

## Deforestation in Côte d'Ivoire

### *The exploitation of forest resources*

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The Ivorian forest, which is often said to have covered around 15 million ha at the start of the last century (DCGTX, 1993; FAO, 1981; Myers, 1994; Parren and de Graaf, 1994) is now less than 3 million ha, primarily as a result of its conversion to agriculture, particularly export crops (DCGTX, 1993). If the second figure can be considered as relatively reliable, the first one is controversial. By examining critically various types of historical sources Fairhead and Leach (1998) observed that this oft-repeated figure of 15 million ha comes from only two sources (Lanly, 1969; FAO, 1981), both providing a retrospective estimation based on an unevidenced assumption: one that presumes the forest zone to have been entirely covered with virgin forest in 1900. This assumption is invalidated by descriptions and figures provided by Chevallier (1909), a botanist from the French National Museum of Natural History, who was the first to systematically detail the Ivorian forest zone. His observations were confirmed by Meniaud (1930) and Aubreville (1937), the first two heads of the Forestry Office in the Côte d'Ivoire. They evaluated the maximum extent of the forest zone at 12 million ha. Chevallier noted that at least half of the forests he visited in 1905 and 1907 were secondary forests or even recent forest fallow: 'The true virgin forest would only cover 60,000 km<sup>2</sup> ... out of the 120,000 km<sup>2</sup> it looks to occupy' (Chevallier, 1909, p. 45).

Obviously 'deforestation' is not just a matter of fact. It is also a more-or-less critically constructed fact. The above figures show a quite significant difference from the usually admitted diagnosis, both in terms of spatial importance and of the meaning of the so-called 'deforestation' process. On the one hand, untouched forest was only around 6 million ha at the turn of twentieth century and most of the 1.5 million ha of the still-remaining state forests (*domaine forestier permanent de l'Etat*) were initially composed of that type of forest (DCGTX, 1993). Loss of pristine forest would therefore be around 4.5 million ha. This is quite a lot as it is, even if it does not look quite so big a tragedy as the commonly accepted 12 million ha. On the other hand, what local farmers' plantations encroached on were, for a good part, shifting cultivation lands their ancestors had more or less recently used.

Above all, what we intend to demonstrate is that by implementing a very restrictive and strictly segregated forest resource allocation, state policies

turned trees into a non-resource for locals whose assigned 'pure' agricultural role led them to discard it.

This critical re-evaluation is a good introductory point for reconsidering 'deforestation' as a result of a forest reappropriation process. By decreeing most of forest area 'vacant and without owner lands' colonial administration pretended to control access to the entire area. Seeing itself as the guarantor of natural resource management and the orchestrator of economic development, administration placed itself at the heart of the forest conversion process. State economic policies have rarely met with the expected response. Where they have failed, it is more because of the disparity between the policy decisions made and the actual situation than of contradictions in terms of the policies themselves. There were two types of disparity in terms of state policy in Côte d'Ivoire last century. The first was between the resource management policies drawn up and the actual strategies of stakeholders other than the state, while the other was between the oft-repeated state policy of resource management and the gradual slide in its priorities and actions, which ended up being in contradiction with its intentions.

A historical look at the century as a whole demonstrates these disparities and sheds light on what look like contradictions. There were two main periods, corresponding to the two different directions taken with regard to resource exploitation. From 1900 to 1950, the colonial authorities based and centred development on the rational exploitation of woody resources, while during the second period, from 1950 to 1990, woody resource management was gradually relegated to the back seat and the state failed to promote the intensification of smallholder farming in forest areas. Since the 1980s, the state has apparently lost control of agricultural development in forest areas, which has now reached its absolute spatial limitations: the borders and the last remaining protected forests. The start of production in the south-west region's plantations set up in the 1980s has pushed cocoa output up to 800,000 tonnes, but behind the last pioneer fronts in the south-western region, yields are falling, there is a shortage of both labour and capital, and in some cases farmers are no longer investing (Léonard and Oswald, 1996).

## **FORESTRY DEVELOPMENT IN THE COLONY: WOOD FIRST 1900–50**

This period was split into two phases. Until 1925, the effective takeover of the country by the colonial authorities coincided with the implementation of a forestry policy under the overall colonial development plan. During the following twenty-five years, the development of indigenous plantation agriculture, which had already begun to escape from state control, demonstrated the limitations of the forest development model on which it was based, and led the state to reconsider its involvement.

### **The advent of the forest management model: 1900–25**

At the start of the last century, the colonial authorities worked equally as hard to take effective control of the country as whole as it worked to intervene in natural resource management. The country was seen as a forest colony and the forests themselves as timber reserves. The development plan for Côte d'Ivoire was geared towards harvesting forest products, primarily wood. This resulted in the construction of communication infrastructures (particularly the railways), missions to appraise and inventory the existing wood resources (trips by Chevallier in 1905 and 1907, and Bertin in 1918), the setting up of a Forestry Office and the gradual introduction of a forestry policy.

The logging regulations laid down in the decrees issued since 1900, but mainly in 1912, went well beyond mere forest management. The 1912 forestry decree, which was first drawn up and put forward in 1911 by the governor general, M. Angoulvant, was a general policy document. It was a quintessential colonial development project, setting out the borders between agriculture and forestry, and the distribution of roles between the three different types of stakeholder, which he defined as the state, forestry companies and 'locals'. The underlying forestry management model, based on the principle of state monopoly on woody resource and de facto exclusion of indigenous stakeholders in favour of (European) logging companies, was still implicitly in force in state policy in the 1990s. This decree came after the 'pacification process' led by the same governor general, Angoulvant, and its consequences in term of forced village-pattern resettlement of local communities along roads for better administrative control meant that most of the forest area did indeed become free of inhabitants or in other word 'vacant'.

The model made the state the unavoidable intermediary between the different social categories and natural resources. Development-policy guidelines included in the forestry decree induced a dual system. Planned division of work for forest-area exploitation led to a quasi 'institutional' segregated development, the main implication of which was the exclusion of local people from forest resource exploitation and severe restriction in their forest-land access. Because of their decreed incapacity of guaranteeing reasonable and restricted logging operations, local populations were forcibly obliged to turn to agriculture. Sustainable management of woody resource could not be achieved except by 'large companies'. Ironically, at the very time Governor General Angoulvant was writing the decree and discussing it with local stakeholders representative of the *Chambre de commerce*, the quasi-totality of logging entrepreneurs were native or other African populations (Verdeaux, 1997).

Local populations were not only restricted to one type of activity, but also limited in spatial terms. The smallholder plantings already set up were seen as 'agricultural schemes' (*cantonnements agricoles*) whose extension required the approval of the authorities and depended on population growth. The 1912

decree also introduced the principle of protected forests, whereby the governor general could deny the local populations any rights of use over part of the forest. This principle foreshadowed subsequent classifications and triggered a form of 'spatial' exclusion, in addition to the existing 'institutional' and 'socio-economic' types. As the Ivorian forests were said to be 'underpopulated' and seen above all as wood reserves, they were to become the almost exclusive field of state power and of logging companies' activities.

Even in its initial stages, the forestry model already contained the seeds of contradictions that were subsequently to worsen. The legislation planned to implement the model to manage forest resources in fact had a somewhat destructive impact on local socio-political structures. By monopolizing the control of access to resources in the name of sustainable management, the state undermined the power of local authorities. Traders and cutters, who until then had dealt directly with each other, were forced to go through the state. Internal as well as group-to-group relationships of forest-area societies began restructuring according to new coastal trade products, mainly rubber and timber. Militarily defeated and with no more financial resources to distribute among important local men, chiefs or descendants, they began to lose their organizational power, and their access to the natural resources. Their capacity to mobilize the labour-force for community enterprises was weakened and the social conditions for the rise in the individually based and extensive cocoa 'plantation system' were met.

There was also a discrepancy between administrative actions and actual farmer practices, which invalidated the main justification behind the forestry legislation. Even at the time, the logging sector was far from disorganized and the squander of resources criticized by Chevallier in 1905 was a thing of the past. Coastal traders paid 'cutters' to reach agreements with local village leaders over access to resources and labour. Forcing the sector to go through the state was therefore unlikely to solve any dispute or conflict between the stakeholders involved in logging.

The subsequent period was marked by the growing discrepancies between general policy trends (through forestry decrees), which confirmed the predominance of forestry in the development model, and the actual behaviour of stakeholders. The colonial authorities were increasingly forced to take account of these discrepancies and react accordingly by modifying the general direction of their economic policies.

### **Implementation and initial limitations of the forestry-based development model: 1925–50**

At the start of this period, the wood sector was apparently being restructured along the lines set out by Governor General Angoulvant, with the exclusion of local woodcutters in order to leave room for European forestry companies. Until then, the networks set up by cutters and their local partners had always

guaranteed easy access to labour. However, for the first time, there was a chronic labour shortage. The shortage was not compensated for by the investment and technology of the so called 'big companies' (Verdeaux, 1997).

The development of indigenous plantations in the 1920s was in sharp contrast to the period that preceded it, and it also seemed to go along with agricultural development objectives. Cocoa production suddenly took off, jumping from 1,000 tonnes in 1920 to 22,000 in 1930 and 55,000 by 1939, despite the drop in prices following the 1929 Depression. The colonial authorities were keen to minimize the effects of the economic crisis, and they broadened their economic policy objectives to encompass coffee growing. The 1931 Economic, Political and Social Programme included a set of incentives aimed at ensuring that Côte d'Ivoire would become to coffee what the Gold Coast was to cocoa. The increase in coffee output was almost instantaneous and sustained: 1,000 tonnes in 1932, 20,000 in 1942 and over 63,000 by 1950.

However, commercial forestry was still the main development priority. The colonial authorities responded positively to the pressure put on them by forestry companies to allow them to benefit from the compulsory community service (hard labour) the locals were required to do. However, they had not foreseen workers deserting their work place because of harsh treatment, and that avoiding community service would start a spontaneous migration towards the smallholder plantings in the east and south-east. The annexation of Upper Volta in 1932, which was seen as a reservoir of labour to Côte d'Ivoire, was also diverted to benefit the local plantation economy (Chauveau and Léonard, 1995). Ivoirians excluded from commercial forestry established a production system based on an exchange of land for labour which attracted and stabilized immigrants, who worked on local plantations in exchange for a plot of land of their own. The fact that family-based societies switched to new activities necessarily resulted in social restructuring and a change in the status of forest areas. The recognition of individual ownership of plantations tended to make the forest a land ownership issue, and the land-for-labour system was the first sign of a move towards a land-consuming system.

The two colonial development priorities, commercial forestry and coffee-cocoa, were by now competing for the available labour, and increasingly for forest land. The Forestry Commission was on the defensive and responded to the expansion of local plantations by classing some forests as protected areas, thus increasing the extent to which local farmers and communities were excluded from forest access. The laws applicable to the local population and the principle of community service, in other words hard labour, were designed to restrict local farmers' access to hired labour and thereby control the extensification of the plantation economy.

During the following period, a combination of political and economic opportunities helped to release the brakes on the development of a plantation economy throughout the forest area. The dual aim of development, which

was now geared towards agriculture as well as forestry, was reached, and the colonial and then the independent government gradually lost control of the social changes linked to the plantation economy and of their effects on forest management.

## **THE STATE FAILS TO KEEP PACE WITH SOCIAL DYNAMICS**

### **The mixed results of agricultural modernization: 1950–70**

The period after the Second World War was marked by the increased priority given to export-oriented agriculture. Native political demands, led by the general secretary of the local planters' union, F. Houphouët-Boigny, resulted in the abolition of the laws applying to the local population, the native rights code (*code de l'indigénat*) and hard labour, hence liberalizing access to labour. At the turn of independence, incentives such as equivalent product prices for local and European producers and agricultural product–price stabilization funds (*Caisses de stabilisation*) were introduced.

However, the international situation seemed to favour commercial forestry rather than coffee and cocoa production. The local and international markets for logs were growing spectacularly, whereas coffee and cocoa prices were falling. This paradox highlights the socio-political rather than economic reasoning behind the main development priorities. The same reasoning also seemed to govern the choices made under the diversification policy intended to make the economy less dependent on coffee and cocoa. As a former Minister for Agriculture put it, 'speeding up logging operations was one possible solution', before adding 'but smallholders would have been sidelined by such an operation' (Sawadogo, 1977, p. 88). The policy adopted was thus to diversify production to include palm oil and rubber.

Export-oriented agriculture and logging were not considered contradictory. The wood-commodity chain was the scene of a second technico-sociological revolution (new stakeholders and investment in more efficient logging equipment) from 1955 onwards, which made it less labour-intensive and more compatible with a plantation economy. The development of export-oriented agriculture was supposed to help to modernize, or at least intensify, production methods. In reality, although diversification crops were set up intensively, particularly within large commercial plantations, coffee and cocoa expansion was solely the result of the extension of the area planted, along pioneer fronts. Moreover, diversification had mixed results: the main products were still coffee, which stabilized at around 250,000 tonnes in 1965, and cocoa, which made progress and eventually overtook coffee in the middle of the following decade.

The state did not seem to appreciate the extent of the discrepancy between the public choices announced and actual socio-economic patterns. The new forestry code issued in 1965 merely took over the principles set out in the previous version, without ever questioning the separation of wood and

farming. The institutional forest management framework was therefore maintained, whereas the Head of State first pronounced his subsequently famous slogan, 'the land belongs to those who cultivate it' in 1964, thus issuing a veritable invitation to continue extensive agricultural development.

### **A headlong rush out of control: 1970–90**

This last period was characterized by the now radical discrepancy between officially proclaimed state intentions and actual socio-economic patterns, in both the agricultural and forestry sectors. In its 1971–75 plan, the state intended to give priority to cocoa production, which was supposed to be intensive, as coffee plantations were ageing by then and there were vast areas available in the west, and to restrict wood production to 3.5 million m<sup>3</sup>. A set of sectorial measures was introduced to encourage cocoa intensification (dissemination of a high-yielding hybrid, input subsidies and guaranteed, attractive prices), and log processing (to cut exports). In reality, these two decades saw an unprecedented boom in extensive cocoa growing and a rise in wood production to a record 5 million m<sup>3</sup> between 1973 and 1980.

The discrepancies between the planned moves and reality were not simply due to farmers' and forestry developers' practices, but also to the state itself, which increasingly redistributed land and income. For instance, in the wood sector, logging permits, which since the 1965 Forestry Code had been supposed to be proportional to the investment made in processing, were granted to political clients whose investments were often fictitious. The introduction in 1972 of unprocessed wood export quotas in relation to the volume processed was circumvented in the same way. Quota shares were distributed free of charge to certain people and were often subsequently traded.

In the agricultural sector, the agro-economic incentives to intensify failed to have a significant impact on a system essentially driven by sociological factors. The state policy of opening up and developing the south-west of the country, particularly the opening of the San Pedro port and the creation of asphalt roads, naturally encouraged increased migration and the establishment of pioneer fronts in forest areas. Migration was also deliberately encouraged by the 'free access' to forests implied by the president's slogan. There were elements of a move to integrate into the land reappropriation movement those groups from the centre and north of the country that had previously been more likely to supply labour.

Faced with the discrepancy between the non-application of the forestry management model and the incentives to encourage export-oriented agriculture, the stakeholders undoubtedly increased their extensive practices still further during this period. Farmers did not hesitate to plant crops in protected forests and forestry concessions. The forestry companies were no longer convinced by the government's intention to stabilize pioneer fronts and

enforce the rules concerning land clearance for agriculture, and speeded up their 'harvesting' of resources before selling off their equipment and leaving the country in the early 1980s. The sector then restructured around a group of smaller companies, centred on processing operations. Logging in its strict sense was left to a new, intermediate group of pieceworkers. As at the start of the century, it was the downstream stakeholders (traders or outside buyers) who had to fund a sector that was largely lacking in capital.

### **CONCLUSION: FROM FORESTER STATE TO ACTUAL STATE OF FOREST**

The Ivorian forest area is now a vast zone of coffee and cocoa plantations, whereas at the beginning of the last century it was intended for wood production with agriculture as a 'sideline'. Paradoxically, the colonial authority's idea of developing logging and agriculture separately undoubtedly contributed to the mass conversion of forest areas to agriculture. Forest-access restriction and forestry companies' exclusiveness of woody resources were seen by locals as colonial discrimination measures similar to poll tax and hard labour, and so to be abolished. The side-stepping of some of the measures imposed by local populations, the violation of various bans, and the development of different practices that in some cases led to 'deforestation' in the forest reserve, were all reactions against the colonial system (for a case study of a claim on forest reserve see Ibo and Léonard, 1996). Deforestation and decolonization seem to have coincided, in terms of the reapropriation of land to which access was prohibited as it was classed as 'forest'.

Over and above the specific situation as a result of colonization, the increasing discrepancies between state policy and actual practices as the century continued reflected the perverse effects of the rational natural resource management model that served to justify the separate development of logging and agriculture. The forestry legislation resulting from the model went well beyond mere resource management, and sought to organize the relationships between the components of society and those of the natural environment by defining the resources and distributing access to them by allocating areas for specific purposes to different social categories that had been identified beforehand. The relationship created with the natural environment was above all a social one, which led to resource management methods, rather than the reverse. It was because they were excluded from woody resource exploitation that the 'locals' became farmers and saw the forest in relation to their role in this new system of division of labour, that is, as a non-resource.

The plantations/wood, farmers/foresters dichotomy that began at the start of the century became sociological in its approach, and was a constant issue in arbitration and state policy concerning resource and land allocation and income distribution from forests. In this respect, development choices and trends were at least as dependent on socio-political as well as economic



factors, if not more so. Central government was just one of many stakeholders, and they had to negotiate with other forces and social categories to ensure the socio-political stability and survival of the prevailing regime through short-term economic 'prosperity'.

Within a century, the state's position was totally reversed. From organizing the restriction of indigenous activities to agricultural schemes set within a vast forest used for wood production, the state has now been reduced to defending the last remaining areas of forest. To a certain extent, this situation is a delayed effect of the relationship with the forest that resulted from the 1912 forestry decree, based on a principle of exclusion, which has never been questioned in subsequent forestry codes or sectorial policies.

As the forest has now been taken over by farmers, it is logical to assume that they are now the only ones in a position to manage it. Complementary forestry and agricultural development of the area, which the state failed to achieve through separation and exclusion, may come from the adoption by farmers of mixed, agroforestry-type production systems. Including trees in cropping systems, particularly in rainforest areas, is known to have many advantages. However, if this is to become a reality, many radical and harsh changes will have to be made in order to overthrow the principle of exclusion that is apparently so embedded in the country's forestry doctrine.

## NOTE

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# Beyond Tropical Deforestation

From Tropical Deforestation  
to Forest Cover Dynamics and  
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# BEYOND TROPICAL DEFORESTATION

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