

## TOBACCO CULTIVATION

### WITH SPECIAL REFERENCE TO THE HIRIYALA HATH PATTU IN THE NORTH-WESTERN PROVINCE

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**S**CIENTISTS have described nearly forty species of *Nicotiana*, the majority being natives of the new world, though a few are to be met with in the Philippine Islands, New Caledonia, and Australia. Only two or three can be regarded as affording the commercial products, tobacco and snuff.

The commercial classification according to Dr. Watt is as follows:

- (1) *Cigar-wrapper Tobaccos*.—Sumatra, Connecticut, Havana, and Connecticut Broad-leaf, etc.
- (2) *Cigar-filler Tobaccos*.—Cuban, Zimmer's Spanish, Little Dutch, etc.
- (3) *Pipe Tobaccos*.—North Carolina, Bright Yellow, Maryland Smoking, etc.
- (4) *Plug Tobaccos*.—White Burley, Orinoco, Yellow Mammoth, Virginia Blue Pryor, White Stem, etc.

Tobacco smoking was unknown in Europe and Asia prior to the discovery of America in 1492. The Spaniards evidently commenced the cultivation of tobacco in San Dominigo in 1531 with African slave labour. Sir Francis Drake, Sir Walter Raleigh and others made tobacco smoking popular in England between 1570 and 1584 and about the same time cultivation was started in Virginia. In India the first direct reference to it centres around certain Portuguese missionaries at the court of the Great Moghul and it is believed that the Portuguese conveyed both the plant and the knowledge of its properties to India and China.

The earliest historical reference to tobacco grown in Ceylon is in 1610. Anthony Bertolacci in his "View of the Agricultural, Commercial and Financial Interests of Ceylon," published in 1817, gives an interesting account of the tobacco industry in Ceylon.

"The tobacco trade flourished chiefly in the Peninsula of Jaffnapatam, although considerable quantities were grown in other parts of the Island as well. The peculiar quality of the soil there gave it a particular flavour which made it suitable for chewing purposes. For a number of years the Raja of Travancore derived considerable sums by forming the exclusive privilege of selling that commodity in his own dominions to retailers at an

advanced price—a monopoly which the Dutch allowed to continue in return for contracts of pepper required to preserve cinnamon on their long voyage to Europe. Besides, the Travancore market, tobacco was also sold to Sumatra and at Point-de-Galle.

“On the advent of the English, the smuggling in of tobacco into Travancore (which proved highly lucrative) was vigorously suppressed by the Raja, and the existing monopoly maintained.

“The purchases were made in gold, in Porto-Novo pagodas, as neither Sumatra nor Travancore had commodities which could find a ready market in Jaffnapatam. The total amount of gold flowing into Jaffnapatam annually was 120,000 to 140,000 Porto-Novo pagodas: but this gold was distributed throughout the Island in the purchase of grain and through the Coromandel Coast in the purchase of cloth.

“The supply required by the Raja’s agents being the largest and as the cultivators were in the habit of receiving advances of money and were unable to effect a successful combination, they were compelled to accept very low terms which were hardly sufficient to keep the land in cultivation. The price fixed by the Travancore investment naturally governed the standard of the other two.

“This state of affairs attracted the notice of the Central Government, and Governors North and Maitland after vainly endeavouring to bring about a more equitable balance of trade finally imposed a duty of 36 rix-dollars per candy of 500 lb. British weight, *i.e.*, 60% of the value of that article at the place of exportation, the Sumatra consignment at 27 rix-dollars, and the Point-de-Galle consignment at 27 rix-dollars per candy.

“As a result of this measure a large additional revenue came into the coffers of Government; but the Raja was willing to raise the price in his own dominion and thus brought the burden of taxation to bear on the unfortunate merchants and cultivators. This occasioned severe distress and the monopoly continued to exist.

“The Government next proceeded to combat the Raja’s tactics by forming a counter-monopoly, but with doubtful success. It entered into a contract with the Raja of Travancore to furnish a certain amount of tobacco at a fixed rate, after having assumed the monopoly of all the export trade. The Government bought up all the raw tobacco on the market and undertook the responsibility of performing the processes of curing, etc., and of placing the finished product on the market. This had the effect of driving out of employment the traders and the merchants who were considered by some to be harmful to the industry. As a consequence there was much hardship which was aggravated by a

scarcity of grain in the years 1812 and 1813. The tobacco cultivators of Jaffnapatam had been in the habit of buying cloth and grain from the Coromandel Coast: when they were paid by Government in the Ceylon paper currency, this market was practically closed; and as the Government of Travancore was not punctual in its payment of Porto-Novo pagodas the cultivators were extremely hard pressed.

“Governor Brownrigg set himself immediately to remedy this evil, firstly by removing the Government monopoly on the Sumatra and the Point-de-Galle investments, secondly by an instant supply of bills and lastly by purchasing tobacco ready prepared for exportation.”

The Customs returns of 1811 show the following entries:

Value of total exports of tobacco—3,403 candies taken at 60 rds. per candy, exclusive of duties—204,210 rix-dollars.

Details of goods exported coastways by Ceylon Merchants—610 Candies of Tobacco at 60 rds. per candy—36,600 rds.

Duty paid: 16,471 rds. 3 fanams  $2\frac{1}{2}$  pice.

The export trade of tobacco is now free of duty and the table at the end of the paper will be of interest—the value of our imports being four million rupees as against half-a-million of exports.

During the last decade the total tobacco area of India has been little over one million acres. The principal market for Bengal tobacco is Burma. In Southern India tobacco is grown and cured to suit the European market and several up-to-date factories now exist. In Ceylon we have one cigarette factory where imported leaf only is used, while in Matale, Teldeniya and Kandy, tobacco works have been established where cigars, pipe tobacco, etc., are manufactured.

In Ceylon the two species commonly grown are *Nicotiana tabacum* and *N. rustica*. Tobacco-growing in Ceylon for over two centuries has been chiefly for producing chewing tobacco and for the use of it with betel leaf, while the coarser cigars which are called Jaffna cheroots have been rolled for nearly a century for local use.

The best soil for tobacco is a light sandy loam rich in potash lime and humus, while the plant also flourishes on alluvial soils (on the banks of the Mahaweli Ganga and Deduru-oya).

A hot humid climate favours the growth and development of the special properties of the plant but a dry season is necessary to effect proper harvesting. Thus the season for planting in Jaffna is different from the seasons in the North-Western Province and on the banks of the Mahaweli Ganga and Dumbara.

A decade ago it was estimated that tobacco was grown in about 13,000 acres in Ceylon, over half of which was in the Northern Province. Although Jaffna was undoubtedly responsible for introducing and developing this old industry, a higher grade of tobacco is that grown in the Dumbara Valley of the Central Province which gradually spread to the Matale District, and these varieties spread to the North-Western Province, Batticaloa and Trincomalee districts. The total acreage now under cultivation is estimated at 15,000 acres.

The Dumbara tobacco was the best grade of Ceylon tobacco until the introduction of the White Burley in 1912 from America. This tobacco burns with a good white ash but is not sufficiently suitable in flavour to the European market. Dumbara Valley cigars were manufactured and freely sold in Colombo prior to the Great War.

The Jaffna type of tobacco is a very exhausting crop and manuring is essential. In Ceylon tobacco is grown generally under irrigation either from tanks or very often with the aid of well-sweeps. The whole object of the cultivator is a bulky crop and the labour put into growing of the crop is astonishing. In the Jaffna Peninsula besides cattle manure copious quantities of green leaves are used, the land ploughed up and a good tilth secured.

In the Chilaw district of the North-Western Province and in the Negombo district the soil of certain lands being suitable were utilised for this cultivation. The people of the districts of Chilaw, Negombo and Nainamadama have adapted a considerable acreage for raising annual crops of tobacco, sowing in hemp seed after the tobacco is taken and ploughing in the hemp leaf to replenish the soil.

It is singularly strange that no reference has been made in any of the Ceylon publications during the last thirty years to the very lucrative and progressive cultivation of tobacco in the Hiriya Hath Pattu of the North-Western Province. Here a very extensive cultivation and trade have been carried on since the early 'seventies and today the annual crop in this Hath Pattu is estimated at eight to ten laks of rupees and covers 3,500 acres.

The discovery of a rich vein of plumbago in 1870 led the late Mr. Jacob De Mel to pioneer the plumbago industry in that Hath Pattu, and for the purpose of establishing some headquarters in the Kurunegalle town (which was 18 miles away from the mines and 12 miles from the then nearest railway station, Polgahawela) an old coffee estate was acquired in 1872. This land in 1874 was opened out in coconuts and most of the coffee which was then dying out was replaced by the planting of seed nuts transported from the well-known Pambala estate in Madampe. Some of the coconut planting labourers who had migrated from

Pamunugama and Marawila made some experimental plantations of tobacco in the spaces in between the coconut plants known as "coconut squares" with a degree of success; and when later on coconut plantations were opened on progressive lines on virgin lands, tobacco cultivation was soon established as a catch crop during the early years till the young plants grew up. Thus, gradually colonies of men who found the demand for tobacco increasing migrated from Chilaw and Negombo to the Hiriya Hath Pattu, secured lands belonging to villagers when estates were not available and gradually established the regular growing of tobacco. Cattle are tethered at stake or within enclosures on plots of land which were cultivated in alternate years with tobacco; never have I seen much industry and hard work put in by the Sinhalese labourer as they do in these tobacco fields in the Hiriya. For the last 25 years I have watched how these men dig as much as 18 inches deep right round the gala often two or three acres in extent removing every particle of root or foreign decaying matter which was not of manurial value, and then preparing the beds both for nurseries as well as for a field for this cultivation. Each of these galas must necessarily have a well and watering is done by hand; quite a large number of men take part in this watering of the plants both morning and evening in their early life. The land is manured between August and September, while in October, November and December the land and beds are prepared, and in six months the crop is ready for harvest. Right round the tobacco plot or gala, as it is called, is a fence where vegetables are freely grown; most of these creep up on the fence and give the cultivators some return till their tobacco farms are harvested and the produce realises cash. This cultivation is essentially the monopoly of the small farmer who themselves do all the work.

In about two months of planting the buds will appear and all side buds are nipped off, the operation being known as disbudding. Unless these are removed rapidly the vigorous growth of the plants and the formation of large healthy leaves are checked. The plants grow to a height of 3 to 4 feet and are topped to prevent flowering. When the leaves are ripe for cutting, sometimes plants are cut close to the ground and sometimes the leaves are cut day after day separately. After withering for some hours in the sun they are carried to a smokehouse or drying house (which is made of cadjan) and the tobacco leaves allowed to ferment. Those fermented and cured are graded. Sometimes the whole plantation is sold as a standing crop and the purchaser does the drying and fermenting. There is room for improvement in the methods of fermentation as now carried on. Wholesale dealers take the leaves away to all parts of Ceylon and distribute them among retailers.

Since 1912, however, the tobacco farmers from the Dumbara Valley who had spread to the Matale district have found a shortage of land for the growing of the better class tobacco known as cigar tobacco, which industry supplies the tobacco works in Kandy and Dumbara in turning out local cigars made with better class tobacco. These farmers have now migrated to the Hiriya and each of them take on lease three or four acres of virgin land where after felling and burning all the stumps and roots of trees are eradicated. These farmers do not use cattle manure at all, a thinner or finer quality of tobacco leaf, richer in flavour and lighter brown in colour is produced. Thus in the Hiriya Hath Pattu, there are two separate and distinct types of tobacco crops almost side by side, but with the essential difference that the one is grown on the old land with heavy cattle manure, and the other invariably grown on rich virgin soil. Of late the Government Agent of the North-Western Province has leased several acres to small farmers, along the banks of the oyas or in such suitable areas, on payment of an annual rent. The Hiriya chewing tobacco forms the principal source of supply of the tobacco in all the provinces save the Northern and the Eastern, and indeed of late the cigar makers of Jaffna make large purchases of cigar tobacco which is grown in the Hiriya Hath Pattu. Quite a large export has in recent years taken place from Kurunegala to Jaffna by railway for the cigar trade. Indeed the last four years the cultivation of tobacco in the Hiriya Hath Pattu has given healthy and very remunerative employment to five or six thousand people in this area and unless overcome by exceptional rain falling at the wrong time or unexpected rain during the drying season this cultivation has afforded very fair remuneration, and in some cases exceptionally good profit where the land and available water is in abundance. It is, perhaps, interesting to note that the landowner gets 1-10th of the value of the standing crop which is estimated before the cutting and drying of the leaves. Any further profit made after cutting and drying the crop enures to the benefit of the purchaser of the crop, who may be the farmer himself or an expert dryer. Indeed this industry has been so well established that right through the nine months during which the tobacco farms work the local boutique-keeper, who advances the necessary rice and currysuffs to the farmers and their workmen on credit and only recovers his dues when the actual tobacco is dried and removed. There may be years in which a certain portion of the money is lost by failure of the crop. In recent years to the tobacco farmers of lands in Hiriya belonging to me I have besides affording the usual facilities hired Abyssinian wells and a few lengths of piping to enable them to water their plants regularly with a smaller number of labourers. In a plot of six acres where cigar tobacco was planted 180,000

best quality leaf at about Rs. 15-00 per 1,000 were sold besides grades. The industrious man is always rewarded but he has to exercise great vigilance and keep off diseases and pests.

In July last I brought up this subject of tobacco cultivation before the Estate Products' Committee with a view to stimulating local interest and ascertaining whether a local cigarette industry could not be established to keep a part at least of the 3½ million rupees now represented by the imported cigarettes. At present Ceylon exports to India, the Straits Settlements and the Maldives both tobacco and local cheroots.

At that meeting considerable interest was created in the cultivation of tobacco and I have, as a result, been asked to read a paper at the Agricultural Conference today. It was a matter of satisfaction to us to know that about 250 cultivators in Jaffna produced about 28,000 lb. of White Burley tobacco per annum which is exported to London. The reports on these qualities are satisfactory and the improvement of good quality tobacco is well worth pursuing. Just before the War, Messrs. Freudenberg & Co. carried on experiments with tobacco and when their stock of matured tobacco was sold in 1915, I purchased it and engaged Mr. Valabone, a Dutch tobacco expert who was then in Colombo, to roll cigars and a good and profitable business followed but we had not sufficient matured tobacco of that quality to continue the trade for more than two years. That tobacco was raised from seed imported from Java, Sumatra and the East Indies. It, however, remains a very useful avenue for young students who make science their study, to take up the question of planting tobacco under scientific supervision so that the objections raised to some of our cigar tobacco can be eliminated while burning qualities and flavour are retained. It has been reported that there was a high chlorine content in the White Burley grown in Jaffna and that it was possible to improve quality by taking greater care in the fermentation and also by preventing the tobacco being exposed to the sea air too long. I am not advocating the growing of tobacco for the European market as new countries are producing more each year, but I would, in view of the enormous amount of money spent by the public of Ceylon on cigars and cigarettes, that tobacco suitable to the European palate should be grown in Ceylon for local consumption so that we may not only keep capital from going out of the country but that we concentrate that capital in the country and create local wealth. The excessive chlorides in the Jaffna tobacco are probably obtained from the coral sub-soil being brought to the surface soil during the long periods of drought succeeding the fall of the heavy north-east monsoon in October-December. Besides, the well water used for irrigation may also be responsible for a certain proportion. There is also the possibility of improving the method

of irrigation without destroying the tilth when rainfall has been insufficient. One of the chief objects of cultivation is to give the plant a loose soil into which the young rootlets can easily and quickly penetrate. In transplanting the taproot has to be carefully taken care of. Likewise drainage must be arranged for otherwise the land will become water-logged, stunt the growth of the plants, and make the leaves turn yellow. The tobacco plant being a rapid grower requires a large amount of air in the soil for the benefit of the roots, the object being to produce fine broad leaves with a good flavour, a great deal of care and attention has, therefore, to be bestowed. This the average cultivator has learned by years of observation and experience, and it is for the better educated man to assist his observations with the necessary scientific assistance and co-operation, and I feel sure we shall be able to improve the growth of tobacco, its fermentation and preparation to secure a better value. The Travancore Government which was always one of our regular buyers, as indicated in the early part of this paper, now only permits 5,745 candies of Ceylon tobacco into Travancore of which 3,000 odd are taken in at Quilon and the balance at Allepi. In view of the growing economic conditions throughout the world which compel us to depend on one's own country for our food and necessaries, it seems a fairly hopeful sign that in this field of tobacco Ceylonese have every opportunity to acquire wealth.

We have a bulletin issued by the Department, No. 38 of 1918 on "Improved methods for growing tobacco in Jaffna" and a circular on "Diseases of tobacco in Dumbara" issued so far back as 1907; except the Kalutara snail no new pest or disease other than those already known have troubled this cultivation. In the district of Negombo during the last 15 years chewing tobacco is grown on old lands where cinnamon has been uprooted and replaced with coconuts. In such lands artificial fertilisers are freely used and are remunerative. It is more than a catch crop and may be repeated till the palms are about three years old.

I place before you samples of tobacco, pipe tobacco and manufactured tobacco, and would appeal to you to support this local industry whenever possible.

The export and import figures given below are self-explanatory.

**TOBACCO EXPORTS**

	1928			1929		
	Lb.	Rs.	cts.	Lb.	Rs.	cts.
<b>Tobacco manufactured</b>						
Beedies ...	575	402	00	481	2,041	00
Cigars ...	8,072	6,485	00	9,692	67,844	00
Cigarettes ...	1,235	3,940	00	2,193	17,569	00
Other ...	86	282	00	7	14	00
<b>Total...</b>	<b>9,968</b>	<b>11,109</b>	<b>00</b>	<b>12,373</b>	<b>87,468</b>	<b>00</b>
<b>Tobacco unmanufactured</b>	<b>1,643,441</b>	<b>390,512</b>	<b>00</b>	<b>3,193,567</b>	<b>572,202</b>	<b>00</b>

**TOBACCO IMPORTS**

	1928			1929		
	Lb.	Rs.	cts.	Lb.	Rs.	cts.
<b>Tobacco manufactured</b>						
Beedies ...	76,895	382,655	00	70,571	330,970	00
Cigars ...	6,817	46,063	00	5,853	42,275	00
Cigarettes ...	574,277	3,306,274	00	571,185	3,462,010	00
Snuff ...	1,285	4,765	00	1,237	4,866	00
Other ...	13,375	58,798	00	14,321	63,985	00
<b>Total...</b>	<b>672,649</b>	<b>3,798,555</b>	<b>00</b>	<b>663,167</b>	<b>3,904,106</b>	<b>00</b>
<b>Tobacco unmanufactured</b>	<b>115,001</b>	<b>80,411</b>	<b>00</b>	<b>217,495</b>	<b>140,225</b>	<b>00</b>