

THE HISTORY OF DEFORESTATION AND AFFORESTATION IN ETHIOPIA PRIOR TO WORLD WAR II

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INTRODUCTION

The advent of fire-arms in Ethiopia, mainly in the 18th, 19th and early 20th centuries led, as argued by the present writer elsewhere (Pankhurst, 1964:241-8), to a dramatic destruction of wild-life, first in the northern and later in the southern part of the country. This can be illustrated not only from travellers' accounts, but also by the well documented sharp increase, and later no less rapid decrease, in ivory exports. An examination of the by no means abundant historical records relevant to forestry seems to show that the destruction of trees, though perhaps slower, was no less significant.

Definitions

In considering the long history of Ethiopian deforestation one should emphasise at the outset that there are no reliable records of the extent of the country's forests prior to recent times. The modern forestry expert H.F. Mooney has argued that Ethiopia was "densely wooded" in "ancient, and not so remote times" (Mooney, 1955:15), but there is in fact no way of establishing how much of the country was actually forested, or at precisely what period and at what rate deforestation occurred.

There can, however, be no gainsaying that areas of major settlement were over the centuries steadily deforested, and that the result was "ruinous", as Stanislaw C hojnacki has observed, most "especially in the hilly part of the country". Explaining the processes involved he adds:

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"First the hills lost their covering of forests by human action, then torrential rains did the rest: good soil was washed away on the slopes and only poor grass and some bushes remained" (Chojnacki, 1963:32).

Medieval Times

Deforestation, it is clear, was by no means a uniquely modern phenomenon. Wood was reportedly scarce in medieval times, particularly in the vicinity of settlements and especially of royal and other military camps. Shortage of firewood, as well as of provisions, was reportedly a major factor leading to the institution of moving capitals, notably in the 16th and 17th centuries (Pankhurst, 1961:137-42; 1982:41-8). The Florentine merchant Andrea Corsali reported in 1517 that Ethiopian monarchs of that period travelled with such large retinues and armies that the latter, because of the exhaustion of provisions, could not remain in any one place for more than four months, nor return in less than twelve years (Historical Description de l'Ethiopie, 1958:25). The presence of so many courtiers and soldiers, it may be assumed on the basis of later evidence, led not only to acute shortage of food, but also to the significant depletion of trees cut down for timber and firewood.

The result as the Portuguese Jesuit Manoel de Almedia noted in the early 17th century was that there was "not much woodland" in the country, which he added was "not well stocked" with trees. This shortage, he declared, was "not the soil's fault", but the inhabitants' for, "every day" the latter cut down trees "for their houses and for fuel", but "none of them", he complains, had either "the energy or the will to replant a single one" (Beckingham and Huntingford, 1954:48,188).

A century and a half later the Scottish "explorer" James Bruce told a similar tale, observing that in the vicinity of the then capital, Gondär, people had everywhere extirpated the wood", and in consequence laboured "under a great scarcity" (Bruce, 1970:192).

Trees in Urban Centres

While emphasising the extent of deforestation in historic time it should be emphasised that the more important towns of the past were surprisingly well-wooded. Most of the houses of 18th century Gondär were thus surrounded, according to Bruce, by a "multitude" of wanza (Cordia abyssinia) trees. Every house had "two or three" of them planted around it, so that when viewed from the nearly mountain heights the settlement appeared "exactly like a wood", or "one thick black wood". This woodland view was particularly fine on the first of September when the trees were "covered with a multitude of white flowers". Gondär, "and all the towns about, then appeared as covered with white linen, or with new-fallen snow". Some of the houses in the Qänn-bet, or right quarter, of the city - the abode of the rich - were later reported to have also had very fine gardens. One such belonged to the illustrious Ethiopian scholar Liq Atsqu, who had planted several types of fruit-trees (Rüppell, 1830-40:81,104).

Adwa, the principal settlement in Tegré, was likewise graced by many trees. The settlement, according to Bruce, occupied "a much larger space" than otherwise might have been thought necessary, for each house was surrounded by trees and hedges. The former consisted, as at Gondär chiefly of wanza which were planted, the Scotsman notes, in all Ethiopian towns, and screened them so considerably that they appeared at a distance like "so many woods" (Bruce, 1970:192).

The above picture is confirmed by early 19th century foreign observers. The British traveller Henry Salt for example states that Adwa "presented a striking appearance on account of the multitude of Wanza trees", which were "thickly planted in the enclosures around the houses", while the German scientist, Edouard Rüppell, also reported seeing many nebak (Zizyphus spinachristi) trees. Most of these survived until the time of the battle of Adwa in 1896, but were destroyed at the time of the fighting with the Italians. The British traveller A.B. Wylde, always a careful

observer, shortly afterwards noted that "many of the trees had been cut down as firewood", and that all that remained were a few giants too thick to be easily felled. The city's fruit trees had likewise "nearly all been broken down except in the garden belonging to Ras Mängasha", i.e. the principal feudal lord (Valentia, 1808:78; Rüppell, 1830-40:290; Wylde, 1901:173).

Many, perhaps even most, of Ethiopian churches, were also traditionally surrounded by tress, which tended to be preserved from the woodcutter's axe, and thus in many cases reached a venerable age.

Destruction of Trees in the Countryside

The above cited evidence indicates that the situation in towns - and beside well-established churches - was significantly different from that in the countryside. In urban areas, where there was a considerable demand for timber and firewood, many trees were evidently planted, thus showing that the Ethiopians were not as improvident as some foreign observers assumed. On the other hand in rural areas, where the need for wood was less pressing little or no afforestation took place with the result that deforestation seems to have slowly but surely occurred in large stretches of the country. Trees were cut down as required, with little apparent thought for the marrow - and there is indeed no record of any traditional policy of rural afforestation or re-afforestation.

The consumption of wood in old-time Ethiopia was moreover by modern standards extremely wasteful. Trees were in many cases felled by burning the base of their trunks, a practice which not only destroyed part of the timber, but also prevented plants from growing up again from their roots. Most native Ethiopian trees, it may be noted, were moreover relatively slow-growing.

Wood was furthermore utilised in a generous - or uneconomical - manner, for traditional technology was unable to produce thin sheets (such as the "three-ply" of modern times). On the contrary considerable use was made of thick wooden doors, windows and chairs, the construction of which involved a wasteful use of resources. The early 19th century British envoy Cornwallis Harris for example described doors being "rudely fashioned of massive planks and beams, each of which in the absence of saws, had involved the demolition of a whole tree" (Harris, 1844:10; Rosen, 1907:87).

Considerable quantities of wood were likewise consumed in the production of charcoal, the manufacture of which, by modern standards, was also far from economical. One account of the 1870s claimed for example that when wild olive trees from the Finfini area were cut down 1,000 kilos of wood yielded little more than 10 kilos of charcoal (Louis-Lande, 1879:387).

Many forests over the years were also deliberately destroyed to produce pasture lands. Evidence of this is available for example in the Kolubi area west of Harar, where at the end of the 19th century the French traveller Baron Emanuyel Rey observed:

"The natives have a terrible lack of foresight and with the object of enlarging the grazing land for their herds or simply to improve the pasture they periodically burn the dry grass. Each time the fire gains new ground and the forests are invaded, and in this way the country is gradually deforested. Under the influence of torrential rains the land is washed away and rains and barren land replace the soil-laden slopes.

"How terrible is this problem of deforestation in the mountains and what

dangers menace Ethiopia if effective legislation does not check this recklessness! "Even from the point of view of industry what a sacrifice of wealth! The forest of Kolubi, which I have seen disappear, contained at the time of my first visit superb trees which would have furnished admirable wood for carpentry, not to mention essences.... On my return I passed nothing but a desert of cinder and charcoal where the burnt skeletons of the giants of the forest still stood" (Goedorp, 1901:271).

Burning, according to 19th and early 20th century accounts, also took place for other reasons, notably to flush out rebels, to kill or drive off wild animals and mosquitoes, and to clear up decaying matter considered the cause of illnesses (Bompiani, 1891:120; Franchetti, 1891:39; Bulpett, 1907:107).¹ There was also much accidental burning of forests, in many cases because of failure to extinguish camp-fires, or in the process of smoking out bees for their honey (Salviac, 1901:100; Montandon, 1913:29; Herrzbruch, 1925:215).

The result of such practices was that by the early 19th century, when historical records become more extensive, large stretches of territory in the vicinity of most settlements were extensively deforested. This is vividly apparent not only in many European engravings of the period (Pankhurst and Ingrams, 1988), but also, as we shall now see, in the writings of not a few foreign travellers.

The Asmara plain was thus described by the scholarly French traveller Arnauld d' Abbadie as treeless, and with very little bush, while Adwa suffered, according to his compatriot Guillaume Lejean, from a great shortage of timber (Abbadie, 1868:108; Lejean, 1872:48). Tegré, a

region of settlement for perhaps thousands of years, was, we are told, widely deforested - so much so that when Robert Napier and his men passed through it on their expedition against Emperor Téwodros in 1867-8 they found it remarkably difficult to obtain wood. One British officer reported that the erection by his compatriots of a telegraph line near Sanafé was "much impaired" by want of poles, while another declared that "not a single tree" was "met with which could be used for telegraph poles." The situation was no better at Addegrat where the British commander was obliged to offer one Maria Theresa dollar for six poles, and wood was so scarce that "to obtain the prized coin many pulled timbers out of their homes" (Hozier, 1869:113; Holland and Hozier, 1870:139); Hentty, 1869:231).

Deforestation was also extensive in the Kärän area in the north-west, but was of much more recent date, having taken place mainly during the Egyptian occupation of the 1870s. "Previous to that time", wrote the British traveller F.L. James, there were "many trees", but they were "all" cut down by the invaders.

Eritrea as a whole was in fact then badly deforested. Its Italian governor, Ferdinando Martini, reported at the turn of the century that four poles sold for a Maria Theresa dollar, while at the time of the fascist invasion two generations later it was found necessary to import wood from Europe (James, 1883:249; Martini, 1946:317,518; Bono, 1937:88,98,134).

The situation further south was scarcely any better. The Gondär area, according to 19th century accounts, was very largely deforested. On reaching the Wadla plain the Napier expedition thus once more found no firewood, though the inhabitants of the area readily sold the British soldiers their roof beams and door posts (Shepherd, 1868:204). Further west the Fogära plain was described by the British consular agent Cheesman in the early 20th century as a "treeless and bushless area" (Cheesman, 1936:186).

Wood was likewise scarce in most parts of Shäwa. Already in the early 19th century the countryside around the then capital Ankobär was referred to by Harris as a "timberless plain", which was "so destitute of trees and even bushes" that the only fuel available was cow dung (Harris, 1844:13,48). Charles Johnson, another British visitor to the province in the period, similarly reported that "the high table-land of Abyssinia" was "but poorly wooded" (Johnson, 1844:226). The French Scientific Mission of the 1840's stated that in the vicinity of the town of Angolala, one of the abodes of King Sähla Sellasés, trees were "rare", and that members of the mission saw "none but mimosas", while the stretch of country from there to Finini was "completely clear of trees" (Lefebvre et al, 1845-8:223-36). Half a century later the French traveller Jules Borelli agreed that the hills and hillocks of the area were "generally stripped of vegetation", and Wylde, describing a journey in northern Shäwa, later exclaimed: "On five occasions only did we procure firewood... and only in such small quantities that as soon as the dinner was cooked the fire had to be carried on with semi-dried animal droppings" (Wylde, 1901:407). The French traveller Emanuel Rey, also writing of Shäwa, likewise remarked that the province was "completely denuded", and added "a tree is a rarity, at least in the vicinity of the capital" (Goedorp, 1901:271).

Deforestation at this time was visibly taking place in the Harar area. Wylde records the existence of a 100-mile wide forest to the west of the city, but declared that it was "gradually being destroyed by fire", and added. "The very valuable trees, which consist chiefly of the Natal pine, giant juniper and other coniferae, are set on fire to make clearings for the growing of dhurra and other grains". Trees were thus being "ruthlessly destroyed: so that what had taken "perhaps centuries to grow" was "reduced to a charred stump in a few hours" (Wylde, 1901:88).

Deforestation was particularly acute in the Entotto-Addis Ababa area. Borelli noted that in the neighbourhood of Entotto, Menelik's then

capital, trees were "rare", and that when building the churches of Raguél and Maryam the monarch and his spouse Queen Taytu had been obliged to travel to Mount Mängasha where they had personally supervised the cutting of timber (Borelli, 1890:100-1).

Addis Ababa

The destruction of trees around Addis ababa, which took place after the establishing of the settlement around 1886, is particularly well documented. The French Scientific Mission of the 1840s described the area as "covered" with junipers and wild olives, but a little over half a century later Borelli saw only a few trunks, and declared, "all the trees have been destroyed... only one splendid group was spared" (Borelli, 1890:111-30; Lefebvre, 1845-8:239).

As the town grew the entire Addis Ababa area was in fact scoured in search of timber for the construction of buildings and palisades, as well as firewood for cooking and heating. Wylde, surveying the area at the turn of the century, observed that it was "nearly treeless" (Wylde, 1901:416), while his compatriot Vivian recalls: "For two or three days before reaching the capital we had to do without wood in the camp, for there was scarcely a tree to be seen. Every shrub that could possibly be used for firing has been cleared" (Vivian, 1901:137). The paucity of timber was also noted by yet another British traveller A.D. Pease, who stated that the route from Harar to Addis Ababa was "treeless" and "bare", while the country in the vicinity of the capital was "barren" of trees.

The wood shortage in and around Addis Ababa was indeed so acute that it was widely believed around the turn of the century that the capital would soon have to be abandoned. Virtually every foreign observer of the time took this view. Wylde for example, writing of Addis Ababa, observed: "This immense struggling settlement has seen its best days, and some new place will be chosen as headquarters, as it is now nearly

impossible to procure firewood for the wants of its inhabitants (Wylde, 1901:423). Count Gleichen, a member of a British diplomatic mission, took a similar view, observing: "Sooner or later the settlement is doomed. A new spot must be chosen for gradually all the wood is being cut down and consumed, and when the distance from the forest becomes inconveniently great, the capital must be removed elsewhere" (Gleichen, 1898:158).

The process of deforestation around urban settlements was by no means unique to Addis Ababa. The same phenomenon was apparent in the vicinity of most other towns. Wylde observed, "what strikes one is the absence of trees and shade.... wood is getting scarcer every year around the majority of Abyssinian towns." Turning specifically to Italian-occupied Asmara he added "I saw a great difference in scenery... since I first knew it, everyone has cut down and no one has planted... The environs of Asmara were formerly fairly wooded [but] with the exception of two or three trees in the native town there is not a vestige of bush or wood to be seen with the exception of castor oil plants" (Wylde, 1901:119,124).

Menilek's Policy

The problem of deforestation, it may be concluded, was of major concern throughout the later Menilek period. The Ethiopian ruler, who was reputedly a great lover of trees, was grieved at the destruction of forests then taking place. He gave orders prohibiting the burning of trees, but this command, like many others, was largely ignored. Later, towards the end of the century, he forbade the cutting of trees without his permission, but this decree too was difficult to enforce (Blundell, 1900:106; Michel, 1900:119; Rosen, 1907:224; Montandon, 1913:29,124). The innovation-loving monarch therefore turned his attention increasingly to the introduction of new, and more fast-growing trees.

AFFORESTATION

The Eucalyptus Tree

By far the most important tree introduced during the Menilek period was the Australian eucalyptus, which came to be known in Ethiopia as the bahr zaf or tree from across the sea. The precise history of its introduction has not yet been established with certainty, for there are competing claims of the tree's manifest success there has moreover been a tendency for chauvinistically minded Europeans of various nationalities to claim that the plant was introduced by one of their own compatriots.

The most widely held view would seem to be that the first eucalyptus trees in Ethiopia were planted by Menelik's French adviser Casimir Mondon-Vidailhet, whose pioneering achievements were accepted by the modern French geographer Edouard Berlan, the author of a comprehensive article on the subject (Berlan, 1951:571-7). The Georgian pharmacist Dr. Mérab, a careful observer who arrived in the Ethiopian capital only a decade or so after the tree's introduction, on the other hand believed that the eucalyptus was initially planted by another Frenchman, the trader Léon Chefneux (Mérab, 1921-9:14,177-8). Chojnacki, who cites strong evidence in support of this latter view, nevertheless recalls that yet another foreign resident could also claim the merit of introducing the tree. This was an Englishman, Captain O'Brian Ireland, head of a British company, who, according to an old-time German resident Herr Hermann Getz, was actively involved in the distribution of eucalyptus seedlings. Ethiopian tradition, however, tends to support the claim of Mondon-Vidailhet or Chefneux for it holds that the eucalyptus was introduced by a Frenchman, who, in some accounts, was later imprisoned (Chojnacki, 1963:36-7).

Large numbers of eucalyptus trees were subsequently planted by a German forestry expert, Georg Escherich, who likewise deserves a place in the history of the introduction of the tree (Grühl, 1932:17; Bairu,

1981:66-7, 247). Menilek's notable Swiss adviser Alfred Ilg was at any early stage also active in planting trees, while the British envoy Thomas Hohler reported in 1906 that he too was involved: he recalls that he had some time earlier sent for eucalyptus seeds from India, Ceylon, England and elsewhere for planting in or around the Ethiopian capital (Keller, 1918:216; Hohler, 1942:124).

Though it is difficult to decide how to apportion the credit for the introduction and diffusion of the eucalyptus tree the main point to note is that a number of foreigners were involved. This is perhaps not surprising for the late 19th century was a time when the tree was gaining considerable popularity in Africa, and was being planted in several other parts of the continent.

The eucalyptus tree was so fast-growing that it was not long before people could see that it was of major economic importance. Dr. Mérab for one wrote with great admiration of the new tree. He noted that after five years it would reach the height of twelve metres, and when twelve years old might be twenty metres high, with a good stout trunk as high as man. Menilek, the Abun or head of the church, and many other large Ethiopian landlords were therefore soon establishing extensive estates of eucalyptus trees, while foreigners, Armenians, Greeks and others, though operating on a smaller scale, were planting as many as two, three or even four thousand seedlings. Such proprietors before long discovered another advantage of the tree, namely that when cut down it grew from its roots, without any effort, or expense, by man and could therefore be harvested every ten years (Mérab, 1921-9:177-8). The trees was thus from the first immensely popular -though report has it that there were some who disliked its strong, new and distinctive smell, which was occasionally likened to itan, or incense (Pankhurst, 1962:51).

The tree, as is well known, changed the entire economic situation in and around Addis Ababa. The wood shortage was largely overcome, talk

of moving the capital ceased, and the settlement, which Wyld had described, around 1900, as "nearly treeless", was referred to by Dr. Mérab only a generation later as a eucalyptopolis, or city of eucalyptus trees.

A similar development meanwhile was occurring in other towns so that travellers approaching such settlements in the early 20th century usually saw the eucalyptus trees in the distance long before there was any sign of the houses themselves. The old wooded towns of Ethiopia's past, such as Gondär and Adwa, were thus in a sense resurrected, thanks to the eucalyptus tree.

Other Trees

The coming of the eucalyptus tree was, however, not the only forestry innovation of the Menilek period. Another of the developments of this time was the importation into Addis Ababa, mainly it appears by Armenian residents, of a large number of fruit trees (Pankhurst, 1981:355-400).

Reference must also be made to the advent and spread of the Opuntia, or prickly pear cactus, which was apparently first introduced by the Egyptians during their occupation of Massawa and Harar in the 1870s. This fast-growing plant, known in Shäwa as Yäjaruslam Qwolqwal and by the Italians as Fico d'India, was later much esteemed, and encouraged, by the Italians during their colonial occupation of Eritrea (Calciati and Bracciani, 1927:14). It was subsequently introduced into Harar by a Greek called Manolé who sold it for a Maria Theresa dollar per stem to persons wishing to fence their orchards, but who later found themselves "unable to stop its rapid growth". The plant was also popularised by others, including the German ostrich farmer Gotz at Adami Tulu (Yusuf, 1960:17.²

In Addis Ababa meanwhile steps were taken early in the 20th century, on the advice of the German forester Escherich, to plant European conifers. Large numbers of seeds of this tree were imported, but the project was not effectively implemented, in part perhaps because of the Emperor's failing health (Escherich, 1921:11-2).

Turpentine trees were also introduced. They were planted in the Menilek palace compound and elsewhere, but never gained anything like the popularity of the eucalyptus tree (Mérab, 1921-9:178).

OPPOSITION TO THE EUCALYPTUS TREE

The eucalyptus, it may be noted, was not, without its disadvantages. It was in particular so thirsty a plant that it dried up rivers, lakes and wells in its vicinity, and prevented other plants growing beneath it, and in this way significantly encouraged soil erosion. These factors soon led to considerable opposition to the tree. In 1913, during the reign of Menilek's heir Lej Eyasu, the Ethiopian Ministry of Agriculture, which had been established only six years previously, issued a decree ordering people to pull up two out of every three of their eucalyptus trees, and plant mulberry trees in their place. There was even talk of introducing the cultivation of silk-worms, which were known to thrive on mulberry leaves (Eadie, 1924:179-80). The advantages of the eucalyptus tree were, however, too great for it ever to be eradicated, with the result that the 1913 decree remained a dead letter. The eucalyptus tree had come to stay.

It was, however, an essentially urban tree, growing in and around Addis Ababa and other settlements. The country at large remained, as in the past, very largely deforested. Trees in the settled highlands were few and far between, and timber and firewood, even in the capital, continued to be both scarce and expensive. Two mule or donkey loads of firewood sold in the 1920s, according to Mérab, for a Maria Theresa

dollar, or the price of a small sheep, while a cubic metre of even poor quality timber was worth as much as three or four cows (Mérab, 1921-9:143). Many if not most communities in the countryside moreover still burnt cow dung as fuel.

CONCLUSION

Examination of the far from substantial records for the period under discussion indicates that major deforestation occurred throughout Ethiopian history, though this is more easily documentable for the 19th and 20th centuries. While the advent of fire-arms led to a great transformation in which wild-life was largely shot away and held its own only in remote areas, the landscape too was changing. The countryside, much of which is believed to have been once upon a time covered with trees, became progressively barer, as forests were steadily cut or burnt down. Deforestation, however, took place mainly in areas of extensive settlement, and especially in the vicinity of towns or moving capitals, though Gondär, Adwa and most urban centres of the past were the site of many wanza and other local trees, and therefore relatively well forested.

The advent in the late 19th and early 20th centuries of the eucalyptus tree, locally known as bahr zaf, turned Addis Ababa and other settlements into forest towns, albeit ones still by no means copiously supplied with wood. The urban settlements of the latter period came to be dominated by this tree, as those of the past had been by the wanza, and it was in that sense that Addis Ababa became as its name implies a new flower - though, paradoxically, one in which the bahr zaf's relatively insignificant flowers were scarcely ever noticed.

NOTES

1. Mercha Wärqé, Emperor Yohannes IV's envoy to Britain, was quoted, in 1884, as stating that "the people of Abyssinia were making strenuous efforts to clear the country of lions and other wild beasts", The Globe, August 27, 1884.
2. Personal statement made to the author by Hermann Gotz. See also Bairu Tafla, 1981:171-2; Vivian, 1901:109, H. Scott, 1950-1:125.

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