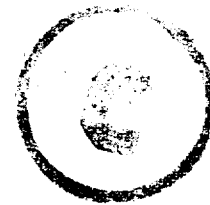


Madras Fossor College Magazine.

V 10. No. 1. September 1925



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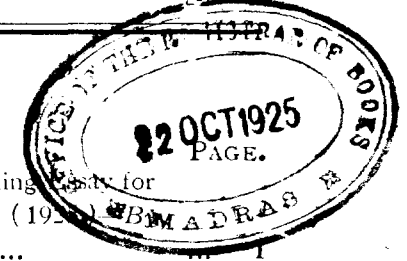
THE Madras Forest College Magazine

Vol. X.]

SEPTEMBER, 1925.

No. 1

CONTENTS.



1. "Early burning *versus* Complete fire-protection." Winning Essay for the *Indian Forester Prize* for *past* students (1923-25 Dn.)—By *K. P. Rajalingam, M. R. Hons.* ... 7
2. "Which do you consider to be the most important branch of Forestry and Why?" Winning Essay for the *Indian Forester Prize* for *present* students (1925)—By *S. Narayanasami M. R. Hons.* 1923-25 Dn. ... 15
3. Prize-day at the Madras Forest College : June 1925 ... 31
4. *Avicennia officinalis* on the coast of the Bay of Bengal—By *P. Gopalakrishna Row M. F. C., 1925-27 Dn.* ... 34
5. Following up wounded tigers—By *Roland Mitchell, E. A. C.* ... 39
6. Future of the C. P. Forests—By *Hukam Singh, B. Sc. 1925-27 Dn. M. F. C.* ... 41
7. "June week, 1925"—By *J. A. W.* ... 42
8. Gems of answers from the last June Examination—By *R. H. M.* ... 45
9. "The Nor-cross"—By *Benjamin M. John, M. R. Hons.* ... 50
10. A brief note on the Chenchus, their mode of life and social customs—By *M. S. Raghavan E. A. C.* ... 64
11. The Madras Forest College Athletic Sports 1925 ... 67
12. Balance sheet of the M. F. C. Magazine for 1924-25 ... 68
13. Extracts ... 74
14. Editorial Notes ... 78
15. Contributions to the Museum and Library ... (i)
16. Gazette Notifications ...

THE
Madras Forest College Magazine

PUBLISHED QUARTERLY.

Vol. X.]

SEPTEMBER, 1925.

[No.

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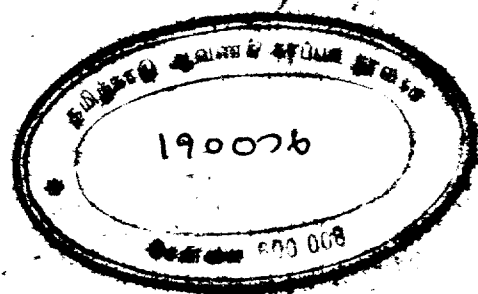
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Early-burning versus Complete Fire-protection.

Winning Essay for the Indian Forester Prize for past students.

BY MR. K. P. RAJALINGAM. *M. R. Hons.*

The subject in hand is nothing new to the world of Forest officers. Ever since the method of early-burning as a means of combating fire was introduced, volcanic effusions both for and against the new idea have appeared whenever they could possibly appear. The last word on the subject has not yet been heard. If were expressed it would be hardly printable.

The question however is very absorbing. Keen foresters eat and drink fire-protection during their working moments; sleeping no doubt they dream of it; at least one case of insomnia has been also directly traced to it. It has very often been also wrongly diagnosed as "liver." The hasty junior votes it a nuisance in expressions which are crude but effective and which though varying in form are constant in theme. A

upon it as the surest stepping stone to promotion. The forest officer who seeking inspiration, slept with a book of records under his pillow. It has however been more than amply proved that the heavy volumes were also intended for a second purpose: Their bulky mass, when scientifically thrown, would be most effectively on the head of the devoted chokra, on the morning after the night before!!

A subject therefore, which has been discussed at such length calls for delicate handling so that one's head may not inadvertently come into violent contact with the stone-wall of settled opinion. To permit of no misunderstanding therefore it appears best to define the terms "Early burning" and "complete fire-protection."

Early-burning as we all know consists in departmentally and in accordance with several regulations and safety measures, burning over a block of forest just previous to the fire-season so that when a fire does occur in the vicinity its spread to this particular block will be counteracted by the absence of combustible material.

The term complete fire-protection is in fact a complete misnomer.

If there was any such thing as complete fire-protection the forest officer could during the fire-season go to bed feeling sure that he will not be roused in the dead of night to run 10 miles to put out a fire. His servants incidentally would also be less worried; There would be less of "Chokra! where is that bottle?" than there is now.

The expression "complete fire-protection" is however meant to indicate the recognised system of clearing fire lines of say 300-400 feet in width and by patrolling these and keeping them clear of material hoping to prevent the spread of fire into a block so bounded by cleared lines. Auxiliary lines guide lines etc. are also brought into play.

By this system a few years of absolute security from fire is ensured and hence the expression "Complete fire-protection".

Early burning to be effective must consist of a thorough removal of all combustible material. This would necessitate a fairly fierce fire and in this lies the weakness of the system. For true enough no fires occur but the damage done is also heavy.

The fire injures the bark of older trees facilitating the attacks of fungi and insects, saplings and poles are badly injured if not killed outright, while regeneration suffers in the extreme.

The grass as we know grows more luxuriantly the year after it is burnt. With the result that more fierce burning and incidentally heavier expense would have to be incurred year after year.

The result is not going to be satisfactory. The forest growth if not entirely wiped out will always remain poor. The larger trees would be stunted and diseased; there will be no such thing as a proper gradation of age classes, while of saplings or poles there will be practically none.

Natural regeneration will be entirely absent, the grass would be more luxuriant and more rigorous than ever, while the soil as a

result of successive exposures in the driest part of the year would have very considerably deteriorated. And then the expense.

With "complete fire protection" however these drawbacks are obviated to a degree. The soil is not exposed, the trees are not injured every year, the saplings and poles are not interfered with, while natural regeneration is free to establish itself if it cares to. This highly satisfactory state of affairs however seldom lasts long. The itinerant malayalee, the unscrupulous shikari or the careless carter sooner or later start a conflagration that is as complete as it is devastating. Of the healthy regeneration, not a vestige remains, a few smouldering trunks, a barren blackened plain, interspersed with a sprinkling of hardy individuals and that is all. With the rains, the grass, however grows just as luxuriantly as ever, and, to prevent further fires, the lines have to be cleared again and patrolled.

Admittedly the results of early burning are bad but consider the results of so-called complete fire-protection!!

If a means of "Complete fire protection" i. e. without annual burning either departmentally or otherwise, could be devised, and which would keep the forest from being burnt over for at least 25 years the results would be very satisfactory. By that time with judicious departmental operations of a culturally helpful nature the growth on the ground in any ordinary forest should close up overhead sufficiently to sensibly reduce the quantity of the deadly grass.

Natural regeneration, supplemented artificially if considered necessary, should by then be fully established in all its different stages.

To keep a forest free from fire for such a long period is far from being an easy task. With freedom from fires for five or six years, as the result of incessant care and watchfulness men are apt to become careless, patrolling will become less frequent and less efficient, the enforcement of regulations will be relaxed and very often a half burnt match, a carelessly put out fire or the butt-end of a cigar will undo the labour of many years.

Even on the score of expense it is presumed that early burning if conducted systematically to compare favourably with complete fire-protection, while the recruiting and upkeep of a temporary staff of fire-patrols and watches will lose much of the difficulty with which it is now encompassed. On the other hand it is quite obvious that if conducted in a proper and efficient manner it does away with all fear of fire.

Fires usually occur at certain points and along well-defined lines where the carelessness or perversity of the people or other causes are conducive to their occurrence. If the spread of fire from these points and along these lines is definitely controlled and done away with, it stands to reason that the occurrence of fires towards the interior will automatically disappear, for spontaneous combustion is never met with.

With the present system of complete (or incomplete) fire-protection this is impossible. The cleared lines are not wide enough to

prevent fire spreading while the patrolling is nowhere as thorough as one would wish it to be.

If however, a broad strip of forest along these danger points and at intervals beyond, was early-burnt annually, it would clearly prove, short of cutting and carting away all the grass, to be a most successful means of preventing the spread of fire, and as clearly demonstrate its undoubted superiority over the antiquated and unsatisfactory but much vaunted system of "complete fire-protection" now in vogue as a means of efficient, easy and inexpensive fire-protection.

To sum up therefore, it is admitted that both systems have very serious draw backs, but early burning must be considered preferable in that it offers a most easy and effective means of preventing the occurrence of fires within the areas so early burnt; In such areas the evil effects of early-burning are absent, thus being through early burning. "Completely fire-protected."

"SPIRO, SPERO."

Which do you consider to be the most important branch of Forestry and why ?

Winning Essay for the Indian Forester Prize for present Students, for 1925.

BY MR. S. NARAYANASAMY *M. R. Hons.*
1923-25 *Dn.*

*"As oft as thou putteth thy hand therein
A mark of Gold thou shalt iwinne"*

This old couplet seems to be more applicable now-a-days to our forest resources than perhaps to what the original composer wanted it to mean.

Forestry in general is defined by Mr. Ralph C. Hawley as "the Science and act of managing forests in continuity for forest purpose i. e., for wood supplies and forest influences." It is one of the sciences which is engaging the entire attention of all countries where there are forest estates.

Along with this, the scope of this subject is getting wider day by day and as a consequence, the number of branches into which it is divided is also on the increase

Before deciding upon one or the other of these branches as the most important, it will be interesting to trace down to our day, the progress of this science and the manner in which the different branches came into being.

It may seem an anomaly, when one says that the utility of the forests was known to humanity much earlier than the French word "forest" or forestry was coined. In short, it started on the day on which man made the first use of fire and more prominently so, when he first constructed a home for himself to dwell in.

By gradual degrees, the utilities both direct and indirect increased, along with expansion and civilization of the human race; and today there is not a single country on the face of the earth, nay, nor is there a single human being who is not in one way or other utilizing the produce from the forests. Such in short is the origin of the oldest of the branches of forestry, namely utilization.

From the above it is evident, that the demand for forest produce was on the increase and as an immediate result most of the wooded areas became exploited, thereby considerably reducing their extent and more or less devastating them as a whole.

So to save them from further destruction, two branches of forestry, known as Forest Policy and Forest Protection were originated. By the former all the compactly wooded areas, were marked out fixed and reserved as forests while by the latter rigid protection was kept over these areas against the malpractices of the human hand. This was further strengthened in most of the countries by a special enactment, called the Forest law and this provided sufficient punishment for the offenders.

Along with the movement of time it was found that mere protection alone was worse than useless excepting for the climatic and other influences indirectly derived from the forests. So to bring in a regular financial return and to meet the demands of the country, some systematic working of these forests became essential. To meet this situation, a branch called, forest Management was established.

Within another decade or two it became evident, that the regular exploitation or management without any consideration for the future put wooded areas in a deplorable condition. An area from which the forest crop has been removed did not produce another of the same standard even after a century or more when left to itself. It was here that man had to intervene and assist, the work of nature. He was compelled to step in and see to the regeneration, development and tending of these crops; in short, he had to form the crop anew.

It can without doubt be affirmed that this day of man's intervention was the real birth-day of the present day Forestry; and this branch of Forestry was termed Sylviculture, from the derivative "Sylva" which means forest trees. In this instance we have got to "give the devil its due". It is due to German originality, the basis of all Sylviculture of today exists; and forestry in the true sense of the word was practised there as early as the 16th or 17th centuries or even earlier.

Such in short is its history and development and at the present time, the number of branches which constitute the whole subject are rather many. But one and all of these branches form part and parcel of the two main divisions, Sylviculture and utilization.

The next question then is, as, to which of these two is the more important. Opinions differ considerably on this point and it is rather hard to decide in favour of one or the other, as they are inter-dependant and Sylviculture is of no avail but for utilization and utilization cannot exist without Sylviculture.

But to arrive at a definite answer it is essential to verify how far a forester is responsible where both these branches are concerned.

Taking utilization first we have to say that it is an important branch. First and foremost a forest man has got to know to extract his produce. For this purpose a study of the instruments and up to date mechanical appliances is necessary. Next he has to see to the transport of the produce so extracted. To do this, he has to play the role of an Engineer, in laying out roads and other ways for transport and find suitable locomotion and conveyance to reach a suitable market. In hilly and difficult country, the work becomes much more difficult and one has to bring in to his aid, up-to-date mechanical and animal power. Furthermore, he has to find a suitable market for the disposal of the produce and has to be an efficient man of business, to make the best of profits.

In cases where there is demand for industrially useful produce, he has to cater suitable raw material according to their requirements. And at the present day there is not a single industrial concern which is not in one way or the other connected with forest utilisation. So a general knowledge of this vast subject is of course quite essential.

Granting the fact, that utilization is an important branch does it by itself constitute the whole of forestry? No, it does not, nor is the knowledge of utilization alone sufficient to make a man an efficient forester.

Leaving this, there is still another more important and wider field, wherein a forester has to be more efficient and of which he must possess a thorough knowledge; and this is Sylviculture. This branch is defined as "the art of producing and tending a forest; the application of Sylvics in the treatment of a forest."

As is evident from the definition, the first important point is the production of a forest. The production of a forest or forest crop is similar to an agricultural crop except for the fact, that the one is raised in a very short period of time rarely exceeding a season or two, while the time required for other covers over many decades and in more cases than one beyond a century.

In the protection of a forest crop man has got to contend against the forces of nature. He has to study the environment amidst which he is to raise his crop; for this a thorough knowledge of the soil conditions and the climatic and atmospheric influences prevailing

on the area is a first essential. Next to this, is the choice of the species which go to constitute the future crop. Here again it is a safe rule to imitate the process of nature and stick to it as far as possible and select species existing on the locality.

Having studied and decided on these points the next in importance is the manner of raising the new crop. Here one of the two cases may occur. It is possible to have an old crop under the shade, and for protection of which a young crop may be raised naturally by the seeds falling from them; sometimes this may not be suitable, when the existing crop has to be removed and natural or artificial production of a crop obtained over the area.

In the first of these two cases, man has only to help the process of natural regeneration by providing sufficient light, warmth and moisture, and this is easily done by shrewd treatment of the parent crop at the time of its seeding and even after till the young ones can stand by themselves, when the parent crop is completely removed.

Even in the other case, if natural regeneration is possible it becomes an easy matter but where this is not possible the raising of the future crop becomes much more difficult. Once again a decision has to be made whether sowing or planting should be adopted; and this in turn depends on the circumstances and suitabilities of soil and climate. When these are favourable, and the species chosen hardy enough, to withstand against external injuries, direct sowing can be resorted to. If this is not possible, the

only option is planting. The formation of a nursery and raising plants for planting in the forest, form by themselves a complete branch of Sylviculture and it is here that the forester has to use his utmost skill.

In whatever manner, a forest crop is raised it is always done with an object in view. This object may be one of many things, and it depends entirely on the wishes of the owner. Some owners may wish to protect and improve the soil, others may wish to get a continuous supply of the largest and best quantity of timber or others again may grow the crop to obtain a sustained financial return and in a few cases the crop may be grown for merely aesthetic purposes.

According to these wishes of the owner, the manner of treatment of each crop differs. This treatment usually consists in fixing a time limit of exploitability and during this period carry out tending operations so as to attain the object in view. This tending in timber producing forests chiefly consists of the three operations, weeding, clearing and thinning. They are required at different periods of the life of the crop and the efficiency of a forest officer, rests solely in the judicious carrying out of these operations at the required time. Only by these he will be able to control his future crop and reap the produce which he is aiming for. When these operations have been carried out as required and when the crop becomes fit for the axe, the forester must once more strive to establish another young crop and during this process remove his old crop.

Notwithstanding these, he has got to protect the stand throughout its life time against all external injuries which may seriously affect and depreciate the future value of the crop. Of these a forest man can easily control and avoid fire and with a little knowledge of entomology find means to prevent or keep down insect attack and thus save his crop.

The above is after all a mere outline of the important portion of sylviculture and a real forester has to adapt himself to the circumstances and make the best of what he can practically.

From the foregoing it is easily evident, that for a forest officer, sylviculture is the most important branch of forestry and a thorough knowledge of the subject is of greater necessity than that of utilization or any other connected subject.

The importance of sylviculture is furthermore established by the example set by a few countries wherein exploitation alone was carried without any thought of the future crop. One such is the United States of America. Even in that country they are trying their level utmost for the last decade or two to make up for what they have lost by adopting and applying up to date practice of sylviculture.

In conclusion it can be positively affirmed that sylviculture is the back bone round which the other branches of forestry cling on and go to make up the required form.

E-PLURIBUS-UNUM

Prize day at the Madras Forest College; June 30th, 1925.

On the 30th June last, a large and distinguished gathering assembled in the spacious hall on the first floor of the Forest College, to witness the distribution of prizes, medals, and certificates to the twelfth batch of successful students. Of the 25 students who completed the course this year, three gained honours certificates, eighteen the higher standard, and three the lower standard. One failed to qualify. Though the number of honours this year was less than that of last year, a greater proportion of the students obtained higher standard certificates.

As neither His Excellency the Governor, nor the member in charge of the Forest portfolio was able to be present on the occasion, Mr. H. Tireman C. I. E., Chief Conservator of Forests, presided, and Mrs. Tireman very kindly gave away the prizes etc.

Prominent among those present were:—

Mr. C. S. Martin Chief Forest Engineer; Messrs. A. A. F. Minchin, C. C. Wilson, A. Wimbush, T. Clear, D. T. Barry and T. A. Whitehead, Conservators of Forests; Messrs W.G. Dyson, J. K. Pearce, J. D. Conolly, H. P. Ward, R. S. Browne, Saiyid Abdul Quadir Sahib Bahadur, and W. C. Hart, examiners; Mr. A. R. Cox I. C. S. Collector of Coimbatore, M. R. Ry. C. V. Venkataramana Ayyangar Avl. B.A., B.L., M. L. C., M. R. Ry. T. A. Ramalinga Chettiar Avl. B.A., B.L., M. L. C., Rao Sahib, M. R. Ry. C. S. Ratnasabapathy Mudaliar Avergal, and a large number of officers from the Agricultural College and from Coimbatore.

Mr. C. R. E. Williams, Principal of the College, before requesting Mrs. Tireman to distribute the prizes, spoke as follows:

"Mr. Tireman, Ladies and Gentlemen,

"The year drawing to a close began with the usual changes of staff, Messrs. J. A. Wilson and Roland Mitchell

Staff filling the vacancies caused by the transfer of Messrs.

Dyson and J. E. M. Mitchell. Our College course lasts two years, and there is therefore a Senior and a Junior year.

NUMBERS.

Senior. "The Senior Division started 25 strong all of whom completed the course.

"The Junior Division began with 31 students. During the first month a Hyderabad student, one Hidayat Uilakhan died quite suddenly from the effect of diabetes. He was found

Junior. unconscious in his room one morning, and although immediately taken down to Hospital by car, died the same day without recovering consciousness. The Muhammedan students at the College made the necessary funeral arrangements, and it was fortunate that the deceased's brother, who was in Madras, was able to attend the ceremony. A second student was sent down during the year, as having insufficient education to follow the course.

"We have been fortunate this year in having two additional and particularly interesting courses of lectures. Mr. Pearce, our

American Expert in Logging Engineering very kindly
Special Lectures. gave us a course of 12 lectures in Logging Engineering, which students and staff very much appreciated. Mr. Ward also gave us the benefit of his special knowledge in Utilization acquired at Dehra Dun.

"The average of the Senior year both in term and Examination is higher than last year. Of the 25 students who complete their course to-day,

3 obtained Honours.

18 „ the Higher Standard.

3 „ the Lower Standard.

and 1 failed to qualify.

Although the number of Honours is not so great as last year, a greater proportion of students obtained the Higher Standard certificate, nearly all with ease. The Central Provinces and Bombay students particularly are much better than last year.

"The Junior year on the whole is doing fairly well, but I am afraid I shall have to send one or two down as not being able to follow the course.

"Five months of the year were spent in camp in accordance
Tours. with the usual programme, and our thanks are due to the District officers and their staffs who all helped to make our camps instructive and pleasurable.

Athletics "Turning to Athletics, which as you probably know is a compulsory part of our curriculum.

"Our Cricket Team this year has not been nearly so strong as during the previous two seasons, and our old adversaries, the Gymkhana Club defeated us twice in the Local Tournament, after an exciting match in each case, thus taking the shield from us. We look forward to regaining it next year.

"At the Grigg Sports, we were particularly successful, winning all the four open events and securing in addition one second and one third place. We thus very easily won the cup offered for institutions taking part in the open events

"Our Athletic Sports were held in September. The weather was fine, and we had a very successful afternoon. The College Record for the 100 yards was reduced to 11 seconds by Khaa Mohammed of the Senior year. The Richmond Cup which is awarded to the student obtaining the greatest number of points in the more important events was won by Lagu, of the Junior Division who scored 18½ points. The runner up Khan Mohammed scored 16 points. Both students did extremely well.

"The Marathon was won very easily by the Senior Division. The Junior students on the whole put up a very poor show indeed, only securing 3 low places in the first twelve home. It is hoped that they will do better next year as Seniors.

"This year we managed to get into the 2nd round of the Hockey tournaments, winning our first match against the Reserve Police fairly easily. Again as last year Stanes School proved too good for us, and we were beaten 3 goals to one. The Hockey team is a decided improvement this year.

Inter Division Hockey. "The Cowley-Brown Cup for inter Division Hockey was won by the Junior Division by 2 goals to one after a hard fight.

Discipline. "The general standard of discipline and conduct at the College has been satisfactory.

"The health of the Junior Division at the beginning of the year was not good. The death of one student was followed by two other cases of serious illness, which had to be treated in Hospital for some time. Fortunately both recovered, although one student was compelled to take three months leave to recuperate. With these exceptions, the general health of both Divisions both in Headquarters and in camp has been good during the year.

"I think there is no doubt that the students' general health improves considerably during their stay at the College. Regular exercise and constant medical supervision has a marked effect upon them.

"I should like to take this opportunity, on behalf of the Forest College, of offering our hearty congratulations to our Chief Conservator, Mr Tireman, on the honour which has recently been conferred upon him.

"May I now ask Mrs. Tireman to be so kind as to give away the Prizes and Certificates:—

(1) The *Campbell Walker Prize* for the best student in Forestry:—won by,

S. Narayanasawmy.

(2) The *Brazier Prize*, for the best practical Out-door Ranger:—won by,

T. S. Sankaran.

(3) *Gold Medal*, presented by Government, for the best Senior Division student on marks:—

His Honours Certificate will be presented at the same time:—

Winner; S. Narayanasawmy.

(4) *Silver Medal*, presented by Government, for Honours Their certificates will be given at the same time:—

Winners:—S. Narayanasawmy, (Madras)

T. S. Sankaran, (Madras.)

Benjamin John, (Bombay.)

(5) The *Madras Conservators' Prize* for the best student in Survey and Drawing:—won by,

Benjamin John, (Bombay.)

(6) The *Lodge Prize*, for Engineering:—won by,

Benjamin John, (Bombay.)

(7) The *Indian Forester Prize* for an Essay by past students. The subject was "Early Burning versus Complete Fire protection; which do you consider to be the best for forest areas, and why?"

The Prize was won by the past student who chose as his motto "Spiro Spero"

Winner:—K. P. Rajalingam, Ceylon.

(8) The *Indian Forester Prize* for an Essay by present students. The subject was "Which do you consider to be the most important branch of Forestry and why?"

The Prize was won by S. Narayanasawmy (Senior Division) who chose as his motto.

E. Pluribus Unum."

(9) The *Chief Conservator's Prize* for the best junior student was won by:—

P. K. Subbunarayana Ayyar

(10) The *Pentland Shield* for the best all round Athlete in the College has been won by the Senior Division student:—

Khan Muhammad.

(11) The *Fischer Cup* for Tennis has been won by,

Khan Muhammad.

(12) The *Moopil Nair Cup* for the Marathon Race has been won by,

Muhammad Kassim.

The following statement shows the names of students who passed out during the year, arranged in order of merit. Those in italics were Madras Government stipendiary students:—

Rank	Name of student.	Circle or State to which attached	Prizes won:
(A)	Madras Ranger with Honours:		
1.	S. <i>Narayanasami Ayyar</i>	V Circle.	(a) <i>Gold medal</i> for the best Senior Division student. (b) <i>Silver medal</i> for Honours. (c) <i>The Campbell Walker Prize</i> for the best student in forestry. (d) <i>The Chief Conservator's prize</i> for the best Junior Division student in 1923-24. (e) <i>The Indian Forester Prize</i> for the best essay, in 1925 for 'present' students
2.	Benjamin Muliyl John	Bombay.	(a) <i>Silver medal</i> for Honours. (b) <i>The Conservators' prize</i> for Survey and Drawing. (c) <i>The Lodge prize</i> for Engineering
3.	T. S. <i>Sankaranarayana Ayyar</i>	III Circle.	(a) <i>Silver medal</i> for Honours. (b) <i>The Brazier prize</i> for the best practical out-door Ranger.

22

(B)	Madras Ranger		
4.	Higher Standard		
5.	Khuda Bubbeh Kureshi Dulat Jayaram Tanpure	Bombay. do.	<i>Moopil Nair Cup</i> for Marathon Race held in February 1924.
6.	Antony John Andrade	do.	
7.	A. <i>Subramaniam</i>	I Circle.	(a) <i>The Penland Shield</i> for the best all-round athlete.
8.	Khan Mohammed	Central Provinces.	(b) <i>The Fischer Cup</i> for Tennis.
9.	Siripala Ilayaperuma	Ceylon.	
10.	Omman Ponnacherial Mathews	Bombay.	
11.	Ramji Dass Varma	Central Provinces.	
12.	Jannardan Dwivedi	Keonjhar State.	
13.	Govind Madhao Ayade	Central Provinces.	
14.	Dharmidhar Rawat	do.	
15.	John Victor Perera	Ceylon.	
16.	Mohammed Kassim	Bombay.	
17.	S. S. Harisinghani	do.	
18.	Mohammed Abdul Sattar	Bihar and Orissa	
19.	R. Ramasami Naidu	Bombay.	
20.	S. Sebastian Pillai	Ceylon.	
21.	M. Manickam	do.	
(C)	Madras Ranger Lower Standard		<i>Moopil Nair Cup</i> for Marathon Race held on 25—9—24.
22.	Arogyasami Pillai	II Circle.	
23.	Chakravarti Jaichand	Central Provinces.	
24.	Krishna Kamal Banerji	Bihar and Orissa.	

23

Mr. H. Tireman, the Chief Conservator of Forests then addressed the gathering as follows:—

“Mr. Williams, Ladies and Gentlemen,

Let me first accord my best thanks to Mr. Williams for his congratulations on the honour which His Majesty the King Emperor has conferred on me. I feel the more gratified in that an honour conferred on the head of the department is an honour conferred on the department itself and a recognition of the work which it is trying to do.

“I had hoped that His Excellency the Governor or the Honourable Member in charge of the Forest Portfolio might preside to-day, but I much regret to say that neither His Excellency nor Dr. Usman could manage to come. Hence the duty of presiding over this gathering devolves on myself. I once attended a forest conference at which an esteemed friend of mine told me that forest officers were men of action and not of words and then proceeded to read an address which I think lasted for half an hour. I propose to emulate his precept though not his example, and to get done as quickly as I can.

“I desire to accord a hearty welcome to the guests who have been so good as to honour us by their presence. I especially welcome my honourable friends of the Legislative Council, Messrs. Venkata-ramana Ayyangar and Ramalingam Chettiar. These gentlemen are keen critics of our department and while their well informed criticisms are always welcome I cannot help feeling a secret satisfaction that like the preacher in the pulpit I have them to-day at a disadvantage in that they cannot reply to what I have to say.

Students of the Madras Forest College.

We have all listened with interest to the account which your Principal has given us of the doings of the past year. I very much regret to hear of the untimely death of young Hidayath Ulla Khan and venture to offer my condolences to his relatives. From the point of view of work the results of the year are on the whole creditable; the general standard is higher than it was last year. It is satisfactory to note that the College has done fairly well in games, and I trust that Mr. Williams' expectations, that the cricket shield will return next year to what of course is its proper place will be realised. Games as the Principal says are compulsory but you seem to take very kindly to this interference with your liberties judging from the two very fine games of hockey and cricket which you have played during the last few days. Don't drop your games when you leave. You possibly will not often have the satisfaction of clean-bowling the Chief Conservator first ball; but games are the very best thing for keeping you young and active, and a far better relaxation from hard work than sitting in an easy chair. It is not of course too easy for Forest Rangers to get an opportunity of playing games, but they manage it in Coorg where they have a very efficient hockey club in which every one, Rangers, Range clerks, Foresters and Guards, play fairly regularly. With a little organization it should be possible to have something of this sort in, at all events, some of the forest districts of Madras. To those who have won prizes I offer my hearty congratulations; those who have not

have my sympathy which is all the more sincere as during my own school days I only once won a prize.

“Those of you who are leaving this college to-day are entering a service which has a very bright future before it. I am a confirmed optimist but when one considers the possibilities of development which exist in the Madras forests it is impossible not to be optimistic. I have little knowledge of provinces other than Madras but forest development is in its infancy everywhere in India and I imagine that the conditions in the provinces from which so many of you come are very similar to those which exist here. We have in this Presidency apart from sandalwood and red sanders forests at least two thousand square miles or say $1\frac{1}{2}$ lakhs of acres of real timber forests which contain vast quantities of valuable trees. From this huge area we extracted during 1923-24 just about $12\frac{1}{2}$ lakhs of cubic feet of timber or one cubic foot per acre. Now in some European forests the mean annual increment i. e. the quantity of timber which grows every year on an acre is as much as 90 cubic feet. Conditions here are much more favourable for rapid growth and we can safely assume that on every one of these $12\frac{1}{2}$ lakhs of acres 25 cubic feet of timber grow every year. It is obvious that if you have 25 cubic feet growing and only remove one cubic foot you are wasting 24 cubic feet. These 24 cubic feet merely fall down and are eaten by white ants and a simple calculation will show you that the waste every year on $12\frac{1}{2}$ lakhs of acres is six hundred thousand tons. Now this waste would not be a matter of great consequence if there were no possibility of putting the timber to profitable use but while the white ants are eating six hundred

thousand tons of timber every year, India imports timber valued at some crores of rupees. The timber which rots in our own forests is as valuable as that which is imported and which costs India so much, and much of it is more valuable.

“Now what would be the result if we had the organization to put the annual yield of the forests to a profitable use? I said just now that instead of extracting 25 cubic feet from every acre of the $12\frac{1}{2}$ lakhs of acres of our timber forests we only extract one cubic foot. On this we get a profit of something in the neighbourhood of eight annas but the total amount realised is so small compared with the establishment which we have to maintain to manage and protect the forests that the profit is entirely eaten up and our $12\frac{1}{2}$ lakhs of acres of timber forest bring into the coffers of the State practically nothing at all. You have been privileged to see the logging operations at Chenai Nayar so admirably conducted and organised by Major Chipp under the able guidance of our Chief Forest Engineer. These operations are entirely new to India. It is only a matter of extending their scope to make all the timber which now goes to waste available to the consumer. If we do this and can make use of the 25 cubic feet which grow on every acre, while we could not expect a profit of eight annas per cubic foot as much of the timber would be low grade stuff it is perfectly reasonable to look for a profit of two annas after paying for establishment. This would mean Rs 3 per acre or on $12\frac{1}{2}$ lakhs of acres nearly 40 lakhs where now we get nothing at all. You may think I am over sanguine, but when I tell you there are several forests in Europe which yield a net income to

their owners of thirteen ruppes per acre I think you will agree that I have cause for being optimistic, and that there is something in what I have said about the bright future before the Madras Forest Department.

“It may interest you to learn that the Government have just decided that the administration of those forests which have been handed over to panchayats is to be transferred tomorrow to the Revenue Department. This means that before very many years past the Forest Department will be quit of the duty of looking after some four thousand square miles of forest which bring in very little revenue and are a constant cause of friction between us and the people. The Department will then be able to devote all its energies to the improvement and development of a property which is of very real value. While on this subject I should like to refute an argument which you have probably heard more than once from those who can have devoted very little thought to the subject to the effect that what are to be known in future as Ryots Forests are of equal if not greater importance than the timber forests of which I was talking just now. There was never a more fallacious argument. I do not for a moment wish to question the very great importance of maintaining the ryots forests so that the villagers can get what they want in the way of fuel, grazing and the like but the numbers of such villagers must form a very small proportion of the people of the Presidency. If there is any thing in what I have said as to the possibility of very largely increasing the revenue from the timber forests that increase must affect every man, woman and child in the Presidency for, every addi-

tional lakh of profit from the forests means either more money for education or works of public utility or less taxation.

“I wish to repeat what I told you last year as to the necessity for your keeping yourselves up to date in Sylviculture and Utilization. Sylviculture is the most important branch of your profession. You may think you know all about it, but let me tell you that I have been studying the subject for 31 years and I am still learning. Go on studying sylviculture therefore till the end of your service.

“I am glad to have seen you at work in the forests felling and sawing up trees with your own hands. One of the greatest handicaps for young men in this country is the silly notion that manual labour is derogatory. You can never get work properly done by your subordinates unless you are prepared to take your coats off and show them yourselves how it ought to be done.

“I am now going to do a little straight talking to you on an unpleasant subject which is usually not alluded to at gatherings such as this; but I do not believe that shutting one's eyes to an evil is going to do anything to remove it. I am talking to you students, but I hope my words will also reach the men who are already Rangers in the Madras Forest Department. There is an appalling amount of dishonesty in the lower ranks of the subordinate forest service, and I regret to say that it is not entirely confined to the lower ranks. I have just had to deal with a disgraceful case in which a Ranger and a past student of this College so demeaned himself as not only to make his subordinates supply

him with food for nothing but also to levy monthly contributions from their meagre pay. If such things are possible can we wonder that the lower ranks are corrupt and that the name of the Department stinks in the nostrils of the people? It is up to you students who are leaving the College today to do every thing in your power to purify the administration. You are not going to do this merely by hunting down your subordinates, but also and chiefly by your own personal example. You have got to guard against being under the smallest obligation to any man; like Caesar's wife you must be above suspicion. You would probably tell me that you are all proud to belong to the Forest Department; that is mere talk. You have got to remember all through your service that on each one of you depends the good name of your department. If you can keep that name unsullied you will make the department one to which a man may be really proud to belong:

"I have shown you what great possibilities there are of forest development in this country and development means good prospects for the men of the Department. But that development cannot be achieved unless every man concerned does his very best. The idea is too prevalent in the subordinate forest service that all that is necessary is to obey orders. That is not by any means enough. When you are given something to do say to yourself I will make a real job of this, and do it; make it as perfect as you can. And above all things forget the word "impossible." If you say a thing is impossible you look rather foolish if some one else comes along and does it.

"One word more and I have finished. An American writer I think it was who tells how travelling in the wilds he found by the wayside the grave of a pioneer on which was carved this epitaph "Here lies Bill. He done his damndest. Angels could do no more." We are none of us angels, but that is the spirit you want. Try so to do your work all through your service that when you retire it may be said of you that like Bill "He done his damndest."

With a vote of thanks to the chair, the function came to a close. The guests were then entertained to tea by the Board of Visitors and staff of the College.

Avicennia officinalis

On the coast of the Bay of Bengal.

It is highly interesting, from a Sylvicultural point of view, to study the history of *Avicennia officinalis*, a tree growing in the Salt swamps, in close proximity to the Bay of Bengal in the Guntur, and Kistna Districts.

The soil in these swamps is clayey, and the ground intersected by salt creeks and creek-lets fed by sea-tides. The land is watered by the ebb, and drained by the low, tides regularly.

The gradation of the natural growth of *Avicennia officinalis* necessitates classification into three different zones or belts.

First Zone. This is the best zone and found on the more slightly raised banks of the creeks, where loose particles of fine clay are

deposited by the agency of the daily tides. The locality is also well-favoured to receive the full advantages of the tides and here *Avicennia officinalis* thrives.

Second Zone. This Zone occurs one to two or even three furlongs further off from the banks of big creeks, where the soil is harder and more elevated than it had been some years before, due to two main reasons. The ground becomes elevated by fresh deposits of mud brought by the tides and the hardness of the ground is due to frequent trampling by cattle.

Consequent to the two above mentioned facts and also being at a distance from the big creeks, the second zone is cut off from having the full advantage of the daily tides, except on 3 or 4 days, viz., before and after the full and new moon, when the tides are at their highest. The hardness of the ground, and the inadequate supply of water gives rise to a poor growth and the trees in this zone are knotty, crooked and sometimes hollow when mature.

Third Zone. Lies next to the Second zone and far away from creeks, the distance ranging from 3 furlongs to a mile. The growth is stunted and varies from 1½' to 3' high, locally termed 'bottai.' Here the soil is quite unfavourable for the successful growth of the plant. The seedling originally established itself under the favourable conditions of the surface soil, and as it grew up, the stiffness of the sub-soil and the inadequate supply of tidal water retarded its growth making it finally unfit for any practical use.

The remarkable effects caused by the difference of soil and the varying quantities of tidal water within a distance of $\frac{3}{4}$ to 1 mile, irrespective of climate and rainfall, which remain unchanged in a short distance of one mile, are typically exemplified in the growth of *Avicennia officinalis*.

REGENERATION.

Avicennia officinalis coppices in special cases when the stump is above 2 high and even then unsuccessfully. It is therefore classified for all practical purposes as a tree that does not coppice. It also sends up a good number of roots into the air all round to facilitate respiration, and it has been found by careful experiments in the Guntur District that no shoots can be stimulated from the cut ends of these breathing roots.

The seed of *Avicennia officinalis* germinates while the embryo plant is still attached to the parent tree. The pointed end of the root so developed is capable of sticking in the mud where it drops. Enormous quantities of seeds are often seen washed up and down by the tides, carried from even 30 to 40 miles and awaiting the earliest opportunity to establish themselves. Seedlings, either sown or brought down by the tides which settle on the soft clayey soil found on the convex banks of the creeks and new accretions grow profusely. But seedlings growing on the half-hard ground in the second zone present a tea-bush appearance.

Valuable conclusions are drawn from the local experience of the salt swamps, viz:- that new accretions are being added on continuously owing to the frequent changes of the position of the creeks; the old soil once stocked with fine growth is gradually rendered very hard and is finally converted into blanks or 'parras' (Saline soil) and no method has yet been found to successfully restock the blank areas and to stimulate the regeneration on them. Lastly, the fact that these useless 'parras' are rendered fit for agricultural crops, in many cases, by the action of nature, cannot escape the notice of the forester.

The so-called hopeless 'parras' become elevated by loose layers of sand deposited by coastal winds and so are cut off from the reach of tidal water, even on the full and new-moon days. Further, the action of rain, aided by certain geological changes caused by external influences, gradually reduces the salt in the ground. Then the grass makes its appearance on the ground and in time renders it fit for agricultural crops.

P. GOPALAKRISHNA ROW, M. F. C. (1925-27)

"Following up wounded tigers."

It is a sportsman's bounden duty to try his very utmost to follow up and put an end to any animal which gets away after he has wounded it: it is nothing but fair and humane that he should do so, even at the risk of his life. And it is here where so many Shikarees come to grief, especially when following up a wounded tiger or panther ;

and how often one reads or hears of such tragedies invariably brought about through some carelessness or unobservance of certain rules, through inexperience, on the part of the sportsman.

What I am going to say about the following up of wounded tigers—and the same applies to panthers also—is based on experience, for I have had to follow up and finish off on different occasions three wounded tigers and some half-a-dozen panthers, and I hope this short sketch will prove instructive and be of some help to those readers, who should at any time be forced to go after a wounded tiger or panther.

My first advice is not to be so rash as to follow a tiger, which has been badly hit and seeks cover, immediately; but let him lie up for at least four hours, or a whole day if necessary until he gets stiff and sick, so that, when searched for he will have little fight in him. Remember they have wonderful tenacity and with the last flicker of life left in them can do sufficient damage to send a person "west." The next thing, if possible, is to procure dogs or a herd of buffaloes from the nearest village to locate him. The ordinary village 'pie' dog is as a rule useless for this purpose, for he is an arrant coward and on the only occasion I was obliged to employ them the whole bang lot of them scooted back to the village, with their tails between their legs, as soon as they got a whiff of the tiger! I then swore never to have anything to do with them again. Buffaloes are good and helped me to bag a number of wounded panthers, which they marked down beautifully. However, I have never used them in the case of wounded tigers and the method I usually adopt against them is as follows:—

After having given the tiger sufficient time to sicken and stiffen, I start tracking him with one shikaree and at the most two other reliable men whose special qualifications should be to be able to climb like monkeys, have the eyes of a hawk and the ears of a tiger; why so you will understand further on. Never have a crowd with you, but keep all the rest of the men far away on some cart track or clearing, with strict injunctions not to talk or wander, till they are wanted. Move slowly, talk in whispers and be all eyes and ears; take note of every suspicious looking object in a bush and any peculiar behaviour of birds or animals in the vicinity. When monkeys are heard swearing close by you may be certain it is your tiger they have spotted.

The shikaree leads, tracking by means of the blood trail generally, you follow him at his heels with your rifle loaded and cocked and the role of the two other men is to climb up trees and investigate the jungle as far as they can see. When they signal "all's well" they climb down and you move on to the point marked down as safe and when this is reached the climbers shin up two other trees and search the jungle further ahead. In this way you move along, it is slow work, but full of excitement and therefore the time never drags or palls. Very often the tiger hears or sees you approaching and if not too far gone moves on ahead, and from the freshness of the blood, a bent blade of grass or a broken twig you can pretty well judge whether he is close at hand or not. This is not always the case however, for a tiger very badly wounded will lie up tight and then, nine cases out of ten, charge if you fail to spot him and thus

approach too close. Sometimes he welcomes you with low growls and often as not keeps perfectly quiet till you get quite close up, when he will let out an awful roar, enough to make your hair stand on end, in charging or retreating. On no account turn and try to run—it is fatal to do so, and your reputation will be gone for ever and besides remember the faithful tracker you are leaving in the lurch—armed most probably with nothing more formidable than a tiny bill-hook. In such instances it is not a case of "each one for himself and the devil take the hindmost".

When the tiger is located manoeuvre till you are able to see him properly and then let him have it in a fatal spot; never bang off blindly as soon as you catch sight of a patch of yellow and black—it will usually mean either further trouble or a mad charge for you by the infuriated beast and a lively five minutes most probably. Do not fire if the tiger is facing you, the skull of a tiger slopes and presents a very difficult mark and, unless you are a Selous, I would advise you not to attempt it. Try and get a broad-side shot every time and the best side-shot is the liver shot, from the centre rib to the loin, and few animals escape from such a shot and die in a very short time. When firing, always bear in mind that you should be prepared to put in a second shot as soon as possible for you cannot rely on a knock-out with one shot. Watch the animal the whole time and on no account shout or speak until you are perfectly sure that the tiger is dead and when approaching to investigate, after first heaving a few stones at him be ready with your rifle until no doubt remains that the animal is done

for. It may happen, as it did once with me, that the tiger has been located in thick cover when it is not possible to despatch him as you cannot spot him. What I did was to send off for some of the extra men, lined them up on trees on one side and then, after I had taken up a position of vantage on the opposite side so as to cut off the tiger when he tried to sneak away, signalled to the men to throw stones into the bush--there is no need for them to shout. In this particular instance the tiger broke cover almost immediately and I was able to lay him out quite easily.

In dense, low jungle, with thick undergrowth or heavy grass, I would advise, if possible, employing buffaloes as being safer. The method I have described and the one I have followed more frequently is quite alright for jungles which are not too dense.

I have just outlined the general principles to be borne in mind when following up a wounded tiger and sportsmen will have to use their discretions and adopt other tactics as the circumstances demand. Finally, keep cool, act quickly; trust in God and above all shoot straight. Those who are nervy or have no confidence in themselves or in their rifles, then my sincere advice to them is to take to some less dangerous pastime, say solving cross-word puzzles at home, and do not go tiger shooting.

ROLAND MITCHELL,

Instructor--M. F. College.

Future of the C. P. Forests.

Students of economics know that prices are dependent upon supply and demand. When supply is not able to keep pace with the demand the prices naturally go higher. In the following lines I shall endeavour to show the effects, the prevalent methods of treatment will have upon the supply of timber.

There are three types of forests in the Central Provinces: Government, Zamindari and Malguzari. Now, what effect have these forests upon the supply of timber?

The malguzari forests are miserably exhausted, and are capable of yielding nothing but fuel. The marketable timber is available only in the Government and Zamindari forests.

In the former days there was no demand for timber, hence owners whether Zamindars or Government, did not attach much value to their forest. With the advent of the railway a keen demand in timber was felt, and timber markets came into existence. This was a turning point in the history of the forests. The Government as well as the Zamindars realised the value of their forests and started extraction of timber. At present the increased demand for forest produce is conjointly met by the Government and Zamindari forests.

During fellings in the Government forests, a special care has to be taken in removing only those trees that are crooked, dead or dying, but the reverse is the case in the Zamindari forests. The

selection of exploitable trees is entirely left to the tenant or the contractors, who generally selects sound trees of good dimensions, paying little heed even to the seed bearers. After felling, the tenant has to square the timber, and transport it to the market for sale.

Half the price obtained goes to the Zamindar and other half to the tenant. At present the market is full of timber extracted from the Zamindari forests as it is better in quality. This reckless removal of sound timber has considerably effected the revenue of the adjoining Government forests.

But it is an unstable state of affairs. In the Zamindari forests, the annual extraction is much more than the annual production, hence the owners are un-consciously encroaching upon the capital. With a few years their forests will be exhausted and they will then wonder why nothing but trees fit for fuel are available. At that time it shall be possible only for the well managed Government forests to supply timbers of the better quality and girth. When this stage of affairs is reached, the financial and economic importance of the forests shall be realised, not only by the Government but also by the public at large. Secondly the days are drawing near when the peasantry of the Central Provinces will feel the importance of hay-stacking. The cattle of that part of India are generally weak and the chief cause is the scarcity of fodder. So long as the grass is in abundance, the cattle are seen at their best. No sooner does the dry season come than the insufficiency of fodder, reduces the cattle back to their state

of emaciation. The grasses that now dry in the reserved forests and supply inflammable material to forest fires, might become a source of income in the near future.

Thirdly with dawn of technical education, various factories producing dyes, resins, oils and gums are likely to be established. Thus numerous trees, that now are considered to be useless, will become of industrial importance.

In conclusion I may say that the Central Provinces forests have a hopeful and promising future before them.

HUKAMSINGH B. SC.

Junior Division.

1925—27.

June Week 1925.

As is usually the case, there was again an intensive programme of games of various kinds arranged by the Athletic Club, and despite the threatening weather this was carried through and seems to have been enjoyed by everyone.

TENNIS.—The visitors and the better players among the students made up an American Tournament with 13 couples participating. The winners were Mr. Williams and Mr. Ward.

The final of the student's tournament for the Fischer cup was also played off, the finalists being Khan Mohammed and Philips.

This resulted in a win for the former. The play was very steady but there was little variety of strokes, this making it rather un-interesting. Possibly the strain of the Exams ??

CRICKET.—The match between the college and the visitors provided plenty of excitement from beginning to end. The visitors opened and scored 69, the chief scorer being Ward 23. Philips took 4 wickets for 10 runs. The college, thanks to Khan Mohammed (29 not out) made 70. In the second innings it was the usual story. The visitors hit out and declared at 78 for 7 (wimbush 23, Ward 32). The college followed and when stumps were drawn had made 82 for 9 wickets (Sahni 22) thus winning by 1 wicket.

HOCKEY.—The students-officers match was equally interesting. In the first half the game was fast and even, and the score at half-time 2-2. In the second half the officers were called on to defend which they did very successfully. One goal by the students was disallowed for sticks, and the game ended in a draw 4-4.

During the week the Forest Officers played the rest of Coimbatore at Tennis and Golf winning the former and halving the latter.

J. A. W.

Gems of answers from the last June Examinations.

"For hand sawing we require skilled labour, whereas in machine sawing any labour will do.

The following are suitable stems for tannin extract :—

Stems with fungi attacks.

Stems full of resinous matter.

Stems with knots and burrs.

The famous air seasoning process is the Haskin's process. In this process the sap in the wood is converted into antiseptic substances without the introduction of foreign substances.

Twisted fibre is not a very serious defect, but the timber cannot be used after conversion.

While at Dhoni we saw a tractor designed as a butterfly.

The air extends for thousands and thousands—nay, millions of miles above the earth.

The earth rotates once round its axis in 365 days. A Vulcano is a mineral spring—it sends out lava. When we boil water we apply fuel. First of all we find that the water never boils, it gets warm, and remains for some time in this condition; this is called latent heat.

All scantlings are likely to be attacked by fungus or other insects.

The following two are extracts from answers to "what do you know about creosoting."?

(a) "From this tank a pipe projects down whose top is inverted into a small hole dug into one side of the log to be seasoned"

(b) "Artificial seasoning is artificial treatments such as subjecting the timber to dry atmosphere, by antiseptic treatments, by electricity, by ozone, etc."

This, however will take a lot of beating and was one of the better answers to a question on the utility of the measurement Book during the recent Departmental examination in Forest code and accounts.

"Every D. F. O. maintains a Measurement Book. This book contains all measurements of the trees that grow in the Forests.

The measurements of all the forest trees, either growing in the forest, or felled, dead or fallen trees are found in the measurement book. The measurements of timbers cannot be secured by any other book"

Even making allowances for the fact that the gentleman in question hails from West Cuddapah Division, one cannot help assuming that he must tell himself that a position on the Executive Staff is not for the likes of 'im.

R. H. M.

THE NOR - CROSS.

This is a period when all the Governments owning forests have realized their importance and are working strenuously for raising a forest crop of important species, required according to localities and demand, on the ground from where all the saleable

materials have been removed and brought to book. Of course, natural regeneration is the one which all Forest officers look for, but in its absence artificial restocking of the ground with suitable species is to be resorted to, thereby having a forest in course of time in place of the one which has been placed under the axe.

The commencement of plantations dates long back. In 1826, Dr. Wallich recommended the commencement of teak plantations in Burma, but little seems to have been done during that time through a forest staff of "one headman, with eight to ten coolies" for planting and rearing the seedlings, in addition to their supervision over the work of timber-cutters. Rules drafted in 1841 laid down that "for every tree felled and removed 5 young trees of proper size shall be planted by the license-holder or by Government at the expense of the former." Finding that no steps were taken to carry out these rules, in 1843 Captain Tremenheere, the first Forest Officer ever appointed in Burma, formed 4 Government Plantations, but they were unsuccessful mainly due to frequent fires.

The first actual attempt at artificial regeneration in Burma, in small areas, began at Thinganuyinaung and Shwegun in 1856, followed by the Prome plantations in 1857 and Myodwin plantations by Dr. Brandis in 1862. In Major Seaton's first annual report from 1867-68 he gives the total area of plantations to be 764 acres.

During the period 1870-80 regular planting gradually declined and gave place to Taungya plantation, which were proved to be very

much less expensive and easier to form. Mr. Ribbentrop states in his "Forestry in British India" that as far back as 1856 Brandis conceived the idea of encouraging the shifting cultivation of the Karens in Burma and making them interplant teak with their field crops. Very little seems to have been done until 1862, when it is reported that a Burmese Forester Oo Tsan Dun began planting teak "in accordance with orders" in his taungya of paddy and cotton. Thus the first taungya plantation was raised.

In Bengal, we see that Licut. Governor, Sir George Campbell in 1873 asked Mr. Gamble to go up to Darjeeling District and visit and report on the plantations both on the hills and the Terai. This was an attempt to introduce teak into the Terai forests, and in which the Bengal Government was much interested.

The forest plantation along the Jumna Canals in U. P. were started as early as 1820, and many plantations such as those at Sukhini, Kheri, Bhira, Rhamgrah, Pathii etc. came into existence by 1880. In 1884, Mr. Fisher, the Collector of Etawah, made the first successful attempt at the reboisement of denuded lands and valleys and in about 20 years the "Fisher Forest" was raised, illustrating the possibility of raising such forests in other districts.

The starting of Condly Teak Plantations at Nilambore of the Madras Precy. dates back to about 1852, and now the Madras Forest Department could boast of it and reap the benefits.

. So at present we see that vast areas of forests are being regenerated artificially every year—I mean only artificial regeneration of teak—in South India, especially in Kanara and Malabar. The crop of teak is raised either by sowings, or transplants or dibblings according to circumstances. We know that only these places which are unfit for Agriculture are given up for Forestry and these places are remote, unhealthy, dangerous without any communications, and less inviting. It is in such tracts that we are to do our work—the work of raising the future Forest. In order to raise a plantation two important things are required and they are capital and Labour, the former is not very difficult to get, but the latter gives us a lot of trouble. Taking for granted that the question of capital is settled, let us take up the question of labour.

In most places labour is to be imported and is to be paid high wages in addition to some other concessions such as giving rice at a low price etc. They will have to be housed, medical attendance given, and treated well lest they should run off. India is an Agricultural country and the problem of labour becomes more difficult since both Agriculture and Forestry require labour at the same time. Unless coolies are tempted with high wages they would not come to work in the forest.

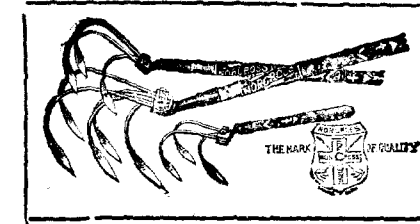
The success of a plantation will depend upon the amount of tending you do to your crop at the required time, which in turn depends upon the amount of labour at your command. All the operations such as pitting, dibbling or transplanting, weeding, mulching, etc., require

labour and labour at the right time. Since the problem of labour is rather difficult to solve, we must try to bring in some labour-saving instrument, which would serve our purpose both sylviculturally and economically. The "Nor-cross" weeder is ready to help you in all possible ways in your plantation work during the first year, when almost all the works are being carried out; and as far as I have seen it would do the work economically.

The uses of the "nor-cross", are various. It is a very handy, light implement not very costly and it would turn out the work easily, quickly and satisfactorily. The cooly likes the instrument, it is handy and with which he is sure that he would be able to do more work than he would have been able with a pick or a mamootie. The cooly with a "Nor cross" in his hand is elated not only because he is in possession of an improved implement which he has not seen before, but mainly because he perfectly knows that the "Nor-cross" will help him considerably in the execution of his work without much strain on his part.

Now, we are using mamooties, pickaxes, etc. for various operations from the start of the plantation and let us see whether we could do away with the above implements by using a Nor-cross. I am going to give you only my personal experience regarding the works to which the Nor-cross is put. The Nor-cross is ready to give you a pit $9'' \times 9'' \times 3'' - 4''$ without much effort on the part of the cooly; it gives you a good bed for dibbling or sowing your seed; it lifts up seedlings with a clod of earth without injuring its root-system; it effectively

eradicates weeds; it aerates the soil and conserves moisture. The sharp tapering shovels pulverize the ground thoroughly from one to five inches deep and make it loose, level and untrampled. What other work do you want to do in your plantation during the first year?



Now let us look at the economic side of the question. This is easily answered by the two experiments carried out in this Range. In an area, two parts of 6 acres each having almost the same kind of weeds etc., were taken up for experiment and a plantation was raised in both the plots, using the usual mamootie-pickaxe, koitta etc. in one plot and only the Nor-Cross and koitta, since Nor-Cross is not a cutting instrument, in the other. What was the cost? The former plot took Rs. 4 per acre for sowing seeds at stakes $6' \times 6'$ and Rs. 3-8-0 per acre for the first weeding and the latter Rs. 1-12-0 and Rs. 2-4 respectively. A second experiment was tried in a grassy area and the results were Rs. 4 per acre for sowing at stakes $6' \times 6'$ and Rs. 3 per acre for the first weeding in the plot where mamooties etc., were used and Rs. 1-10 per acre for sowing and Rs. 2 for weeding in the other plot where the Nor-Cross was used. It was also noticed that there were less weeds for the second weeding in those plots where the Nor-Cross was used.

So the Nor-Cross hand-cultivator solves partially our labour problem. Why not give it a trial and see how far it is useful to you in raising your plantation successfully and economically? This labour saving appliance could be had in 3 sizes, viz., 5-prongs, 4' handle at Rs. 9 each, 3-prongs, 4' handle at Rs. 6 each and 3-prongs, 9" handle (midget) at Rs. 3 each. We are using the last one. The instrument is obtainable From Messrs. Limaye Bros. Ltd., 8, Hamam Street, Fort P. B. No. 684. Bombay. The above company has promised to make concession prices to the Forest Department according to the size of the order.

My thanks are due to Messrs. Limaye Bros., Ltd. for their kindness in lending the use of their Nor-cross weeder block.

BENJAMIN M. JOHN, M. R. HONS.

A Brief Note on the Chenchus, their mode of life and social customs.

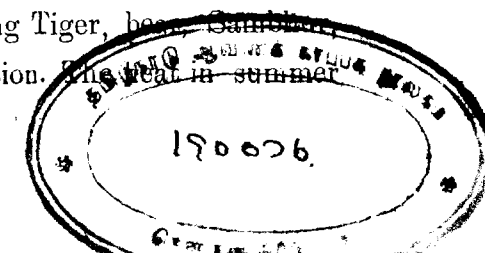
Introduction. I have been in the West Kurnool Division from October 1918 to March 1919, and from April 1921 to July 1925, and during this period have had several chances of observing the Chenchus of the West Forest Division, and of questioning the Chenchus themselves. I have been on special duty in the Nallamalais fairly continuously for about 2 years and more, and have lived for months on and in tents in close proximity to the Chenchus, and have had thus some very good opportunities of studying them. But officially, I have never been responsible for their management, and being fully aware of the enormous difficulties of the problem that the officers directly responsible

have to face and overcome, I have never gratuitously interfered. Hence I am not in possession of any official information on the matter, and so I omit in this article all reference to historical data, or to policy. What I saw, and what the Chenchus told me are alone recorded. Needless to say, an extremely interesting page of the book of nature lay open before me during this period, but it was just a few lines on that page that I could read. I daresay more has been read, and will be read, and more will be said, by better furnished people than myself, in the near future.

If an apology is necessary for my attempting to piece together these random bits of notes that I had made when I lived with the Chenchus, it is this, that it may serve as an incentive to further and very much more detailed study of these extremely interesting types of mankind.

His Home. The Nallamalai Forests, perhaps the biggest block of Reserved forests in the world, extends from the Nizam's Dominion, through the Kurnool district, to the Cuddapah District of the Madras Presidency. It is in the portion of these Forests, comprised in the Kurnool District, that the Chenchus live. I have seen the Forests of the West Kurnool Division. These may be classed roughly into the Hill or Plateau Forests, and the Terrai, or lower plain forests. The vegetation is deciduous, the sources of water supply are few and far between, the jungle is reputedly malarious, bamboos and grasses abound, and the shikari has got good chances for bagging Tiger, bear, Sambar, Spotted deer, and others too numerous to mention. The heat in summer

JL
J.B. d. m. 21. 1916
N 75



is intense, the rainfall even during rains scanty and uncertain, and hence the trees in the Terrais are usually stunted, and openly distributed, with various shrubs of a xerophyllous nature in the area. It is in this jungle, removed from civilization by a distance of 5 to 25 miles, in close proximity to perennial springs, if possible under the shade of a few evergreens, that we find groups of huts inhabited by these chenchus. Such a chenchu village is called a *Gudem*.

The Chenchus. About 5 feet in height, with no physical development to boast of, dirty in appearance, dark in colour, his head shaved in front, and with a tuft of hair in the rear, like most orthodox Hindus but often plaited into a pig-tail when he is in the humour for such decoration, with a long rag girt round his loins, from which is suspended the Koupin, armed with a bow about 4 feet in length, and about half a dozen iron tipped arrows each about 2 feet long, when out on an excursion, talking telugu with a very slight peculiarity of accent, such is an average specimen of a male Chenchu. The ladies of the community vie with the gentlemen in their colour, but where they can afford it, they are usually better clothed with a dark coloured Saree and frequently a jacket. They wear beads round their necks, and anklets of silver, and sometimes small gold ear-rings etc. On them devolves the duty of bringing home the roots and fruits, while the men hunt, and so it is a common sight to see them with an iron tipped pick.

Society. These chenchus as has been stated already congregate in small village groups called Gudems. People usually describe the

chenchus as a semi savage race, for modern civilization with its multitudinous wants and cares have not yet penetrated into his forest home. The chenchu society is almost a self-sustained unit. But for the few inches of cloth that he requires to cover himself with, he needs but little in reality from the comparatively more civilized people of the neighbourhood. His huts are built in the primeval forest, near streams or perennial springs, out of bamboos and rough timber, and the grasses that the forests yield. His favourite food is composed of the roots and edible fruits he finds in his forest home, of the wax and the honey (and the larvae too) he finds secreted in the hollows of trees, the deer and the squirrel and other animals, that he follows with his dogs, and kills with his bows and arrows. His drink is the water from the nearest spring, and his favourite beverage is the home-brewed Ippa arrack. All these mother nature has bounteously provided him with, and no need has he in reality to toil from morn till night for the necessities of life. But clothing the forests do not supply him with, and for this he comes into contact with civilization; consequently arises the multiplication of wants; the inability to satisfy his ever increasing want also seems to increase proportionately; and he takes up to begging, borrowing, stealing, or even worse. For the last two he is specially provided, for he is comparatively better armed than the civilized villagers whom he relieves of some of these things; for he has got silent swift and sure messengers of death at his command, the iron tipped arrows discharged from his bows with unerring certainty from a distance of 100 feet or more; and so frightened are the villagers at the very thought of a chenchu bow and arrows,

that even before an unarmed chenchu they would tremble. Though physically a puny creature, intellectually not of a high order, and morally a coward, the chenchu is very cunning; and it is his cunning that carries the day for him against the villagers.

The society is divided into a number of clans, often at feud with each other. Among the chenchus of Bairluty and Nagaluty Gudems of the West Kurnool Divisions, I found the following clans. Barmola Pulicherla, Dasari, Golla, Uttaluri Mandla, Chigurla, Gara-boyana etc. Members of each of these clans in a gudem, gather round a headman of that clan, who also functions not infrequently as a religious head, during their periodical worship of one or other of their numerous deities.

We shall now consider some details of this social life. Naturally we consider Birth first.

Birth. In almost all civilized communities the naming or Baptism of a child appears to be a matter of some importance. In India among the Hindus the name is given about the 11th day. But among the chenchus this is deferred till about the third month when they say the child can recognise the face of its father, and laughs. The religious head of the gudem pretends to divine under the influence of his deities the name to be given to the child, at night, and reveals it the next morning to the parents, and the child goes by that name ever after. But there is no other ceremony attaching to this.

Ear-boring. This is often of importance among Hindus, and this is also done usually early. But among the chenchus this is also done comparatively late i. e. about 11 or 12 years both for boys and girls, but there is no special ceremony attaching to this either; unlike most Hindus.

Marriage. For a regular marriage the marriageable age for boys is about 14 and for girls about 11 i. e. usually before the girls come of age. This information is to be taken *cum grano salis*, for it would appear that sometimes young men and women have a free choice and marry without any attending ceremony, and subsequently apprise their parents of the fact, but this procedure is not considered regular by the elders though there is no moral sanction against its practice. In the regular system, the parents of the boy, obtain the previous consent of the boy to their choice of a girl, and then accompanied by a priest of the Uttaluri clan (called the Kolagadu) approach the parents of the girl some evening, and suggest the alliance. The former provide the latter with two or three rupees worth of drink if the latter are agreeable. The bride that is to be also receives sometimes a present of a jewel from her would be mother-in-law. After this, if the bride's father breaks the contract he will be made to pay a money compensation to the parents of the boy, the actual amount being decided on by a conclave of the elders of the gudem. The next market day the bride-groom's parents purchase a Sari and a Ravikkai, and a Dhoti, and some rice, a goat and some arrack; and then proceed with the ceremony of the marriage in the presence of at least one representative of each clan of the gudem,

the Kolagadu officiating as priest. Unlike most Hindus there is no Muhurtham or auspicious moment depending on the stars. After bath the bride groom and bride dress themselves, and then sit on the new mat. The Kolagadu ties up a corner of the bride's sari to a corner of the Bridegroom's upper cloth. He then offers some betel leaves and nuts to their gods, and then gives the bride and bridegroom a nut apiece, which they eat. The Kolagadu then rolls up a betel leaf and gives it to the bridegroom. So soon as the bride groom has bitten the leaf, the bride should snatch away the betel leaf from between his teeth, and eat it away. This concludes the marriage.

Then the Kolagadu demands on behalf of the bride's party, that the bridegroom's parents should give them all a feast in honour of the occasion. Then the rice and the goat are brought, cooked and eaten and the arrack is consumed and they make merry. All the elders assembled are expected to drink of the arrack. If they cannot do it themselves, they can sometimes get it done by proxy, but the chenchu is rare who will part with his share of the arrack. Occasionally toddy may be substituted for arrack by the more fastidious among them, and very very occasionally one of the guests might abstain from drinking on the spot but he will have to take from the host a four anna piece, and promise to spend it on drink. It is the priest that should drink first. Before the married couple arise from the seat, the Kolagadu should be given a Rupee. Then the husband and wife, accompanied by the mother of the girl invariably, proceed to the house of the newly married young man. His sister, if any usually creates a diversion by objecting to her

brother and sister-in-law entering the house of her fore-fathers and her permission is usually bought by a promise of a small present. Until the birth of their first child they may remain in the parental hut, but they usually prefer setting house for themselves. There is no drum or music, for the sound of the drum revives memories of past feuds and as the Chenchus are drunk, there may be blood-shed. Unlike other Hindus there is no special ceremonial when the girl comes of age.

There are some prohibited degrees of relationship with respect to marriage. Two people of the same clan should not marry each other; nor may an aunt marry a nephew. Widows may remarry; but if a widow remarries a man younger than herself, they are liable to excommunication. A married woman may also at times remarry if her husband is in jail. It is not considered a serious offence, if her second husband is a brother of her first husband or at least in the same clan. In such cases if the first husband returns from Jail it is sufficient if his wife is forthwith restored to him. But if the second husband should be of a different clan, in addition to restoring the woman to her first husband, a compensation would also have to be paid. But for this peculiarity, every chenchu I have questioned professes observance of a very high moral code, and the penalty for a moral lapse in this respect is, at least in theory, death.

Death. Some are cremated, and some are buried, depending on the clan to which the deceased belongs. For example corpses are burned by the Dasaris, Gullas, Chigurias and Garaboyuas, while burial

is by the Uttaluris, and Mandlas. The corpses are carried to the place of burial or cremation by their own relatives. Others do not attend at the funeral. There is no funeral ceremony soon after death. On the third day after death, one rupee worth of rice, one measure of cholam one fowl, one bottle of arrack, and a proportionate amount of salt, chillies etc. are purchased, cooked, and consumed by the relatives of the dead. This day is called the Chinnadinam. About fifteen days after this there is another ceremony called the Peddadinam, where twice the above quantities are purchased, and eaten. The priest has no part to play on these occasions. At intervals, as at Deepavali, Yugalhi, etc. the departed elders are invoked and worshipped, and then the members of the family have a feast by themselves. Unlike other Hindus there are no regular monthly or annual ceremonies. In general the Chenchu is very much frightened by death, and sometimes if a number of people die in a certain locality, the whole Gudem will desert that locality, and choose a more auspicious place. Sometimes they are satisfied even with a shift of a few yards.

Festivals and Gods. The principal festivals are Deepavali Sankaranthi, Sivarathri, and Yugalhi, when their departed elders, and some of their gods who are too numerous to be catalogued, are invoked and worshipped. I have once been led to wonder if the gods of the chenchus are hard of hearing, for the headman of the Gudem was shouting out his loudest calling on the god to do justice against the forester for not advancing them enough money for the purpose. He shouted "Oh my Goddess, what are we to do if you compel us to give you more of

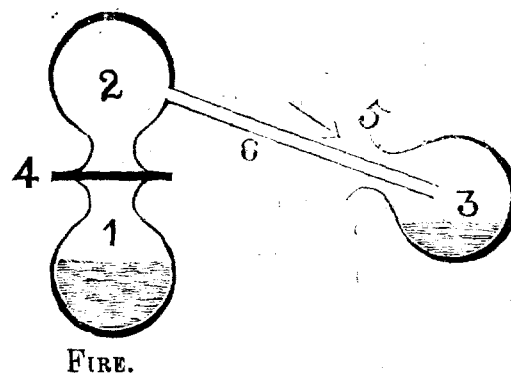
food. We have not got the wherewith to feed ourselves and where can we spare for you. We asked the forester to advance us money, but he refused. If you want more food go and throttle the forester, and kill him, but do not trouble us" With which edifying oration, he pleased the semi-naked chenchus who were around him, and with a wild shout they fled to their gudem.

Houses. These are single poled huts with a circular ground plan. A forked pole about 8 feet high is erected at the centre of a circle of about 8 to 10 feet radius. On the circumference of this circle a number of small forked posts about 4 feet high are driven in, at intervals of about 6'. On this circle of posts, a wall of rough split bamboo matting is woven in situ, leaving an opening of about 4 feet on one side to serve as a door-way. Rough timber or bamboos slope radially down from the centre post to these circumferential posts, and over this a layer of thatch about 4 to 6 inches in thickness forms the roof. All round the bamboo wali on its outside, a bund of about 4 to 6 inches is raised to keep the water during rains from flooding the hut. Sometimes the bamboo matting composing the wall is also caulked with mud. The floor is levelled and plastered with mud, and a bamboo thatti serves as door in the doorway. A chenchu and his wife easily erect such a hut in a day or a day and a half, as the material is usually available in close proximity to the site chosen for the hut.

Food and Drink. Every edible root, leaf, flower, and fruit found in the forest is eaten. For example, the roots of some *Dioscoreaceae*, the leaves of some *Bauhinias*, the flowers of *Bassia latifolia*, and the

fruit of the tamarind dipped in the ashes of *Anogeissus latifolia*, are all eaten with apparent relish, cooked or raw. Honey and wax, and the larvae of the bees are also eaten. All animals with the exception of cows, bulls, and buffaloes, are eaten. The squirrel and the field mice, make the chenchu's mouth water. Where available he eats cholam, or rice. To allay thirst of course he drinks water. But the chenchu is very fond of arrack, and he brews his own from the flowers of *Bassia latifolia*. Six measures of the flowers are put into an earthen vessel, a handful of *Acacia leucophloea* bark is added, and about 2 to 3 gallons of water poured on. After four or five days of soaking, more water is added if necessary. Then it is put into a rough retort, the working of which can be understood by a reference to the figure 1 and 2 are mud vessels placed with their mouths

in contact and sealed (after putting in the flowers, bark and water,) by mud plaster and cloth as at 4. Through a lateral aperture in 2 a bamboo tube is sealed, so as to serve as the neck of the retort, and the delivery tube, and the other end of this bamboo



tube 6 opens into a receiver mud vessel 3, the mouth of which is also sealed to prevent escape of vapour. When 1 is heated over a fire, the liquor distills over, and is condensed in 3 by pouring cold water on it. This distillate is the arrack the chenchu likes so much. 6 measures of

Ippa flowers are estimated to give three measures of arrack. Chenchus, old and young, even infants, man, woman and child drink of this, and the attraction for liquor is irresistible. They prefer arrack to toddy, because arrack intoxicates them much more. But there are just a few who prefer toddy to arrack, and they pride themselves on this peculiarity. A drunken chenchu is not a very safe creature to deal with, though I have usually found them amenable to discipline.

Domestic Animals. Almost every chenchu owns a dog, which is trained to hunt the squirrel, the mice, the rabbit, etc. They also own at times goats, sheep, Cows, and Buffaloes. The possession of a few cows and buffaloes is a sign of comparative opulence.

Education. The chenchu is generally represented to be a thief and a dacoit, and the propensity to commit such crimes is usually traced to unemployment on the one hand and habit on the other, the theory is advanced that though the chenchu has no need for employment and regular work, if he is kept at work, he can be kept from mischief, and to keep him at work, it is believed that a slight multiplication of his needs would make a more regular worker of him, it is also believed that education of the younger generation would wean them from crime, and thus a course of education has been started for them. They are taught the three R's. The teachers are usually not accustomed to the life of a chenchu, and are sometimes in deadly fear of them, and then the students do not make much progress, but in general there is a very slow, but steady progress. Latterly something better has been attempted in giving them vocational training in carpentry, etc. and I believe this is

bound to be a success in the long run, if we can get good instructors and this is a real difficulty at present.

Amusement. Every Gudem has got a drum, and a trained drummer, and the chenchus dance to the accompaniment of the drum. The dance is a quaint shuffling along, with bowed heads, and the gesture as they dance is graceful. I have found the Chenchus of Indireswaram so far advanced as to dress up for a dramatic display, and actually perform in open air by torch light, an Indian classic, to the accompaniment of a single note on a harmonium which they owned. The whole thing recalls memories of the Greek drama, with its chorus etc. and the Chenchu is a tolerably good actor.

Dancing is pleasant enough when the chenchu is not drunk. But when drunk, the thing is quite different. The chenchu is easily swayed by his emotions. When he has got a bottle of his home brewed arrack in him, and he hears the drum beating, forgotten family feuds are vividly recalled to his memory, and living representatives of families which were at feud in the past not infrequently fight, and this may lead to death. These feuds are therefore really never forgotten—the spirit of vendetta survives. Once I have interposed in the thick of the fight and separated the combatants. One of the combatants was a chenchu and was armed with his arrows, while the other was a non chenchu. Another time a fully drunk chenchu accompanied by his wife, came to the tent in which I and my wife had been camping in the vicinity of a chenchu gudem, at 3. a. m. and demanded immediate justice against his brother-in-law who had assaulted him in a drunken brawl. I advised him to go to

sleep near my tent, promising to enquire into the matter the next morning, and fortunately that was the last I heard of it.

General. As the chenchu is better armed than the villagers of the neighbourhood he is emboldened to attack them, and they quail before him. But the booty is usually food or clothing. It is when he is hard up for these that he takes to a predatory career. When kept at work, and honestly paid his full wages, he is in general harmless. Cheating him in his wages and interfering with his women, drives him mad, and I have heard some chenchus tell me that some subordinates no longer in the district have sinned in this respect. He very rarely complains against the powers that be for the time being. Subordinates who sin in these respects soon lose all control over them, as also subordinates who are too lenient with them. Honest dealing usually wins his love and respect. Except when he is drunk he is reliable. Chenchus have themselves assured me that even when drunk they would never hurt anybody who has not done them some harm. I have noticed that undue leniency is to be deprecated, for kindness is mistaken for weakness. It is common knowledge that even civilized and educated people who ought to know better frequently fall into this error. In my personal experience I have found the chenchus good, and reliable, and there is much that is loveable in their nature. Personally I have never had anything to complain against them. He is naturally not strong, I suspect that many of them have an enlarged spleen and he is therefore not a good worker. He would shirk work where he can but firmness and kindness can extract work from him, and keep him from mischief.

Conclusion. I have studiously avoided criticism of men and measures. The work undertaken by the forest department, in keeping the chenchus out of the mischief is more of a missionary enterprise than a financial concern. Success depends not wholly on the measures adopted but on the nature of the men on the spot who administer those measures but it is noticeable that day by day the chenchus are getting tamer, and more civilized. We hope all this means for the better. There is much about them that I do not know of. I have not seen the Chenchus of the East and South Divisions at all, and what I know about the Chenchus of the West Division I acknowledge to be but little. If I have created a curiosity in some minds to know more about them these backward brothers of ours I should consider that I have done a portion of my duty, to the chenchus, among whom I have spent some pleasant years.

M. S. RAGHAVAN,
Madras Forest Service.

Annual Athletic Sports 1925.

Again we were favoured with good weather, the most important item deciding the success or otherwise of this function. Owing to the partial failure of the first monsoon the ground did not look its best, but this could not be helped.

A feature of the day was the number of visitors who turned out and verily 'graced the occasion with their presence.' We were very fortunate in having the patronage of the Inspector General of Forests,

the Hon'ble the Home Member for Govt. Dr. Oosman, and the Chief Conservator of Forests, and thank them for having spared us a little of their time.

It is regrettable that the standard of running was not so high as usual, although of course one must make allowances for vicissitudes of season. The outstanding performance of the day was the very fine exhibition given by student Khokar of the senior division, who by winning three firsts and three seconds easily won the Richmond Cup.

I should again like to emphasize the importance of practice, opportunities for which students have plenty. This is especially the case in the jumps. While three or four days are of relatively little value, ten days steady training can make a great difference.

The following are the results :—

100 yards

1st. Khokar	2nd. Kewal Krishnan	3rd. Verghese
Time 11 2/5 sec.		

High Jump

1st. Verghese	2nd. Lagu	3rd. Qureshi
Hight 4 feet 5 1/4 in.		

Hurdles

1st. Verghese	2nd. Khokar	3rd. Muttanayagam
Time 19 2/5		

Half Mile

1st. Lagu	2nd. Khokar	3rd. A. Ullah Khan
Time 2min. 29 sec.		

Invitation Half Mile

1st Stanes 2nd St. Michaels 3rd. St. Michaels

Throwing Cricket Ball

1st A. Ullah Khan 2nd. Lagu 3rd. Divekar

Distance 82 yards 2 feet 3 in.

Mile

1st Lagu 2nd. Khokar 3rd. Boota Singh

Time 5min. 49 2/5 sec.

Quarter Mile

1st- Khokar 2nd. Lagu 3rd Kewal Krishan

Time 1min. 4 sec.

Long Jump

1st. Khokar 2nd. Kewal Krishan 3rd. Misal

Distance 16 feet 5 in.

Obstacle

1st. Dutt 2nd. Verghese 3rd. Misal

Relay Race

Central Provinces

Sack scrimmage

Bombay

Richmond Cup: Khokar 24 pts.

—J. A W.

Balance sheet of the Madras Forest College Magazine for the year 1924-25.

RECEIPTS.			EXPENDITURE.		
Serial No.	PARTICULARS.	Amount. Rs. A. P.	Serial No.	PARTICULARS.	Amount. Rs. A. P.
1	Entrance Fees from: 29 Rangers @ Rs. 2 each ...	58 0 0	1	Paper, printing and binding charges ...	358 5 3
2	Annual subscription from: 29 new members @ Rs. 2 each 58 0 0 218 old " " 436 0 0	494 0 0	2	Postal charges ...	81 15 0
3	V. P. P. Registration fee recoveries ...	23 6 0	3	Stationery and Sundries ...	9 5 0
4	By Advertisement ...	12 0 0	4	Value of prize offered to the writer of the best essay ...	15 0 0
5	By sale of 27 copies of Mr. Fischer's "Key to the identification of trees etc." @ 1-2-0 each ...	30 6 0	5	Balance at bank at end of the year (30-6-25) ...	546 8 8
6	By sale of 3 copies of Magazine ...	1 8 0	6	Cash balance on 30-6-25 ...	4 4 9
7	Interest accrued on deposit in Bank ...	19 15 0			
8	Balance at Bank at the beginning of the year ...	375 5 8			
9	Cash balance at beginning of the year ...	0 14 0			
	Total Rs. ...	1015 6 8		Total Rs. ...	1015 6 8

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(Sd.) C. R. F. Williams,
President.

EXTRACTS.

The Indian Monsoon.

How it is Caused.

Broadly speaking there are two sets of winds blowing steadily across the earth, the trades and the anti-trades. The trade winds blow from the north and south to the Equator but, owing to the revolution of the earth, the general direction is from the north-east and south-west. In the temperate zones the complements of these winds, the anti-trades are met blowing from a south-westerly direction in the northern and a north-easterly direction in the southern hemisphere. Between these two sets of winds are two belts of calm where are found the deserts and the Sargasso seas.

But for the land mass of Central Asia the peninsula portion of India would be in the course of a steady trade wind from the north-east and northern India would be included in the chain of deserts formed by Sahara, Arabia, Persia and the Thar desert. As it is, the land mass of Asia warms up in the summer months and there follows a general flow of air from the southern latitudes to take the place of the air rising from the Asiatic plateau. Eventually this air-flow becomes strong enough to overcome the north-east trade wind and then the south-west monsoon begins to blow. The strength of the monsoon varies with each season and although the ultimate cause of this variation has not been decided, it depends in part, at any rate, on the oscillations of the two winds which are pitted against each other.

Near Ceylon the monsoon current splits into two main components, one running up the east coast of Africa and the other round the Bay of Bengal.

The current moving up the African Coast sheds copious rainfall on the Abyssinian plateau which floods the Nile and enables the Egyptian crops to flourish in a permanently cloudless sky. After meeting the Abyssinian plateau the current makes an eastward turn passing Cape Gardafui and the island of Socotra and having lost practically all its northerly component reaches Bombay from almost due west. The rainfall at Bombay is 150 inches but inland it decreases quickly and Poona has an average of under 30 inches although further from the coast there is an increase again. Arabia, Persia and Sind thus miss the monsoon and Karachi has a rainfall of under 10 inches.

The Bengal current is weaker than the African one. During its movement round the Bay it serves the southern part of Burma and then comes to Bengal. Both currents are influenced by a depression which occurs in part of Sind and Rajaputana.

Towards the end of the season the Bengal current is caught up in cyclones which whirl it across India and the rainfall brought in this manner has a great influence on the winter crops.

Before the summer is finished the attraction towards Central Asia begins to weaken, and by the autumn the air-flow definitely begins to turn southward and the cloud canopy is withdrawn from northern India. The north-east trade wind, previously extinguished by the

monsoon, is now reinforced by cold, dry winds blowing from the desert of Tibet which warm up as they cross the Bay of Bengal and pick up moisture to be deposited later on the southern half of Madras.

From the above brief account of the general air movements over India it will be understood that Assam and the north-east corner are out of the track of the monsoon, yet on account of the general air drift towards the Tibetan plateau there is a steady flow of moist air into this area. Further-more the Himalayan barrier and the funnel shape of the Surma and Brahmaputra Valleys ensures that clouds, when they once enter the country, are shepherded round the hills till they are deposited as rain. Because of this, Assam is one of the permanently green provinces in a continent where conditions are, on the whole, arid.

In Assam the rainfall varies over a wide range. At Cherrapunji, one of the wettest spots on earth, it average 381 inches with a maximum record of 905. In Silchar it is 122 inches, in North Lakhimpur it is more than 160 inches and at Dibrugarh 112 inches. In the rain shadows of the Mikir hills in the Golaghat district, it drops to about 50 inches.

—[*Extract from the Quarterly Journal of the Scientific Department of the Indian Tea Association.*]

Preserving trees with cork: This new filler bends with the tree. It is a natural, durable filling made from cork baked under heavy pressure. It forms a permanent filling said not to injure any tree. The new filler is lighter than wood itself, thoroughly flexible and

antiseptic. All parts being repaired are firmly cemented to the walls of the filler. It has the very unusual feature of coming in a number of shades harmonising with the bark itself. Its cost as compared with cement is less.

—Extract from "*Scientific American August 1925.*"

* * * * *

Perpetual Label for flowers: The old fashioned method for labelling plants or flowers in large gardens employed a wooden stick with the name written on. A new method is to seal the name on a piece of paper within a glass tube and stick the tube. Weather conditions never affect it and it can always be seen.

—Extract from "*Scientific American August 1925*"

* * * * *

Injury caused to plants by mixing saw-dust with the soil: During the war, saw-dust was generally used as a stable-litter; it is still so used to a great extent in the saw-mill districts of Sweden.

The authors (Soederbaum and Barthel) show that arrest in plant growth took place through applying saw-dust to sandy soil, 2 % of cellulose completely stopping the nitrification of an otherwise normally nitrifying soil. This stoppage was of long duration. It is not caused by resins or similar substances, but is more probably due to the capacity of cellulose compounds to use up the nitrates.

If the cellulose in the soil is destroyed nitrification is resumed.

The arrested growth phenomena can be eliminated by the use of a nitrate fertiliser.

* * * * *

Arrhenius describes an instance of a market garden which was completely, ruined by a 'compost' of wood shavings. Cucumbers, tomatoes, lettuce, strawberries, etc, showed evident signs of deficiency in nitrate, and finally perished.

An application of nitrate fertiliser prevents this result.

Extract from "*International Review of the Science and Practice of agriculture*."

Use of Caesalpinia Sappan L. for tanning:—The *Caesalpinia* genus has numerous useful species; some supply woods for carving and dyeing, others yield essential oils, edible fruits and fruits rich in tanning used in tanning and dyeing

The author (Vignolo Lutati) has received leaves and fruits of *C. sappan*, hitherto known only from the fact that the wood is used in various work, and because a red dye is extracted from it; the trade name is Sappan or Japan wood, although it also comes from India, Siam, China, and Malacca; but its use for tanning was not known.

The greater part of the pods examined were incombustible; there is practically no tannin in the seeds, which are few and there is a greater yield of tannic matter from the pods without seeds, "weight for weight, than from those with developed seeds."

* * * * *

In the estimation of the tannic material the results were as follows :—

	Total extract.	Non-tannic	Tannic
Fruit :—	52.2 %	18.1 %	44.1 %
Leaves :—	42.5 %	23.4 %	19.1 %

These data prove that Sappan fruits are very rich in tannin, almost as rich as those of the divi-divi. While divi-divi renders leather pliant and durable it imparts a reddish colour which lowers the value of the leather, in consequence of which other and more expensive tanning materials must be used. (out-gall, myrobolans) and extracts from Oak and Fir bark, in order to avoid the undesirable colour; only the algarobillas render leathers flaccid.

* * * * *

The tannic extract of the Sappans acts like that of the Divi-divi, and causes the same fundamental reaction.

C. Sappan seems very well adapted to climatic conditions in the South of Sardinia and has proved to be very drought resistant.

* * * * *

Hide-tanning tests made with the Sappans on calf-skins gave very satisfactory results: all the samples had an excellent appearance and were of a clear uniform colour and did not contract or stretch.

Sumach leaves are highly valued for the clarity of their extract, to produce an equal clarity with Sappans double the tannic matter content is required.

* * * * *

Extract from "*The International Review of the Science and Practice of Agriculture*" April-June 1925.

EDITORIAL NOTES.

We offer our hearty congratulations to Mr. H. Tireman, Chief Conservator of Forests, Madras, on the honour (C.I.E.) recently conferred upon him by His Majesty the King Emperor; **Congratulations.** and to M.R.Ry. K. G. Belliappa Avergal, B. A., Extra Assistant Conservator of Forests, and K. Kunhiroyan Sahib, Range Officer, on their getting the titles of Rao Sahib and Khan Sahib respectively.

The Annual Athletic Sports of the Madras Forest College were held this year on the 16th September and the College was honoured by the presence of Sir P. H. Clutterbuck C. I. E., O. B. E., Inspector General of Forests for India, the Hon'ble **Sports day.** Khan Bahadur Mohomed Usman Sahib, Member in charge of the Forest Portfolio, Madras, Mr. H. Tireman C. I. E., the Chief Conservator of Forests, and Mr. C. S. Martin Chief

Forest Engineer, among others. Mrs. Martin kindly gave away the prizes. We congratulate Mr. W. K. Khokar, Senior Dn. Student from the Central Provinces, on his winning the Richmond Cup.

In accordance with a resolution of the managing committee, several rangers of the Presidency were addressed with a view to enlist their help in running the magazine, and suggest or **Editorial Board.** elect one ranger from each circle for the Editorial

Board. In response to this appeal, two range officers Messrs. S. Sankara Ayyar M. R. Hons. Range officer, Balapalle, and C. Balayya Naidu, (retired ranger) have expressed their willingness to get and give articles for the magazine. They have been included in the Editorial Board, to represent the II Circle. As it is desirable to have at least one representative from each Circle of the Presidency we wish to take this opportunity to appeal for more volunteers so as to make the magazine really one, run *for* and *by* the Rangers. The I, IV, V, VI circles are yet unrepresented. We invite Rangers from these circles, at least one from each, to join the Editorial Board. Range officers are also reminded that with a view to attract more and better articles a prize of Rs. 30 (thanks to the contribution of a half of this sum annually by Mr. C. Balayya Naidu), will be awarded with effect from the current year (1925-26) to the best essay contributed by any ranger (students of the Madras Forest College included) during the year. It is therefore hoped that more articles will be sent in for the ensuing numbers of the magazine.

The following communication is published at the request of the World Forestry Congress to be held next year at Rome.—

"It has now been definitely settled that the World Forestry Congress, which is to take place at Rome next year, will be held from 29 April to 5 May. The International Exhibition of Forestry will be held at Milan from 12 to 27 April at the same time as the Sample Fair.

Favourable replies have already been received from practically all the States which are subscribers to the Institute and represent almost all civilized countries. The States will be officially represented by a special Committee, mainly consisting of forestry experts. Representatives of many University Forestry Departments and Higher Schools of Forestry, Forestry Associations, Unions and Societies will also be present in Rome on the occasion.

Though the programme of the Congress is extremely comprehensive the subjects to be discussed will be relatively few in number, as it is the object of the promoters to limit discussion to questions of true international importance, which as such can be of real practical value to the forestry work of the individual States. The Organizing Committee has already received notice that contributions will be made by experts with the highest qualifications and of international reputation, a fact which is in itself a guarantee of

the success of the Congress. The papers, reports, monographs, etc., which will be presented but cannot be discussed in the meetings will be published in the Congress Proceedings.

Congress members will receive without charge an abstract of the Proceedings, and the other publications containing the reports, papers, etc., will be on sale at a price to be settled later by the Committee a special discount being allowed to Congress members.

The notice of the International Exhibition of Woodworking machinery and General Forestry products has been favourably received in all quarters, and it is known that a large number of firms belonging to every country will exhibit their specialities. There is therefore every reason to believe that this Exhibition will be of particular importance and value in developing international trade in timber, both in the rough and manufactured, and in the machines used in the wood working trades and those that in any way utilize forestry products.

Persons who desire to receive information as to the regulations for taking part in the Forestry Exhibition can apply to the *Comitato della Fiera Compionaria Internazionale*, Via Amedei 8, Milan (6), by which the Exhibition will be organized. The members of the Congress will visit the Exhibition on 27 April 1926 in accordance with the General Programme, which will be issued by the Committee in due course.

Forms of membership of the Rome Congress with the Regulations and Programme will be forwarded by *the General Secretariat of the World Forestry Congress; care of the International Institute of Agriculture Villa Umberto I, Rome*, by which also information will be supplied to persons interested. Reports, papers, etc. should be forwarded not later than 15 February 1926.

Those responsible for the Congress trust that they will be able to bring together in Rome forestry experts representing all civilized countries, so that with their collaboration a strong stimulus may be given to the advance of Forestry throughout the world, and renewed confidence may be felt in the future of the forest, which is a factor of such importance in human activity and industry."

Contributions to the Gass Forest Museum.

Serial No.	CONTRIBUTIONS.	CONTRIBUTOR.
1.	Two Atlas moths	... M. R. Ry, M.B. Subbayya Range officer, Pollibetta.
2.	A veneer from a burr of <i>Terminalia belerica</i>	} ... J. A. Wilson Esq, I.F.S.
3.	Twenty-three photographs showing tractor at work; huge logs at Dhoni, etc.,	} ... Major W.F. Chipp, D.S.O., M.C., Forest Engineer.

Serial No	CONTRIBUTIONS	CONTRIBUTOR.
4.	Spiked specimen of <i>Dendrocalamus strictus</i>	} ... W. C. Hart Esq., E.A.C.
5.	(i) Six photos of Elephant capturing by pit system. (ii) One photo of the <i>Botwas</i> . (iii) Two photos of bison in Coorg forests. (iv) One photo of an encounter between two large Snakes <i>Tropidonotus stolatus</i> .	} ... A. A. F. Minchin Esq., I.F.S.
6.	Two photos of elephant parade.	} ... J. M. Sweet Esq., I.F.S.
7.	Ten photos of Elephant capturing by pit system	} ... J. L. Harrison Esq.,

Additions to the Madras Forest College Library (for the quarter ending 1—9—25.)

1. The Chemistry of Crop production—By T. B. Wood.
 2. Forestry in Southern India—By Major General H. R. Morgan.
 3. The techonology of wood-distillation—By M. Klar.
 4. Regulation of Rivers without embankments
 5. Military Engineering. Volume V (Roads)
 6. Do. Do. Do III (Bridging.)
 7. Annual administration for Forest Range officers in the Madras Presidency.
- * * * * *

The following book has been recently published by Messrs. Chapman and Hall Ltd., London :—

The Technology of Wood-distillation (with special reference to the methods of obtaining the intermediate and finished products from the primary distillate).

By
M. KLAR,

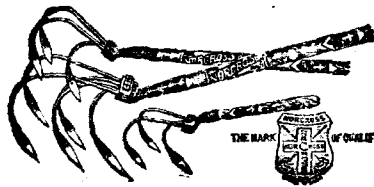
Translated by :—

ALEXANDER RULE. M.B.E., D. Sc., Ph. D. F.I.C. with an additional chapter by the translator.

The book contains 485 pages and is priced 25/- net.

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Gazette Notifications.

9—6—25.

Mr. J.E.M. Mitchell, District Forest Officer, North Coimbatore, is granted leave on average pay for fourteen days from 9th April 1925.

16—6—25.

M. R. Ry. B. S. Kesava Vittal Avergal, Extra Assistant Conservator of Forests, South Kurnool division is posted to act as District Forest Officer, West Kurnool Division in relief of Mr. E. M. Crothers granted leave until further orders.

M. Amir Padsha Sahib, Extra Assistant Conservator, Chittoor, is placed on special duty under the Executive Engineer in charge of works, Mettur project, for organising supply of firewood to the project. He should join at once.

23—6—25.

M. R. Ry. Rao Sahib K. R. Venkatramana Ayyar Avergal, Deputy Conservator of Forests, on return from leave, to be District Forest Officer, West Kurnool Division.

Mr. V. G. Darrington, Chief Forest Officer, Coorg, on reversion, to be District Forest Officer, North Mangalore, *vice* Mr. G. S. Lasrado granted leave.

Mr. F. R. Madan, District Forest Officer, South Mangalore, to be District Forest Officer, North Mangalore, in addition to his own duties until date of joining of Mr. V. G. Darrington.

M. R. Ry. M. S. Rangasami Avergal, Probationary Extra Assistant Conservator of Forests, Palghat, is granted leave on average pay for two months from date of relief.

30—5—25.

Mr. F. X. Mascarenhas, Inspector of Live-stock, leave on average pay for two months and eleven days, and leave on average pay for two years, one month and nineteen days with effect from 27th April 1925.

ii.

7-7-25.

Mr. K. T. Mathew, Assistant Conservator of Forests, Papanasam project, Tinnevely district, is transferred to Someshwar project with headquarters at Karkala North Mangalore Division, with effect from 26th April 1925.

14-7-25.

Mr. G. C. Robinson, Deputy Conservator of Forests, is permitted to return to duty two months and twenty five days before the date of expiry of the leave for one year granted to him with effect from 13th August 1924.

M. R. Ry. S. D. Devadoss Pillai Avergal, Assistant Veterinary Inspector Gudalur, the Nilgiris, to act as Inspector of Live-Stock, vice M. R. Ry. F. X. Mascarenhas Avergal granted leave.

M. R. Ry. Srinivasa Raghava Achariya Avergal, Extra Assistant Conservator of Forests, Kurnool West Division, to be Junior Instructor Madras Forest College Coimbatore, vice M. R. Ry. C. M. Kushalappa Avergal, granted leave.

M. R. Ry. V. Narayana Ayyar Avergal, Extra Assistant Conservator of Forests, Salem, is placed on special duty under the Executive Engineer in charge of works, Mettur project, for organising supply of firewood to the project. He should join at once. This cancels the notification dated 10th June 1925, posting M. Amir Padsha Sahib Bahadur for this work.

Mr. M. C. Chandy, District Forest Officer, East Salem, on relief by M. R. Ry. J. Sadasiva Ayyar Avergal, to be attached to the Conservator of Forests, IV Circle.

21-7-25.

M. R. Ry. C. M. Kushalappa Avergal, Junior Instructor, Madras Forest Collage, Coimbatore, leave on average pay for two months with effect from 19th July 1925 or date of relief.

iii.

Mr. D. A. Stracey, District Forest Officer, Bellary, to be in additional charge of the Anantapur Division.

Mr. L. S. Janes, District Forest Officer, Anantapur, on relief by Mr. D. A. Stracey, to be District Forest officer, Central Salem division, on relief by Mr. L. S. Janes, to be District Forest Officer, Palghat Division.

Mr. H. R. M. Law, Deputy Conservator of Forests, on return from leave, to be District Forest officer, Guntur.

M. R. Ry. E. K. Krishnan avergal, District Forest officer, Guntur, on relief by Mr. H. R. M. Law to be District Forest officer, Lower Godavari Division.

M. R. Ry. Rao Sahib K. G. Belliappa avergal, District Forest officer, Lower Godavari division, on relief by M. R. Ry. E. K. Krishnan avergal, to be District Forest officer, Kollegal.

M. R. Ry. J. Sadasiva Ayyar Avl., District Forest officer, Kollegal, on relief by Rao Sahib K. G. Belliappa Avergal, to be District Forest officer, East Salem.

Mr. M. C. Chandy, District Forest officer, East Salem, on relief by M. R. Ry. J. Sadasiva Ayyar Avergal, to be attached to the Conservator of Forests, IV. Circle.

11-8-25.

Muhammad Habibullah Sahib Bahadur, will be confirmed as Extra Assistant Conservator of Forests with effect from 30th June 1913.

(This cancels notification No. 84 dated 17th February 1914, published in gazette dated 24th February 1914, so far as it affects Muhammad Habibullah Sahib)

Mr. C. J. Van Haften, Extra Assistant Conservator of Forests, is placed in charge of Mount Stuart and Elival Road works under the Forest Engineer, Madras, with head quarters at Coimbatore, from 25th July 1925.

iv.

Mr. M. K. Nayar, Assistant Conservator of Forests is granted leave on average pay for one month and fifteen days from or after 15th August 1925.

M. R. Ry. S. Ramasamy Ayyar Avl. Extra Assistant Conservator of Forests, on return from leave is posted for special duty under the Superintending Engineer in charge of the Mettur project, for organising the supply of fire wood to the project. The notification posting M. R. Ry. V. Narayana Ayyar Avergal, Extra Assistant Conservator, for the work is hereby cancelled.

18-8-25.

Consequent on the retirement of Mr. S. Cox C. I. E. M. B. E., Mr. H. Tireman, C. I. E. Acting Chief Conservator of Forests, to be Chief Conservator of Forests, permanent, with effect from 29th July 1925.

M. R. Ry. C. M. Kushalappa Avergal, Extra Assistant Conservator of Forests, on return from leave, is posted for special duty in connection with the reservation work in the Kasaragod Taluk, South Kanara District.

Mr. M. F. Bridge, Forest Economist on the expiry of the period of his deputation at Dehra Dun, is granted leave on average pay for one month,

25-8-1925.

Mr. S. R. Rao, Assistant Conservator of Forests is granted leave on average pay for twenty seven days from 1st. August 1925 or date of relief, and leave on half average pay for one month and three days in continuation thereof.

M. R. Ry. V. Narayana Ayyar Avergal, Extra Assistant Conservator of Forests, Salem, is granted leave on average pay for one month, and twenty eight days from date of relief, and leave on half average pay for two months and two days in continuation thereof.

v.

Notifications relating to Rangers.

H. TIREMAN ESQ., C. I. E.

Chief Conservator of Forests.

Rangers—Promotions.

The following promotions of Rangers are ordered:—

19-8-25.

I. With effect from 23-11-24 vice M. R. Ry. M. Gulab Singh Ranger. VI Grade resigned.

M. R. Ry. D. Krishnaswami Ayyar M. R. H. from VI Grade S. P. T. to VI Grade permanent.

„ C. S. Ganapathy M. R. H. 1921 Supernumerary Ranger, to VI Grade S. P. T.

II. With effect from 15-12-24 vice M. R. Ry. N. C. Mahadeva Ayyar. Ranger. VI Grade dismissed from service.

M. R. Ry. V. N. Subramania Ayyar M. R. H. from VI Grade S. P. T. to VI Grade permanent.

„ A. Sitaramayya, M. R. H. 1921 Supernumerary Ranger, to VI Grade S. P. T.

III. With effect from 18-2-25 the date of formation of the Beltangadi Range.

M. R. Ry. C. S. Ganapathi M. R. H. from VI Grade S. P. T. to VI Grade permanent.

P. Sankunni Nayar M. R. H. 1921 Supernumerary Ranger, to VI Grade S. P. T.

IV. With effect from 7-3-25 vice M. R. Ry. B. V. Jogeswara Rao D. D. R. Ranger, V Grade invalidated from service.

P. B. Saiyid Yahia Sahib Bahadur, M. R. H. from V Grade S. P. T. to V Grade permanent.

(This will take effect from the date of his return from leave.)

M. R. Ry. Y. Peddaiakshmayya Nayudu M. R. H. from VI Grade permanent to V. Grade S. P. T.

„ A. Sitaramayya M. R. H. from VI Grade S. P. T. to VI Grade permanent.

„ A. R. Manual, M. R. H. 1921: supernumerary Ranger to VI Grade S. P. T.

V. With effect from 6-3-25 vice M. R. Ry. A. Manicka Mudaliar M. R. H. Ranger VI Grade removed from service.

Mr. K. C. Joseph M. R. H. from V Grade permanent to IV Grade S. P. T.

M. R. Ry. K. G. Monnappa M. R. H. from VI Grade permanent to V Grade S. P. T.

„ K. Venkatesam, M. R. H. 1921 supernumerary Ranger to VI Grade S. P. T.

VI. With effect from 11-3-23 vice M. R. Ry. C. P. Garudachala Mudaliar, Ranger, II Grade invalidated from service.

M. R. Ry. P. Maduraimuthu Pillai D. D. R. from II Grade S. P. T. to II Grade permanent.

Mr. J. A. Paul D'Cruz, M. R. H. from III Grade permanent to II Grade S. P. T.

M. R. Ry. N. Sundaresa Ayyar D. D. R. from III Grade permanent to II Grade S. P. T. vice Mr. J. A. Paul D'Cruz on other duty.

M. R. Ry. B. Chenchurama Nayudu from III Grade S. P. T. to III Grade permanent.

„ C. G. Krishnan M. R. H. from IV Grade permanent to III Grade S. P. T.

Mr. D. E. Lewin M. R. H. from IV Grade S. P. T. to IV Grade permanent.

M. R. Ry. K. Tiruvenkata Acharya M. R. H. from V Grade permanent to IV Grade S. P. T.

„ B. T. Sitarama Ayyar M. R. H. from V Grade S. P. T. to V Grade permanent.

„ K. Appayya M. R. H. from VI Grade permanent to V Grade S. P. T.

„ Behara Bhagirathi M. R. L. from VI Grade S. P. T. to VI Grade permanent.

„ G. V. Subba Rao M. R. L. from VII Grade permanent to VI Grade S. P. T.

„ P. Sankunni Nayar, M. R. H. 1921 supernumerary ranger to VII Grade permanent without prejudice to his special appointment in the VI Grade.

Mr. M. P. Phillip M. R. H. 1921 Supernumerary ranger to VII Grade S. P. T. vice M. R. Ry. P. Sankunni Nayar

VII. With effect from 1-6-25. vice M. R. Ry. T. K. Parthasarathi Ayyangar, Ranger VI Grade reduced permanently to VII Grade from 28-5-25.

M. R. Ry. R. Jagannatham Naidu, from VII Grade permanent to VI Grade S. P. T. The promotion takes effect from 1-6-25 the date on which the ranger's sub protem promotion to VI grade ordered in G. O's Ref. 8066/24 1 d/5-525 terminated-vide C. C. P. Rt No. 181 d/29-5-25.)

VIII With effect from 31-5-25 vice M. R. Ry. K. Purushothama Rao M. R. H. Ranger VI Grade reduced to VII Grade for 6 months from 31-5-25.

M. R. Ry. N. Gopalan Nayar from VII Grade permanent to VI Grade S. P. T.

2. Arrangements I to IV in para 1 are made in Supercession of those ordered in ref. No. 8066/24 I dated 5-5-1925.

First Circle.

5-6-25.

1. On return from the Madras Forest College, A. Subrahmanyam, Supernumerary Ranger, is posted to Ganjam for duty as required by the District Forest officer. This cancels his posting to Nellore ordered in this office S. O. No. 27/25 dated 29-5-1925.
2. On relief of Bontha Range charge about the end of June Mr. D. E. Lewin M. R. H. Ranger IV grade is transferred to Nellore for the charge of the Sriharikota Range.
3. On Expiry of the leave granted to him (13-6-1925) M. R. Ry. P. Duraswami Ayyar D. D. R. Ranger III grade is posted for the charge of the Sriharikota Range till relief by No. 2.
4. On return from leave (25-7-1925) M. R. Ry. D. Krishnaswamiah M. R. H. Ranger VI grade, is transferred to Guntur for the charge of the Bezwada Range to relieve Ranger B. K. Krishna Rao proceeding on leave.

8-6-1925.

M. R. Ry. K. R. Krishna Ayyer D. D. R. Ranger III grade, Nellore district, is granted leave on average salary for four months with effect from date of relief.

1-7-1925.

The leave on average pay for six months granted in this office S. O. No. 13 of 1925, dated 7th March 1925 to M. R. Ry. B. Bhagirathi, Ranger 7th grade, Ganjam, is extended by leave on average Salary for two months on medical grounds and further extended by leave on half average salary for four months in continuation thereof.

21-8-1925.

M. R. Ry. S. Chidambara Aiyar, M. R. H. Ranger V grade, under orders of transfer from the VI to the I Circle is posted to Guntur district for the charge of the Vinukonda Range.

Second Circle

12-6-25.

The leave granted for 4 months on Medical Certificate to M. R. Ry., O. Venkataramana Ayyar D.D.R. Ranger 1 grade in this office Service Order No. 81 of 25 dated 8th June 1925 will be leave on half-average pay from date of relief.

6-7-25.

M. R. Ry., R. Jagannatham Naidu, Ranger VII grade, Kurnool South Division is transferred to Tadpatri Range of Anantapur Division.

11-7-25.

Ranger A. Vyasulu M. R. L. (reduced to forester from 26th May 1925) is granted leave on average salary for 3 months on Medical Certificate from 9th May 1925.

11-7-25.

Ranger B. Gulam Dastagiri Sahib, M. R. L. VI grade (Special duty Kurnool Division) is granted leave for 3 months on Medical Certificate on full average pay from the afternoon of 6th June 1925.

13-7-25.

The unexpired portion of leave (not due) granted to Ranger Hussain Khan D. D. R. from 18th April 1925 to 28th April 1925 on half-average pay in this office Service Order No. 28/25 dated 18th February 1925 is cancelled.

17-7-25.

As Ranger A. Vyasulu, M. R. L. reported sick and went on leave on average pay (Rs. 80/-) on medical certificate from 9th May 1925 i. e., before the issue of the order of his reduction to Forester I grade, it is hereby ordered that his reduction should take effect only from the date of his return to duty.

21-7-25.

M. R. Ry., S. Ramachandra Ayyar, M. R. Hons. Ranger III grade and Senior Instructor Vernacular Training School is on the close of the season posted to the charge of Badvel Range of North Cuddapah Division to relieve Ranger B. T. Seetharama Ayyar who is in additional charge of this range.

2. M. R. Ry., B. H. Anandathirtha Rao, M. R. Hons. Ranger V grade (Junior Instructor, Vernacular Training School) is, on the close of the session, posted to the charge of Sivapuram Range of Kurnool West Division to relieve Ranger T. Sreeramulu Naidu who is in additional charge of this range.

31—7—25.

M. R. Ry., B. H. Anandathirtha Rao, M. R. Hons. Ranger V grade (Junior Instructor, Vernacular Training School) is granted leave on average pay for two months from the date of his relief.

4—8—25.

M. R. Ry., K. R. Viswanatha Ayyar, D. D. R. Ranger IV grade North Cuddapah Division is granted an extension of leave for five weeks on Medical Certificate from last August 1925 in continuation of the leave for two months and nine days granted to him from 23rd May 1925.

6—8—25.

M. R. Ry., N. C. Mahadevan Pillai D.D.R. Ranger III grade is granted an extension of leave for six weeks on medical certificate in continuation of the three months' leave granted to him from 12th April '25 in this office Service Order No. 61/25 dated 8th May 1925.

2. Nature of leave i. e., whether on full average pay or half average pay, will be decided later on after the receipt of report from the District Forest Officer.

11—8—25.

1. M. R. Ry., D. Venkateswaralu Nayudu, M. R. R. Ranger VI grade Chandragiri range Chittoor Division to Bailruty Range of Kurnool West Division.

2. M. R. Ry., K. Purushothama Rao, M. R. H. Ranger VII grade, (temporarily reduced to VII grade for 6 months from 31st May 1925) Bailruty Range, Kurnool West Division to Chandragiri Range, Chittoor Division (No. 1 to relieve No. 2.)

3. M. R. Ry., A. M. Sreenivasulu Nayudu, M. R. H. Ranger VI grade transferred to this Circle in V Circle Conservator's S. O. No. 42 of 25 dated 14th July 1925 to Madakasira Range of Anantapur Division to relieve M. R. Ry., H. Rama Rao, Range Officer, Kalyandrug, who is in additional charge of this range.

4. M. R. Ry., P. Dhananjaya Rao, M. R. H. Ranger IV grade Morricheruvu range, Kurnool East Division is granted leave on full average pay for 4 months from date of his relief by No. 5.

5. Mr. B. Gulam Dastagiri Sahib M. R. H. Ranger VI grade, on return from leave (7th September 1925) to Morricheruvu Range Kurnool East Division vice No. 4 granted leave.

6. M. R. Ry., N. C. Mahadevan Pillai, D. D. R. Ranger III grade, on return from leave (24—8—25) to Sivapuram Range, Kurnool West Division. (This cancels the posting of M. R. Ry., B. H. Anandathirtha Rao North Cuddapah Division made in this office S. O. No. 94/25 dated 21st July 1925.)

12—8—25.

Supernumerary Ranger N. Rajagopala Chetty M. R. H. on special duty Cuddapah Range, Cuddapah West Division is granted leave on full average pay for three months from the afternoon of 7th August 1925.

17—8—25.

M. R. Ry., K. S. Ramiah M. R. H. Ranger IV grade transferred to this Circle in V Circle Conservator's Service Order No. 48/25 dated 30th June 1925 is granted leave on full average pay for six weeks on medical certificate from 17th July 1925 (forenoon) i. e., the date of his relief in V Circle.

24—8—25.

M. R. Ry., Y. Pedda Lakshmayya Nayudu M. R. H. Ranger V grade Subprotem is, on return from special duty posted to Dornal Range of Kurnool East Division to relieve Mr. Hussain Khan, Ranger, Rachakonda who is in additional charge of this range.

17—8—25.

The extension of leave granted for six weeks (on Medical Certificate) to Ranger N. C. Mahadevan Pillai in this office Service Order No. 97/25 dated 6th August 1925 will be leave on full average pay from 12th July 1925.

Fourth Circle.

6—7—25.

Supernumerary Ranger T. Perumal Goundan M. R. H. on special duty, North Salem Division, is posted to be in charge of Tiruvannamalai Range, South Vellore Division, and to relieve Ranger S. Doraiswami Ayyar of the additional charge.

6—7—25.

In modification of the old III Circle Conservator's S. O. Nos. 73 dated 19-9-24, 3 dated 9-1-25 and 14 dated 16-2-25, M. R. Ry., N. Swaminatha Ayyar D. D. R. Ranger I Grade North Vellore Division is granted leave for 9 months 18 days i. e., leave on average salary with-

out medical certificate for 3 months and 18 days, leave on average salary on medical certificate for 4 months and 12 days and leave on average salary on medical certificate for the remaining period from 21-9-24.

15-7-25.

M. R. Ry., N. Swaminatha Ayyar, Ranger I grade, North Vellore Division is granted an extension of leave on half average salary on medical certificate for 3 months in continuation of the leave granted to him in this office Service Order No. 56 of 1925, dated 6-7-1925.

16-7-25.

Mr. I. Z. Robert Paul, Ranger V grade of Namakkal Range, is granted leave on average pay for 1 month from date of relief.

M. R. Ry., S. Ramalingam Ayyar, M. R. L. Supernumerary Ranger, Musiri Range, will be in charge of Namakkal range during the absence of No. 1. To join forthwith.

27-7-25.

Six days (privilege leave) leave on average pay from 20 to 25-5-1925, is granted to the Range officer, T. K. Parthasarathi Ayyangar.

28-7-25.

Ranger Syed Yahia Sahib, M. R. H. V grade, Central Salem Division, is granted extension of leave without allowances for 6 months in continuation of the leave granted to him.

12-8-25.

In modification of this office Service Order No. 170/25, dated 13th July 1925, Mr. I. Z. Robert Paul, M.R. Hons Ranger, V Grade, of Namakkal range, will be considered to have been on leave on average pay from 19th July 1925 to 8th August 1925 inclusive.

18-8-25.

M. R. Ry. V. Narayanaswami Ayyar M. R. Hons. Ranger V grade, in charge of Tirupattur range, West Vellore Division, is granted leave on average salary for 2 months from date of relief.

24-8-25.

Ranger S. Doraiswami Ayyar IV grade, in charge of Gingee Range, South Vellore Division, is transferred to West Vellore Division, Vice ranger V. Narayanaswami Ayyar, V grade, granted leave from the date of amalgamation of Gingee range with Tiruvannamalai or date of relief.

25-8-25.

M. R. Ry. T. K. Parthasarathi Ayyangar M. R. H. Ranger VII grade, is granted an extension of leave on average salary on medical certificate for 3 months in continuation of the leave granted in this office Service Order No. 50 of 1925, dated 8-6-1925.

28-8-25.

Supernumerary Ranger S. Nageswara Ayyar M. R. L. on special duty, Central Salem Division, is posted to work under Mr. M. C. Chandy, Extra Assistant Conservator of Forests, for surveying Estates on the Shevaroyes from 1-9-1925.

30-8-25.

1. Ranger T. V. Govinda Rao, V grade, on return from leave on 13-9-25 is posted to the charge of Gingee range. South Vellore division.
2. Ranger S. Doraiswami Ayyar, IV grade, to be in charge of Vellore Division on relief by No. 1.

6-9-25.

M. R. Ry. S. M. Srinivasagam Pillai, M. R. H. Ranger V Grade in charge of the Cauvery range is granted leave on average pay at Rs. 125 without medical certificate for 10 days from 11-9-25.

2. M. R. Ry. P. Mathuramuthu Pillai D. D. R. Range Officer, Shevaroyes South range will be in additional charge of the Cauvery range during the absence of No. 1.

9-9-25.

Supernumerary Ranger, S. Ramalingam Ayyar, M.R.L. now on special duty in South Salem Division is transferred to Central Salem Division, for special duty under the District Forest Officer.

Fifth Circle.

19-6-25.

1. On return from leave M. R. Ry. T. Kondathu Goundan, M. R. H. Ranger, IV Grade is posted to charge of Pollachi range, South Coimbatore division.
2. On return from leave M. R. Ry. T. P. Palanikumaran Pillai M. R. H. Ranger VI grade, is posted to charge of Bargur range, Kollegal division.

xiv.

3. Supernumerary rangers K. O. Anandan M. R. L. and M. P. Philip M. R. H. relief of range work will do duty under the District Forest Officers South Coimbatore and Kollegal respectively till their services are required elsewhere.

30-6-25.

1. Ranger A. B. Fenn M. R. H. is posted to Nattam range to relieve ranger L. J. Taylor.
2. Ranger L. J. Taylor, M. R. H. on relief by No. 1 is posted to work under the forest research officer.
3. Ranger Myres M. R. H. is posted to Kanikatti range, Ambasamudram Taluk to relieve ranger S. M. Krishnaswamy Ayyar.
4. Ranger S. M. Krishnaswamy Ayyar D. D. R. on relief by No. 3 is transferred to II Circle.
5. Ranger K. Venkataramanan M. R. H. is posted to Punachi range South Coimbatore Division to relieve ranger K. S. Ramayya.
6. On relief by No. 5, Ranger K. S. Ramayya M. R. H. is transferred to II Circle.

14-7-25.

On relief by ranger A. R. Manual, ranger A. M. Srinivasulu Naidu, M. R. H. Palni range, is transferred to II Circle.

23-7-25

Mr. M. P. Philip M. R. H. Supernumerary Ranger, Bargur Range, Kollegal, is granted leave on average pay on medical certificate for three months from date of relief by No. 2.

2. Mr. K. O. Anandan, M. R. L. Supernumerary Ranger, South Coimbatore, is posted to the charge of Bargur range.

31-7-27.

The leave on average pay on Medical Certificate granted to M. R. Ry. T. P. Palanikumaran Pillai M. R. H. Ranger VI Grade, Kollegal for 3 months from 4th April 1925 in this office S. O. No. 18 of 25, is extended by 2 months and 6 days on Medical certificate.

xv.

2-8-25.

The leave on average pay for one month from 15th June 1925 afternoon granted by the District Forest Officer, Tinnevely to M. R. Ry. S. Sundaravaradachari, Ranger IV grade, is extended by 10 days.

11-8-25.

M. R. Ry. C. Tiruvengadam Pillai M. R. Hons. Ranger V Grade, South Coimbatore, is granted leave on average pay on Medical Certificate for one month in continuation of the three weeks leave granted by the District Forest Officer from 25th June 1925.

24-8-25.

M. R. Ry. T. P. Palanikumaran Pillai M. R. H. Ranger VI grade, on the expiry of his leave is posted to Madura District for charge of the Palni Range.

Supernumerary Ranger A. R. Manual M. R. H. will on relief by No. 1, work under the orders of the District Forest Officer, Madura.

Sixth Circle.

9-6-25.

Mr. W. S. Fernandez, D. D. R. Ranger IV grade, who is due back from leave on 1st July 1925 to the Nilambur Division for special duty.

Mr. B. Coates M. R. H. Ranger VI Grade, on return from leave on 18th July 1925 to the South Mangalore Division for special duty.

2-7-25.

Mr. A. B. Fenn, M. R. H. Ranger, V Grade is transferred from the Forest Engineering Branch to the V Circle with effect from the date of relief.

14-8-25.

M. R. Ry. S. Chidambara Ayyar, M. R. H. Ranger V grade, is granted leave on average pay on medical certificate for two months from date of relief.

2. Mr. W. S. Fernandez D. D. R. Ranger IV grade, on special duty, Nilambur, is posted to the charge of the Mannarghat Range, Palghat division, vice No. 1.

26—8—25.

- M. R. Ry., K. Shankaranarayana Rao M. R. Hons. Ranger V Grade, is charge of Begur Range, is granted leave on average pay from 25-9-25 or date of relief to 22-12-25 with permission to affix the Christmas and New year holidays.

26—8—25.

1. M. R. Ry., C. S. Ganapathy M. R. H. Ranger VI Grade transferred from the Engineering Branch to this Circle to the South Mangalore Division for the charge of the Beltangandi range.
2. M. R. Ry., K. Dooma Shetty, M. R. Hons. Ranger V Grade transferred from the Engineering Branch to this Circle to the Palghat Division for the charge of the Bolampatti range, Vice Ranger B. Sambamurthi Ayyar transferred to the II circle.
3. M. R. Ry., M. S. Ayvanna, M. R. H. Supernumerary Ranger transferred from the Engineering Branch to this Circle, to the Nilambur Division for the charge of the Beypore depot.
4. M. R. Ry., M. N. Raman Pillai, M. R. H. Ranger IV Grade in charge of the Beypore depot, on relief by No. 3 to the Wynaad Division for the charge of the Begur Range vice ranger K. Shankaranarayana Rao granted leave from 25-9-25.
5. M. R. Ry., P. Sankunni Nair, M. R. H. Ranger VI Grade Sub-protem transferred from the Engineering Branch to this Circle, to the South Mangalore Division, for the charge of the Puttur Range now in charge of Mr. S. K. Basu, Assistant Conservator of Forests.
6. M. R. Ry., P. Kannan, M. R. H. Ranger VII Grade, transferred from the Engineering Branch to this Circle, to the North Mangalore Division for the charge of the Coondapur Range vice Ranger S. R. Duraswami M. R. H. transferred to the II Circle.

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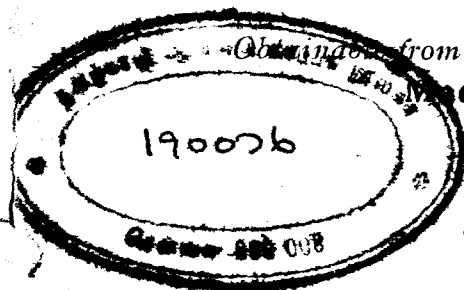
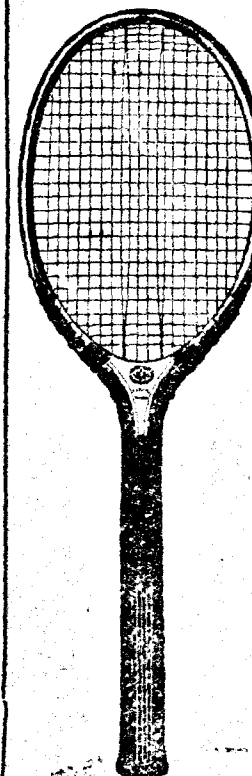
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