

## *The Indigenous Forests of Colonial Natal and Zululand*

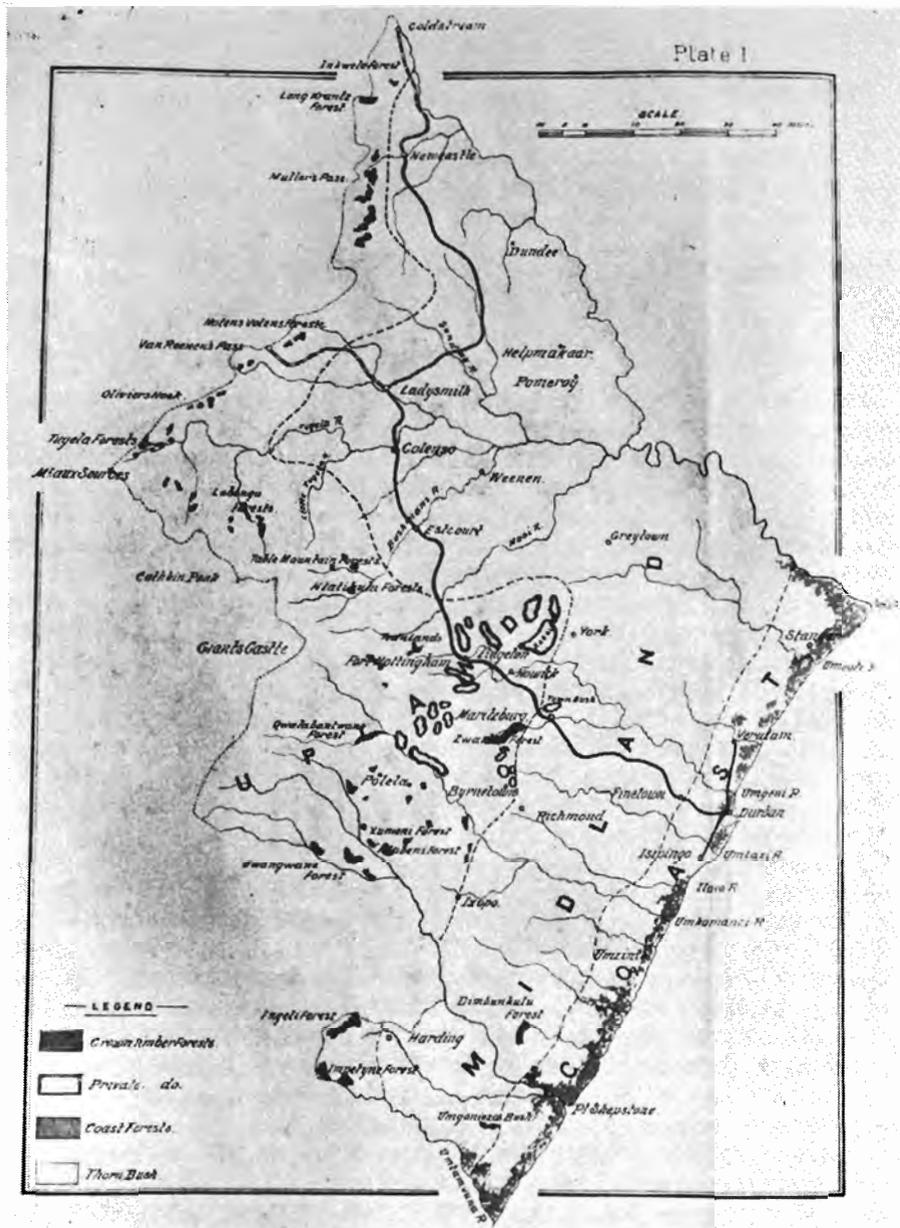
South Africa has never been one of the great forest regions of the world in historic times: only about 8 per cent of the region has a high enough rainfall to allow forest growth. The distribution of proper indigenous timber forest in South Africa has been limited to a narrow shelf between the Indian Ocean and the Outeniqua and Tsitsikamma mountains, and patches along the south-eastern escarpment of the Drakensberg through East Griqualand, Natal and up to the eastern Transvaal, and on into eastern Zimbabwe. Further isolated patches of forest were to be found on the slopes of the ridges at a tangent to the escarpment, as well as east of the main forest belt in Zululand, and in Gaza and Mozambique provinces in Mozambique.<sup>1</sup> These forests often faced south or south-east, thus being cool and moist (the moisture coming in the form of rain or mist). The presence of forest on mountain escarpment and submontane ridges in Natal, though on a smaller scale, was not dissimilar to the major forest belt in India at the base of the Himalayas.<sup>2</sup> Today only 0,25 per cent of South Africa is indigenous forest, compared with 4 per cent in Zimbabwe and 6 per cent in Australia.<sup>3</sup>

Because of Natal's coastal subtropical climate there has been some confusion concerning what vegetation may be termed forest.<sup>4</sup> Reference may be found to coastal forest, dune forest, high forest, littoral forest, mimosa forest, mist forest, ravine forest, savannah forest, subtropical forest, temperate evergreen forest, upland forest and woodland forest. Thus any type of clumped woody vegetation has at some time or another been endowed with the accolade 'forest'. For the purposes of this paper, forest refers to those areas of extensive indigenous close woodland usually with two or three species of tree predominating. In 1880 crown forest in Natal was similarly defined as woodland exceeding 10 acres.

In the period when Natal was a British colony, from 1843 to 1910, there is little problem in identifying indigenous forests in the Drakensberg and midland regions of Natal, where the forests are quite distinct from the savannah grasslands and thornveld vegetation. In the coastal region of Natal there is more difficulty in discerning forest land. Except for the distinctive mangrove areas, the stunted forestal growth easily blended into the thick, impenetrable coastal bush.<sup>5</sup>

### *Distribution and composition*

The principal indigenous forests of colonial Natal, in the period before the annexations of the 1890s and 1900s, were to be found mostly in the west of



Map showing the distribution of the Natal forests  
(From the 1889 Forest Report)

the colony. They were divided into three main zones: the broken forests along the lower slopes of the Drakensberg above 3 500 feet; the more densely wooded mist belt forests of the Natal midlands, between 1 000 and 3 500 feet; and the forests of Alfred County in the south, which were an extension of the midlands forests and divided from them by East

Griqualand. The heavy hardwoods, such as ironwood, sneezewood and stinkwood, which had been abundant in the Cape's indigenous forests, were less common in Natal. Here the soft-wooded *Podocarpaceae*, or yellowwood species, dominated forest vegetation. In 1890 it was calculated that in Knysna six yellowwood trees contained 300 cubic feet, whereas in Natal in Mahutywa forest six yellowwoods contained 603 cubic feet.<sup>6</sup> It should be noted that due to exploitation the composition of certain indigenous forests in Natal and Zululand such as Qudeni has changed somewhat over the last 100 years.

The forests along the escarpment of the Drakensberg were to be found in the districts of Newcastle, Klip River and Weenen. The principal forests were Nkwelo and Long Krantz, south of Charlestown; the Normandien forests which ran for 20 miles to the west and south-west of Newcastle; forest land on the south-facing slopes of the Biggarsberg; 45 miles of broken forest from Nolens Volens, near Van Reenen's Pass, to the source of the Tugela; the Lombango forest near Bergville, where there were also remains of petrified forests; forest land on the lower slopes of Table Mountain, south-west of Estcourt; and the extensive forest of Hlatikulu (meaning 'great forest') on the heights of the watershed between the Bushman's and Mooi Rivers.

The two major species of tree to be found in the Drakensberg forests were real or upright yellowwood (*Podocarpus latifolius*) and Outeniqua yellowwood (*P. falcatius*). Other species existing in these forests or on their margins included: African holly (*Ilex mitis*); assegai (*Curtisia dentata*); mountain cedar (*Widdringtonia nodiflora*); red pear (*Scolopia mundii*); sneezewood (*Ptaeroxylon obliquum*); white ironwood (*Vepris undulata*); white stinkwood (*Celtis africana*); wild peach (*Kiggelaria africana*).

The forests of the Natal midlands were to be found in a fairly narrow belt, not exceeding 40 miles, stretching from the East Griqualand border in the south-west to the source of the Umvoti in the Greytown district in the north-east. Substantial tracts of forest existed at Spioen Kop, Nottingham Road, and a belt of forest 20 miles in length existed at Karkloof. This area was known among early British settlers as the 'forest country'.<sup>7</sup>

In the vicinity of Pietermaritzburg, forest land was to be found, including an indigenous forest in excess of 8 000 acres at Zwartkop. In addition, an extensive forest belt extended west and south-west from the capital. In relative proximity to each other stood the forests at Mpendle, Boston, Dargle and Van Vuuren's Post which were seen as an extension of the Karkloof forests.

Further south, the Polela and Ixopo districts contained over 15 forests, the principal ones being Mahutywa, one mile west of Polela; Nxumeni, a yellowwood forest west of Donnybrook; and nearby, to the south-west, Hlabeni forest.

On the border of the colony, with access only from East Griqualand and situated at the watershed of the Mzimkulu and the Ngwangwane Rivers was the great forest of Ngwangwane. This was described in the late 1880s as being 'the finest (forest) I have yet seen in South Africa and the nearest approach to a pure forest of yellowwood.'<sup>8</sup>

The major species of tree to be found in the midlands forests were the three varieties of *Podocarpaceae*, real yellowwood (*P. latifolius*), Outeniqua

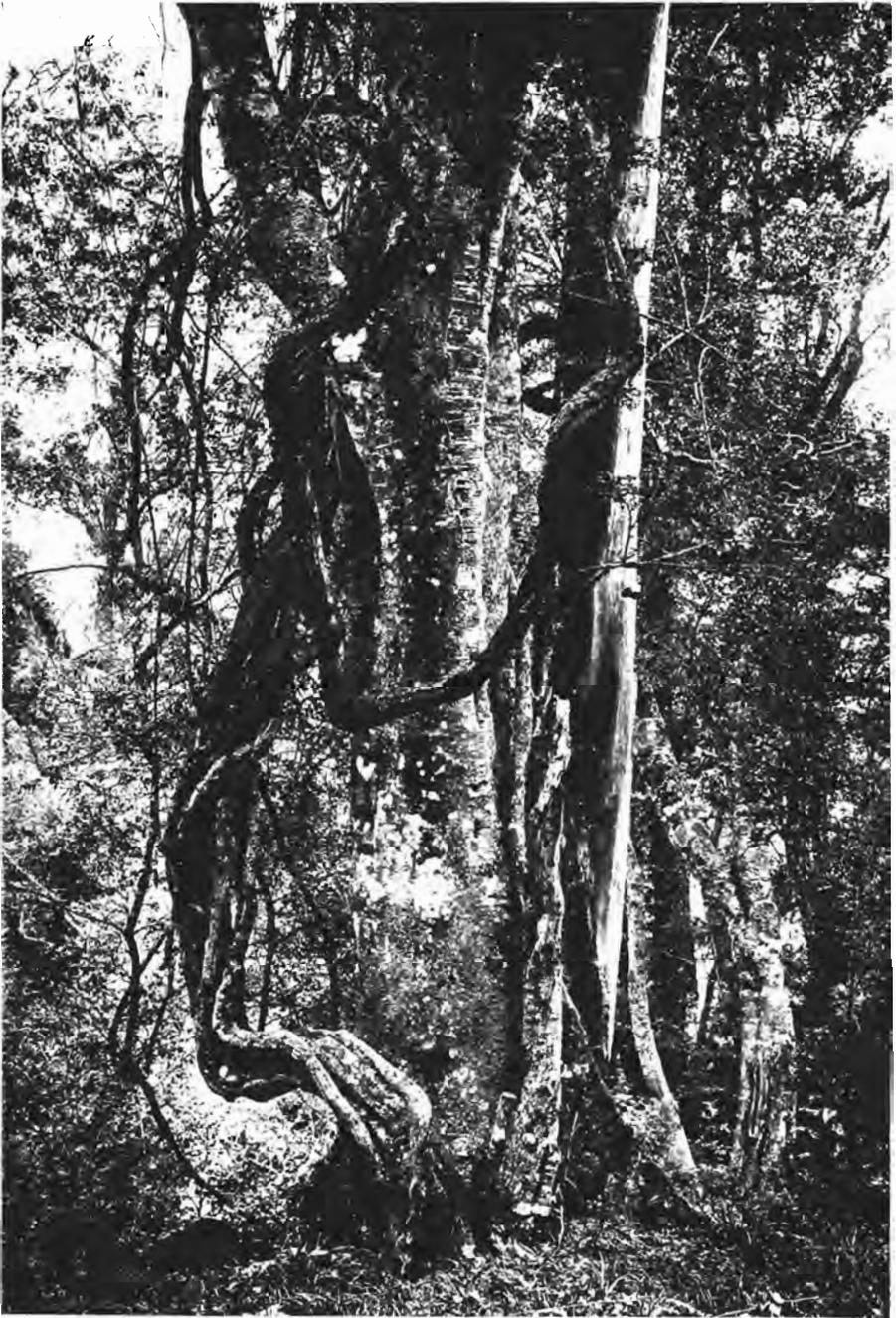


Photo. by Aeg. Mueller

*Scutia indica* Brongn. Lianas in a forest of Natal

(From R. Marloth, *Flora of South Africa*, Vol. 2, 1925)

yellowwood (*P. falcatius*), and Henkel's yellowwood (*P. henkelii*). These yellowwoods, especially the Outeniqua yellowwood, were considerably higher than those of the species in the Drakensberg forests, reaching 30 metres. Other trees occurring in numbers in or on the margins of these midland forests included: boekenhout (*Faurea saligna*); bitter almond (*Prunus africana*); essenhout (*Ekebergia capensis*); ironwood (*Olea capensis*); lemonwood (*Xymalos monospora*); Natal wild pear (*Dombeya cymosa*); sneezewood (*Ptaeroxylon obliquum*); stinkwood (*Ocotea bullata*); white ironwood (*Vepris undulata*); white stinkwood (*Celtis africana*).

The third region containing forest was Alfred County. In 1865 this region between the Mtamvuna and Mzimkulu Rivers was annexed to the colony of Natal. Alfred County had eight forests, the principal ones being Ngeli, which stretched for five miles along the south-eastern slopes of the Zuurberg, and Mpetyne, in the upper basin of the Mtamvuna River. These forests were on a par with the Polela forests and contained similar species to that region.<sup>9</sup>

The annexations to Natal in 1897 and 1903 of land beyond the Tugela gave the colony additional forests in the Paulpietersberg district and at Ngome and Ceza. Further south, an isolated forest at Msinga, in the vicinity of Pomeroy, marked the beginning of an outcrop of the mist belt forests, which extended across the Tugela into Zululand. Here, on a series of mountain ridges to the north of Eshowe, the extensive forests of Qudeni, Nkandla and Ngoye were to be found, together with the lesser forests at Dlinza and Ntumeni. A line of scattered, smaller forests extended north from the middle reaches of the Black Mfolozi River to the Makowe Hills. A forest was to be found on the eastern slopes of the Lebombo mountains in the Ngwavuma district of northern Zululand. These Zululand forests were not greatly different from those of the Natal midlands, though some of them tended to have fewer of the stinkwood and yellowwood species and more varieties like lemonwood (*Xymalos monospora*). Nonetheless in such forests as Ngome and Qudeni stinkwood and yellowwood were plentiful.

The forests of coastal Natal were much less spectacular than those of the interior. Because of the excessive heat and humidity, tree growth was 'stunted, gnarled and crooked'.<sup>10</sup> Most of the coastal area was covered with thick evergreen bush and palm belts with occasional grassy hills. The forest element predominated in riverine regions, especially at the mouths of rivers and on the high aeolian ridges or high sand dunes. In the south of the colony, low forest was found near the coast at Nhlogozi, Mehlomnyama and Ntimbankulu, and a belt of forest ran along the coast between the Mtamvuna and Umzumbe Rivers. North of the small but impressive Berea forest was a fairly solid tract between the Tongaat and Umhloti Rivers, and another belt existed on the high dunes in the vicinity of St Lucia. A mixture of forest and bush was to be found at Manguzi near Kosi Bay. But the great coastal forests were to be found in central Zululand on the high land south of Lake St Lucia at Dukuduku and nearby Ndhlovu. Some of the species of tree found in these coastal forests and in their environs were: Cape fig (*Ficus capensis*); cola tree (*Cola natalensis*); essenhout (*Ekebergia capensis*) *Eugenia spp.*; flat crown (*Albizia adianthifolia*); knobwood (*Zanthoxylum capense*); saffron wood (*Cassine papillosa*); tamboti (*Spirostachys africana*); quar (*Canthium obovatum*); umzimbeet (*Milletia grandis*); waterberry

(*Syzygium cordatum*); white milkwood (*Sideroxylon inerme*); white pear (*Apodytes dimidiata*); white stinkwood (*Celtis africana*); Natal mahogany (*Trichilia dregeana*); Natal milkplum (*Bequaertiodendron natalense*).

Much more distinctive than the coastal forests were the littoral forests of the mangroves, being more extensive the further north they occurred. Fringing lagoons and mud swamps, they consisted of the mangroves, *Rhizophora mucronata* and *Bruguiera gymnorrhiza*, and the *Verbenaceae* species, *Avicennia marina*.<sup>11</sup>

### *Extent and exploitation*

Contemporary estimates as to the size of Natal's indigenous forests in the colonial era are conservative, partly because of ignorance as to their actual extent. Even by 1910 there remained forests which had not been surveyed, and as late as 1921 a new forest, Mgomoma, was discovered west of False Bay in Zululand.<sup>12</sup>

In 1880 the Drakensberg forests were estimated to be 24 800 acres, the midland forests 135 100 acres, and those of Alfred County 6 000 acres. For the coast the statistics were given only for mimosa bush. This estimate of Natal's forests at a total of 165 900 acres represented approximately 1,3 per cent of the area of the colony. A decade later one estimate put the percentage of forest at 1,25 per cent, and another at 1,17 per cent. This compares favourably with the Cape's 0,25 per cent of indigenous forest at the time.<sup>13</sup> The new districts added to Natal in the 1890s and early 1900s gave the colony at least a further 50 000 acres of forest.<sup>14</sup> By 1903 the area of indigenous forest in Natal may be estimated to have exceeded 200 000 acres, which is approximately the total size that the Cape's indigenous forests had been in 1846.<sup>15</sup>

This is not to deny that there was substantial deforestation in the precolonial and early colonial period. Descriptions of Natal, dating from the sixteenth century speak with eloquence of the wooded nature of the region. These accounts must, however, be regarded with some caution. They are imprecise about location, they usually concern only the coastal region, and their use of the term forest appears excessively broad.<sup>16</sup> Nevertheless, reliable evidence can be found for the existence of a coastal forest in the vicinity of Durban, and of substantial forest growth on the ridges north of Pietermaritzburg. The existence of sour veld on south-facing slopes may in some instances denote the earlier presence of forest, but this cannot be taken for granted without supplementary evidence, such as that provided by the surveyor of the Natal Land and Colonisation Company concerning the farm *Welton* on a tributary of the Umgeni. A receding arboreal flora produced by climatic variations and human exploitation in the precolonial period remains a plausible hypothesis.<sup>17</sup>

In the colonial era it was commonly believed by settlers that the most serious forest destruction was committed by the indigenous African population. That the cattle-owning Nguni relied on large quantities of sapling wood for fencing, fuel, huts and kraals is indisputable. Nineteenth century estimates of the number of saplings required for a single hut varied from 100 to 1 000. In certain regions, such as Nkandla, charcoal was produced for the smelting of iron. In addition, Nguni settlement was very often concentrated on the fringes of forests, with many leading a semi-

nomadic existence revolving around the cultivation of newly cleared forest land. Areas cultivated in this way and then abandoned tended to be colonised by grassland. However, the Nguni practice of wintering cattle in forests was even more harmful. The use of timber or timber products for their domestic furniture, utensils, dyes, knobkerries and medicines was inconsequential compared to the damage wrought annually by domesticated animals.

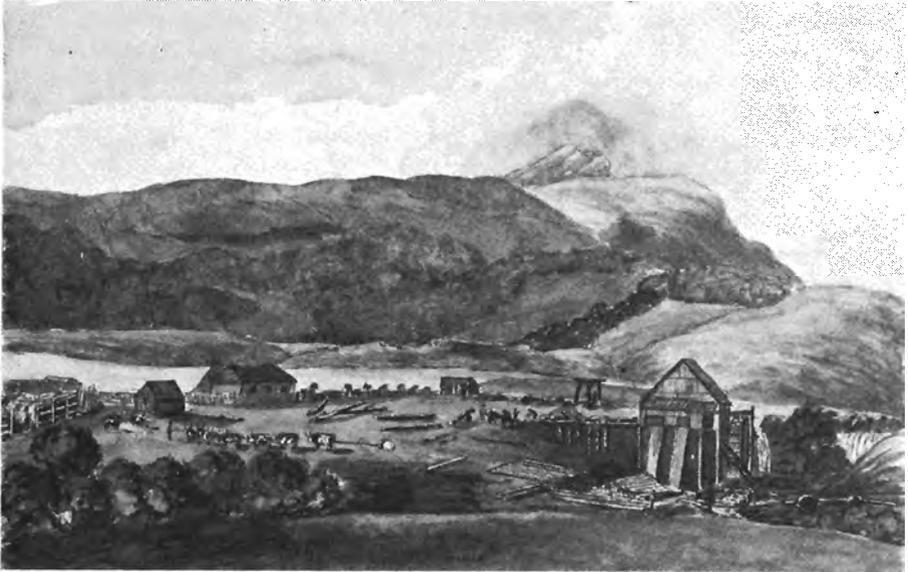
Such destruction was aggravated by settler land policy. Insecure land tenure for African squatters gave them no incentive to improve their homes by building in stone rather than in wood. Moreover, the official policy of establishing African locations on land unclaimed for white farming or on land adjacent to Khoisan-occupied regions resulted in 12 locations, mostly in the south or south-west of the colony, containing large tracts of forest. With increasing population density and inadequate magisterial supervision, many of the yellowwood forests in these locations disappeared within two generations.

African attitudes to forests varied from area to area. Forests were often portected as sacred places where dead chiefs were buried. To the immediate south of the colony in Pondoland the chief personally had control over the forests. The Zulus reserved specific species of tree, such as the red ivory (*Berchemia zeyheria*), for royal use only. Forests were also often protected by fear: fear of spectres or of wild animals, and in the northern coastal regions, fear of malaria.

Forests were useful to both the Nguni and the Khoisan as places of refuge. Amapunze, Bambatha, Cetshwayo, Shaka and Sikhunyana all used forests for this purpose during military campaigns. During the mfecane an estimated 3 000 refugees took shelter in the forest near Port Natal.<sup>18</sup>

Early white settlement in Natal in the 1820s and 1830s had only a localised effect on forest land due to the sparse settler population. Some cutting of timber was carried on at Karkloof, Nottingham Road and in the immediate surrounds of Pietermaritzburg and Port Natal. The Voortrekker Volksraad encouraged the use of local timber by imposing an import duty of 25 per cent on all wood and woodwork. In common with other Boer republics, it legislated where necessary on forest matters, and in 1839 it passed measures to regulate the cutting of tamboti (*Spirostachys africana*) at Port Natal. After the British annexation of the republic of Natalia in 1843 many of the Voortrekkers moved back over the Drakensberg. For the next 50 years Boers, especially from the Orange Free State, crossed into Natal to cut timber illegally. This was then smuggled out of the colony along slip roads and usually sold at Harrismith.<sup>19</sup>

It was only with British colonisation that forest exploitation began in earnest. In spite of the fact that Natal had no large-scale railway sleeper, shipbuilding, paper making or pit prop industries, and had only small brick, candle and lime-making industries, the amount of timber consumed annually by the colony was large. By the 1880s the capital alone was using 6 000 tons of timber as fuel, and as early as the 1860s Durban's local supply of timber was so diminished that the port had to rely on imported timber or timber brought from the Boston-Karkloof forests. The bulk of forest timber was consumed in bridge building, carriage, cart and wagon construction, fencing, furniture making, and house construction.<sup>21</sup>



Boston Saw Mills, 40 kms from Pietermaritzburg. C.H. Dickenson, January 1857  
(Natal Society Library Collection)

While some farmers indulged in asset-stripping of timber, the clearing of pure forest for white farms tended to be confined to the coastal region. However, farmers were very often forced to allow their African workers to clear forest land for cultivation in order to retain their labour. Land speculation syndicates, however, were often keen to protect forest land and encourage settler planting. Some localised damage was done to Dlinza forest during the Anglo-Zulu war and to the Nottingham Road forest during the Anglo-Boer war, but generally the military conflicts in colonial Natal left the forests unscathed.<sup>21</sup>

### *Timber production*

The cutting of trees was done with axes or two-man crosscut saws. The trunks were cut in pits, on makeshift trestles, or in mills which were constructed at the forests. At first vertical saws were used in these, though some circular saws were in use by the 1850s.<sup>22</sup>

The number of sawmills operating annually in the colony in the 1860s was approximately nine. This number rose to 11 in the 1870s and to over 18 in the 1880s. In 1860 44 per cent of sawmills were steam-driven and in 1880, 80 per cent. In the 1860s the greatest concentration of sawpits and sawmills was to be found in the Karkloof forest. At the beginning of the decade there were on average 10 pits being operated annually as well as the two principal mills, Clarendon and Albion, both of which were water-powered. The annual capacity of these was in excess of one million cubic feet of timber with a value of some £10 000. By the end of the decade 20 pits were operating, and, in addition to the two older ones, three major new mills were working, two of which were devoted to the production of wheel rims.

A new mill at *Talavera* was driven by a 16-horsepower Ransome and May engine capable of turning a circular saw at 800 revolutions a minute. In total, these five mills worked a minimum of 50 vertical and two circular saws. Their annual capacity was over 1,75 million cubic feet with a value of some £19 000. The value of timber extracted at Karkloof in the 1860s was around 2½d per cubic foot. It can be estimated that during the decade approximately 14 million cubic feet of indigenous timber, valued at £150 000, was extracted from this forest. This figure dwarfs the 1 million cubic feet of timber imported by the colony in the same period.

Apart from Karkloof, smaller water-powered mills operated in the Boston-Dargle region. Information concerning their operation is scant, but in 1862 the Boston mill produced in excess of 300 000 cubic feet of timber and the Dargle mill 8 000 cubic feet. Three years later the latter was producing over 100 000 cubic feet. However, in 1867 both mills closed and only in 1870 did the lumbering firm of W.R. Shaw, which owned three mills in Karkloof, re-open the Boston mill.

A third timber region to be exploited in the colonial era was in Alfred County. Because of transport difficulties, returns for sawyers were as low as 1d per cubic foot for timber cut in the Ngeli and Zuurberg forests, and it was not until the 1890s that a sawmill was erected in the Ngeli forest. Nonetheless, in the first few years after the annexation of the area to Natal 326 000 cubic feet, valued at £2 512 was legally extracted from the region; this figure does not include timber illegally cut and smuggled into East Griqualand to be sold in the Kokstad-Franklin area. The poor returns and inaccessibility combined to make the Alfred forests diminish more slowly than those nearer the capital.

Although the sawmills produced greater quantities of timber than did the pits, the sawmill owners, such as Gilbert Fownes and the Shaw brothers, were far more responsible in their attitude to forest resources and the need for forest management than were individual sawyers whose destructive methods of extracting timber were notorious.<sup>23</sup> In the 1850s sawyers often tendered for business from those farmers who wished to make a fast return on timber sales.<sup>24</sup> The coming of sawmills undermined the livelihood of many sawyers, who moved increasingly to remoter parts of the colony. They were responsible for the steady destruction of many of the Drakensberg forests; as in the Cape, sawyers had to pay a licence fee of £1 per saw per month to cut in crown forests. The sawyers were often former soldiers and sailors, Boers and Irish, and as in many regions of the world these woodsmen were looked upon with a mixture of fear and contempt. Partly because of transport costs and a system of payment for timber in kind, few sawyers were as fortunate as the Dooleys and McCormicks who were able to buy farms for themselves.<sup>25</sup>

Most of the timber cut by individual sawyers and by mills was for domestic consumption. Only in the years 1854 to 1859 was indigenous timber exported through Durban harbour in any quantity. In this period 62 534 cubic feet of yellowwood, 34,5 cubic feet of sneezewood, and 7 016 staves were exported, mainly to the Cape. This compares with 50 000 cubic feet imported in this period. The greatest amount of indigenous timber exported through Durban was in 1856 when £8 020 worth, or 14 per cent of total exports, was shipped out. Greater quantities of timber were, however, taken

over the Drakensberg to the Boer republics, where Natal yellowwood could fetch up to four times its usual price. One estimate put the annual value of this trade in the early 1850s at £3 600.<sup>26</sup> According to the *Natal Witness*, it was this trade which led to the establishment of the Boston sawmill in 1853.<sup>27</sup>

This overberg trade was spasmodic, and the quantity of timber involved could in no way have satisfied the colony's increasing demands. T.R. Sim in his volume *Tree planting in Natal* noted:

Natal is not, never has been, and never can be an overseas timber exporting country. The indigenous forests are unable to meet the domestic requirements of the colony.<sup>28</sup>

Limited indigenous forest, local hostility to the use of poorly seasoned, though cheaper yellowwood, and the growth of the colony resulted in timber imports rising from 1 million cubic feet for the 1860s to 2,25 million for the 1870s, 8,75 million for the 1880s and 26 million cubic feet for the 1890s. With the domestic wattle industry growing, and carriage and wagon makers ceasing to use indigenous wood, by the turn of the century the indigenous forests of Natal were no longer the backbone of the timber trade.<sup>29</sup>

#### *Government legislation and forestry policy*

For the first 30 years of British rule the colonial administration of Natal concerned itself very little with the indigenous forests. Desperate to raise much needed capital, they did not exclude crown land containing forest from public sale, nor did they prohibit the leasing and consequent exploitation of forest on crown land. Though under the supervision of the surveyor-general's department, there was tardiness in surveying and demarcating forest land which led to unintentional alienation of forest from the crown. In the 1880s the area of crown forest dropped by a third, and as late as the 1890s forest land was being sold for a mere 10 to 15 shillings an acre.<sup>30</sup>

Ordinance 4 of 1853 gave the Lieutenant-Governor powers to preserve bush on crown land and to issue licences for the cutting of timber on crown land. Further proclamations under this ordinance were issued in 1853, 1863, 1867, 1872, 1874, 1875, 1882 and 1888. Since the early regulations were not designed to protect forests, but rather to control the destruction of thorn bush suitable for fuel and to facilitate the collection of licence fees, as far as forests were concerned they were of little benefit. Worse was the fact that regulations concerning grass burning, the impounding of cattle, and squatting did not apply to crown forest.<sup>31</sup>

Only in the 1870s, when much destruction had already been done to forests, did the government turn its attention to the question of official policy on forest preservation and exploitation. There were many reasons for this new concern and they varied considerably. Many colonists believed the drought of the mid-1870s had at least in part been caused by deforestation. Pressure was put on the government by resident magistrates who were becoming increasingly disturbed by the amount of forest destruction done by Africans. Railway development and an ever-increasing timber import cost further drew the government's attention to forests.<sup>32</sup> But equally important was the impact on colonists and administrators of the Victorian 'plant craze'. Encouraged from abroad by the Royal Botanic Gardens at Kew and in the colony by the *Natal Colonist*, the last quarter of the nineteenth century witnessed the phenomenon of prominent citizens enthusiastically flinging

themselves into the study of indigenous flora.<sup>33</sup> These included Messrs. Curry, Evans, Greenacre, Jameson, Keit, Sanderson, Saunders, Sutherland, Stainbank and Wood, as well as Mrs Katharine Saunders. The Governors most closely associated with this development were Sir Henry Bulwer, Sir Charles Mitchell and Sir Walter Hely-Hutchinson.

As far as forestry was concerned these individuals were conscious of developments outside the colony. In Europe there were famous forestry schools in England, France and Germany. The 1870s and 1880s saw a dramatic increase in the amount of forestry legislation passed in these and many other European countries. But Natal was especially influenced by developments in Cape forestry, which had in turn been influenced by both French forestry and, especially, the Indian forest service.<sup>34</sup> The appointment in 1880 of the Comte de Vasselot de Regné as conservator of Cape forests marked the beginning of a serious forestry policy at the Cape. In 1888 a Cape forest act, based on the Madras forest act of 1882, gave protection to all crown forests in the colony and extended the organisation of the conservancy of forestry to the Transkei and Pondoland.<sup>35</sup> Natal's quest for an acceptable forestry policy was therefore part of a more general realisation that forests, though a renewable resource, had to be properly protected and managed.

Unfortunately the required long-term financial investment in Natal forestry proved an insuperable problem for the impoverished colony. Further, the government felt it could only regulate for crown forests which meant the exclusion from regulations of 80 per cent of Natal's indigenous forest in private hands. Then there were the practical problems of enforcing such regulations. In the late 1860s and early 1870s a number of forest conservators were appointed. These were usually local farmers or magistrates, though occasionally the police and even sawmill owners and sawyers acted as conservators. Their duties were to collect sawyers' licence fees and to supervise cutting in crown forests. They were paid between £1 and £5 a month or received 25 per cent of revenue collected. The system proved unsatisfactory, neither protecting forests nor raising sufficient funds to cover expenditure. As late as the mid-1890s licence fees collected rarely exceeded £400 per annum.<sup>36</sup>

Prior to formulating forestry policy, the Indian government had appointed various commissions to study the subject.<sup>37</sup> The Natal government followed suit, and official reports on the forests of Natal were completed in 1880, 1890 and 1902. The first of these forestry commissions was appointed by the Lieutenant-Governor, Sir Henry Bulwer, in June 1878. It comprised nine local dignitaries under the chairmanship of Judge Lushington Phillips. The commission sat for 21 months and reported in March 1880. Though only a fifth of the 1 000 questionnaires distributed by the commissioners was returned to them, the 32-page report methodically commented on 14 districts of crown forest. It proposed the establishment of a Natal department of forestry which would promote state and private afforestation and would preserve the remaining indigenous crown forest by excluding sawyers and African squatters from such land. The commissioners warned that a successful state afforestation policy would require 10 years' subsidy before any return could be expected.<sup>38</sup>

Despite representations to the legislative assembly by George Sutton, who was himself heavily involved in the Natal wattle industry, and by Bulwer to the British colonial office, little was done to implement the report's recommendations. Field cornets and magistrates were increasingly used in forest protection and the number of African forest guards increased. The crown forests were not closed to sawyers until January 1884, and were reopened in May 1888. However, by the late 1880s there was renewed public concern over the decrease in Natal's indigenous forest. The Bulwer report was finally published officially in 1889 and a new proclamation prohibited the sale of crown forests which exceeded 10 acres.<sup>39</sup>



Modern pit sawing

(Photograph: A. Lambert)

*The establishment of a department of forestry*

The Natal government finally decided to adopt a comprehensive forestry policy as a result of this general concern, but rather than act on the 1880 report they seconded H.G. Fourcade from the Cape forestry service to compile a new report. He commenced his task in March 1889 and concluded it in February 1890. His report was six times the length of the earlier one and, while generally ignoring privately owned indigenous forest, it provided an excellent survey of crown forest. Fourcade emphasised at some length the necessity of preserving forests in order to regulate rainfall and prevent soil erosion. His conclusions differed little from the 1880 report, though he stressed the need for a forest act in the colony and for the establishment of plantations to produce railway sleepers.<sup>40</sup>

Public reaction to Fourcade's report was enthusiastic. The *Natal Mercury* stated that anyone who ignored forestry was 'crassly ignorant or densely stupid'. In the legislative assembly the appointment of a conservator of forestry with an annual budget of £2 000 was approved. A proclamation gave protection to ironwood, stinkwood and yellowwoods in crown forests, and the forests were closed for 16 months.<sup>41</sup> The colonial engineer began work on drafting a forest act based on the recent Cape forest act, and Fourcade was offered the post of conservator of the new department of forestry. Unfortunately for Natal forestry he refused and returned to Knysna. A conservator was then recruited abroad, and Friedrich Schöpflin of the Baden forest service in Germany was appointed to this post in April 1891. His salary was a respectable £500 per annum.<sup>42</sup>

Though still operating as a branch of the surveyor-general's department, Schöpflin was in charge of his own office in Pietermaritzburg and of a field staff which by 1893 numbered 36, and included two full-time district forest officers. With zeal he set about drawing up formal instructions for foresters and supervisors, setting new timber tariffs, and composing a proclamation to protect crown forests against leasing. After an arduous trip to the forests in the south of the colony, some of which he demarcated with beacons, Schöpflin opened the crown forests of Ngeli and Polela to supervised cutting, but closed the remaining crown forests in the colony to sawyers. Much to his regret the forests on native trust land were not placed under his control, though he did manage to acquire 3 000 acres of forest from them.

Though Schöpflin was responsible only for crown forests, he had numerous schemes for promoting the general interests of forestry in the colony. These included establishing a government nursery in the Pietermaritzburg Botanic Gardens and a government sawmill at Dronk Vlei, and initiating a policy of afforestation to meet the demand for timber from the Transvaal gold mines. He was hampered, however, by the failure of the bill 'to provide for the better protection of forests' to pass into law.<sup>43</sup> Though supported by the government and many members of parliament, the clauses of the bill which extended protection to all crown forest products, gave forest officers police powers, and imposed harsh penalties for any infringement, led to the bill being denounced as unduly rigorous.<sup>44</sup> In the Cape such opposition had been ignored by the authorities, but in Natal, where responsible government was about to be granted, the colonial office was not prepared to push matters and the bill was dropped.<sup>45</sup> This severely undermined Schöpflin's position, which was already shaky because of his

propensity for fierce disputes with government officials from the Governor down. With expenditure on the department of forestry exceeding its revenue sixfold in 1893, Schöpflin was informed that his contract would be renewed only until May 1894. In consequence he resigned his position and in September 1893 returned to what proved a successful career in German forestry.<sup>46</sup>

After Schöpflin's departure the department of forestry was closed and forest matters once again became the direct responsibility of the surveyor-general. A few of the foresters, including G.H. Davies, retained their positions. From 1895 to 1903 the Natal police were made responsible for the issuing of sawyers' licences, patrolling, and regulating the sale of wood in crown forests. Though there was not a dramatic increase in prosecutions for illegal cutting, the allocation of a sergeant or trooper to each major forest in Natal and Zululand resulted in revenue from forests increasing from £333 in 1894 to £1 708 in 1902 while expenditure declined by half.<sup>47</sup>

Attention was drawn to the plight of Natal's diminishing indigenous forests by a leading article on the subject in the influential *Kew Bulletin* in 1895 which criticised government inertia on the subject.<sup>48</sup> Within the colony such individuals as G.H. Davies, Maurice S. Evans and Claude Fuller rekindled public interest in forestry in the late 1890s. Despite the fact that the second Anglo-Boer war was being fought in northern Natal the government was still prepared to tackle the problem once again.<sup>49</sup> There was, however, a shift in emphasis from concern for indigenous forests to the promotion of exotic afforestation. The new initiative was taken by the Natal ministry of agriculture which had assumed responsibility for forestry. The eminent Cape forester, J. Storr Lister, was seconded to Natal in order to compile yet another report on the colony's indigenous forests. Though his report, completed in 1902, included the forests of Zululand, it ran to only 13 pages. Lister had for a quarter of a century, since his transfer from the Indian to the Cape forest service, taken the leading role in establishing exotic plantations. He was responsible for introducing the major plantation pine, *Pinus radiata*, into the Cape. His Natal report reflected this interest. While noting the prevalent but erroneous supposition that the colony's indigenous forests were almost 'worked out', Lister stressed the need for a beginning to state afforestation. He also reminded the authorities that in the Cape forest expenditure exceeded revenue threefold. Lister recommended the reappointment of a conservator of forestry for the colony, a decision which had, however, already been taken by the Natal minister of agriculture.<sup>50</sup>

The new appointee was T.R. Sim of the Cape forestry service and the former curator of the King William's Town Botanic Gardens.<sup>51</sup> He was a botanist of some note, who during his career was to publish several famous books, including *The ferns of South Africa*, *The forests and forest flora of the Colony of the Cape of Good Hope*, and *Tree planting in South Africa*. Initially, at least, Sim had the goodwill of his superior, the minister of agriculture, an advantage which Schöpflin had been unable to enjoy.

After being appointed in 1902, Sim set about replacing previous forest regulations with a new and much more comprehensive proclamation. This was issued in 1903 and went much of the way to satisfying demands for protection of indigenous crown forests. It set out a list of 52 species of tree

to be reserved from cutting by licensed sawyers unless individual trees were stamped by forest officers as available for cutting.<sup>52</sup> However, Sim also reduced the price of crown forest timber as a means of stimulating declining demand for local indigenous wood.

Sim was given control of the extensive indigenous forests of Zululand; this region had been acquired by Natal in 1897, having been under imperial control for 10 years. In 1887 Ordinance 4 of 1853 had been extended to the region in accordance with proclamation 11 of that year. An official British parliamentary report on the Zululand forests by the local resident magistrate, Colonel Cardew, published in 1891, had given a short description of most of the forests in the region and proposed measures for their protection. These recommendations were largely ignored by the colonial office at the time, which refused to give Schöpflin control of these forests and placed them under the supervision of magistrates and the Zululand police. It was not until 1898 that the Natal government appointed a staff of 14 foresters to watch over the vast expanse of Zululand's indigenous forest. These foresters included G.H. Davies, who was based at Qudeni where Swanfield's sawmill had recently been erected.<sup>53</sup>

As early as 1891 the colonial office had made it clear that forest regulations should not prove irksome to Africans in Zululand.<sup>54</sup> Both Africans and white sawyers found Sim's 1903 proclamation objectionable; much to his anger it was not fully enforced, and in 1904 a government circular dramatically modified its provisions.<sup>55</sup> The Zululand forests remained open for exploitation. Although Sim did, however, succeed in ensuring that most of the forests were reserved for the crown, following the 1904 delimitation commission,<sup>56</sup> both the Manguzi forest and the *Landolphia* rubber region in northern Zululand were declared African reserves.<sup>57</sup>

Based at the new agricultural college at Cedara, by 1905 Sim's forestry department employed 45 men in 22 forest stations as far apart as Weza in Alfred County and Manguzi in northern Zululand; police and magisterial supervision of forests was phased out. Foresters' wages varied from £36 to £144 per annum, except in northern Zululand where, because of the unhealthy climate, it was felt necessary to pay the forester £250 a year.<sup>58</sup>

Sim worked hard to establish forestry in Natal on a permanent basis. By 1906 65 000 acres of indigenous forest had been demarcated as crown forest, and the number of prosecutions for forest offences had increased fourfold over the figure of eight years previously.<sup>59</sup> Sim's policy towards indigenous forests was to permit regulated cutting in most areas, but if forests were badly cut into, as were those of Wakkerstroom and Piet Retief, he tried to exclude sawyers.<sup>60</sup> In some regions he permitted sectional felling, and on occasions he granted concessions of whole forest areas to individual companies. Where possible he had squatters removed from crown forests, but if this proved difficult he issued licences as a means of controlling their activities.<sup>61</sup> He also tried to initiate effective legislation for privately owned indigenous forests.<sup>62</sup> By 1905 annual expenditure on forestry surpassed £12 000 with revenue over £2 000; however, much of this expenditure was devoted to establishing government nurseries for exotic timber and fruit trees.<sup>63</sup>

Sim recognised that the future of Natal forestry lay in afforestation. Black wattle and eucalyptus had been strongly promoted in Natal since the 1860s: distribution of exotic seedlings was handled so effectively by the Pietermaritzburg Botanic Gardens that in 1882 the director of Kew described that gardens as a 'model for other colonies for ensuring a supply of valuable timber'.<sup>64</sup> By 1904 15 per cent of productive land in Natal and Zululand was devoted to wattle.<sup>65</sup> Sim initiated the first state plantation schemes in Natal at Cedara, Empangeni and Weza, 27 years after the Cape had commenced such a policy.<sup>66</sup> As with the Tokai school at the Cape, when Cedara opened in 1906 it offered a two-year course which included one forestry lecture a week, the teaching being done by Messrs Kelly, Sim and Stayner.<sup>67</sup>

The disturbances in Natal in 1906 and the spread of east coast fever temporarily halted forestry operations in the colony. The ensuing economic depression took its toll, and Sim was accused of excessive spending. In 1907 the civil service commission abolished the post of conservator of forestry and Sim was made redundant.<sup>68</sup> Responsibility for forestry passed to the head of Cedara, E.R. Sawyer, and to the new chief afforestation officer, G.H. Davies. Despite Sim's departure for Pietermaritzburg in February 1907, where he became a nurseryman and a writer, the fact that he had laid foundations which were much firmer than those left by Schöpflin ensured the survival of Natal forestry, though on a much reduced budget.

In 1910 the indigenous crown forests of Natal passed into the control of the new Union government. By then the rate of their destruction had been slowed and the reduction in their acreage became more gradual. It is interesting to note that between 1880 and 1961 state indigenous forest in Natal declined by 20 per cent. The majority of those indigenous forests which were in private hands were decimated only during the first World War, after the colonial era. Had Natal developed a shipbuilding, railway sleeper or even barrel-making industry the destruction of indigenous forests would undoubtedly have been swifter. As it was, the destruction was neither as rapid nor as extensive as in colonial New Zealand, the West Indies, post-colonial India or tropical Africa.<sup>72</sup> Though after 1878 official efforts were made to formulate a viable forestry policy for Natal, the fault lies with the colonial authorities for allowing clear felling of crown forest in the early period and for alienating vast tracts of forest from the crown. The failure to encourage proper seasoning of timber, especially of yellowwood, also discouraged any initiative to replant. Finally, tardiness in promoting state afforestation made forestry the preserve of the amateur. Despite the fact that many colonists espoused the principle of preserving indigenous forest, the lack of a concerted government forestry policy tended to lend credence to such fallacies as that enunciated by R.M. Archibald:

This forestry business is one of those things that few people indulge in and which is of no practical value to the colony itself.<sup>73</sup>

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- <sup>48</sup> Sir Dietrich Brandis, 'Forestry in Natal', *Kew Bulletin*, no. 97, January 1895, pp. 1-5.
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- <sup>51</sup> See Donal and Eileen McCracken, 'The way to Kirstenbosch', (forthcoming).
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- <sup>54</sup> Cardew, *op. cit.*, p. 25.
- <sup>55</sup> Interim report of the conservator of forests up to 31 December 1905, *Agricultural Journal* (Natal), 26 January 1906, pp. 65-66; and Zululand circular no. 7, 1904.
- <sup>56</sup> *Zululand lands delimitation commission, 1902-1904*, (Pietermaritzburg, 1905) pp. 39, 45-46, 100-115, 119-121, 204, 211-213, 240, 246, 268-272 and 277-278.
- <sup>57</sup> Sim was interested in promoting a Natal rubber industry, but it was only after his period that an abortive attempt at commercial extraction was undertaken.
- <sup>58</sup> Papers relating to Sim's tenure as Natal's conservator of forestry are housed in the forestry archive, Pietermaritzburg and in the Natal Archives (ministry of agriculture correspondence). See also Sim's report in *Agricultural Journal* (Natal), 28 April 1905 and 26 January 1906.
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- <sup>61</sup> *ibid.*, L2200, vol. 1.
- <sup>62</sup> *ibid.*, Y1020.
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- <sup>67</sup> *Prospectus of the School of Agriculture and Forestry* (Cedara), (Pietermaritzburg, 1910), pp. 27-28.
- <sup>68</sup> *Report of the committee appointed to enquire into civil service administration, 1907*, (Pietermaritzburg, 1907), p. 35.
- <sup>69</sup> For the post-Sim period, see *Agricultural Journal* (Natal), 29 January, 30 April, and 30 July 1909.
- <sup>70</sup> This is excluding the Zululand forests: see Grut, *op. cit.*, p. 4; and 1880 Report, p. 18.
- <sup>71</sup> King, 'Exploitation of forests', pp. 39 and 41.
- <sup>72</sup> *Report of the Royal Gardens at Kew, 1877*, (London, 1878), pp. 43-44.
- <sup>73</sup> Legislative Council debates, (1892), 15 June 1892, p. 161.

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