the case in Ivory Coast (Léonard and Ibo 1994, Chauveau and Léonard 1996). The delay in time of the Ivorian development of plantation agriculture, essentially due to very restrictive colonial policies vis-a-vis local initiatives until the abolition of the *Code de l'Indigénat* in 1947, had the effect of providing these initiatives, after the event, with an even greater field of action than Ghanaian and Nigerian planters had known. Agricultural colonization of the forests in the west and then the southwest, which was encouraged by Ivorian political authorities (who drew considerable resources from it) and by the clientelistic relations of Baule migrants with state power, was to give rise to a veritable "forced march" into the mining of forest resources, turning this country, seventy years after Ghana, into the largest cocoa producer and exporter in the world. It was therefore mainly from the 1960s that the most important institutional innovations appeared in Ivory Coast which had become known in the Ghanaian and Nigerian "cocoa belts" – particularly the process of "politicization" of cocoa cultivation in the national and local arenas.[37]

Nowadays, most commentators, obsessed by the bio-ecological dimension of cocoa cultivation, attribute the responsibility for the African cocoa crisis to technical considerations, especially extensive methods of cultivation, but this is to ignore the complex web of social, political and even cultural factors in which the diffusion of cocoa has been embedded. In reality, the élite innovators in West Africa anticipated the ending of the bio-ecological cycle of the crop and began to get out of cocoa through the diversification of their social and political investments. The period seen as that of the "triumph" of cocoa was that when growing the crop ceased to be an opportunity and became a constraint. The major paradox of cocoa as a process of innovation is undoubtedly that it was based initially on a technology which was eminently "flexible" and "democratic". But it acquired in the colonial period, and even more in the post-colonial period, an "inherent political content", on which a new social order was constructed. The history of cocoa cultivation, in the phases in which it appears as both a product innovation and a process innovation, seems to corroborate the thesis whereby innovation and its mastery are more conditioned by the uncertainties of social adjustments than by the rationalisation of techniques.

37 With the important particularity that, contrary to Ghana and Nigeria, the Ivorian state would declare itself to be the owner of the land while being, at the same time, forced to adjust to customary tenure practices.

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