CHAPTER XXVI

FIRE PROTECTION

A person desirous of clearing by fire any standing forest or grass land within one mile of any Reserved or Protected Forest shall observe the following rules:

(i) He shall give notice of his intention to burn at least fifteen days before hand to the nearest Forest Guard, Forester or Ranger.

(ii) He shall take care not to burn when a high wind is blowing.

(iii) He shall set fire in a direction so that the fire shall travel down the slope and take steps to prevent the fire entering any reserved or protected forests.

(iv) He shall employ a sufficient number of men to ensure his having control of the fire.

(v) After firing the forest or grass land he shall thoroughly extinguish any fire smouldering in stumps or heaps of rubbish within 100 yards of the boundary of the Reserved or Protected Forest.

(2) Any person desirous of burning on land within one mile of a Reserved or Protected Forest any wood, grass, weeds or other inflammable materials shall collect such material into heaps and burn it heap by heap in such a manner that the resulting fire does not extend to the surrounding area or endanger the Reserved or Protected Forest.

(3) Any person collecting inflammable forest produce, such as grass and bamboos, on land adjoining a Reserved or Protected Forest, and any holder of a permit to collect such produce from a Reserved or Protected Forest shall stack it in an open space at
such reasonable distance from the forest as the Divisional Forest Officer may by general or special orders prescribe, and shall isolate the stacks in such manner that if they take fire, the fire shall not be able to spread to the surrounding area or endanger the Reserved or Protected Forest.

(4) Camping places along the boundary of, and within the limits of a Reserved or Protected Forest will be cleared and set apart by the Divisional Forest Officer for the use of travellers, a list thereof being published annually, and except on such camping-grounds no fires shall be lighted within or along the boundary of a Reserved or Protected Forest. All persons using these camping-grounds shall light any fire they make for cooking or other purposes in such a way as not to endanger the Reserved or Protected Forest or any buildings, sheds or other property on the camping-grounds, and before leaving they shall collect in the centre of the camping-ground all inflammable material which is to be left behind, and shall carefully extinguish all fires.

(5) The carrying of burning wood, fire-brands, or torches along the boundary of any Reserved or Protected Forest is prohibited between the 1st February and 30th June or such earlier or later date as may be notified by the Divisional Forest Officer under Section 26 (c) with the previous approval of the Conservator. Smoking is similarly prohibited between the 1st February and 30th June within a Reserved or Protected Forest, save at an authorised camping-ground.

The kindling, keeping and carriage of fire along fixed routes and at camping-places is permitted provided that nothing in this rule shall imply permission to set fire to any forest, or to kindle, keep or carry any fire or leave burning any fire so kindled in such a manner as to endanger any forest.

Divisional Forest Officers and Sub-Divisional Forest Officers in charge of Divisions/Sub-Divisions are empowered to notify seasons during which the kindling etc. of fire in Government forests is not prohibited.
Rules for Fire Protection Operations

The forest areas of each Division will be divided into three classes for the purposes of protection against fire according to the prescriptions of sanctioned working plans or failing such prescriptions by executive orders of the Conservator.

(3) The following are the Forests to be—

(a) Completely Protected

(i) Regeneration coupes;

(ii) Young regenerated woods including felled coupes whilst closed to grazing.

(iii) Plantations and Nurseries.

(iv) Such other areas as the Conservator may for special reasons direct (e.g. grass burs and shooting blocks and areas under rotational grazing).

(3) All areas will be isolated by means of fire lines and cut guide lines and will be patrolled by watchers or by Chowkidars or other forest staff.

(4) Any fire occurring in them must be reported, whatever the area burnt or the date of occurrence may be. Every ease of fire will also be properly investigated.

(b) Generally Protected

(5) (i) All forests under systematic working and

(ii) such other areas as the Conservator may for special reasons direct.

(6) All areas in this class will generally have natural boundaries such as roads, nalas or otherwise will be isolated from the surrounding country by means of fire lines and divided into convenient blocks by interior fire lines. No guide lines will be cut, but all fire lines, roads, paths, suitable ridges, grassy maidans etc., will be burnt in successive stages as the grass dries sufficiently to be combustible, and the fire allowed to burn itself out.

(7) Fire Watchers may only be employed if sanctioned by the Conservator.
(8) As a supplementary measure the early burning of portions of areas of this class may be sanctioned by the Conservators. By early burning is meant a deliberate attempt to pass a slow fire early in the year through the whole area under such treatment.

Protected by law only

(9) All forests not included in the two foregoing categories are included in this.

(10) In forests of this class deliberate burning is prohibited, but no special measures of protection will be undertaken.

Fire Lines

(11) Fire lines are of two kinds, exterior and interior. The responsibility for their upkeep rests with the Divisional Forest Officers. The following instructions should be carefully attended to by them in the performance of this duty:

1. It is an established principle in the construction of exterior fire lines that as far as practicable they should be within the limits of Government forest and that they should follow the boundary thereof. Occasions may sometimes arise when in order to secure efficiency, it is necessary to deviate from sinuous or difficult boundaries in favour of straight lines running through the Government forest.

2. Interior fire lines are constructed within Government forest and are intended to restrict within limits fires which have broken out in protected areas and cannot be controlled except by counter-firing. These fire lines should follow the course of roads open to the public and the beds of rivers and streams which, in addition to other advantage themselves constitute natural efficient interior fire lines. Interior fire lines should, as far as possible, not be constructed along ridges, as there the effect of wind is greatest and water scarcest.

(12) Fire lines should be so selected and laid out on the ground that it will not be not only practicable, but easy to traverse them with facility. Steep gradients and rough ground should be avoided as far as possible. Where practicable fire lines should follow
natural clearings such as open glades, the edge of cultivated plains, or the beds of wide ravines and streams. They should be located as near water as possible, and the localities, where wells exist or should be made and all spots where water can be procured, should be marked on the fire maps.

(13) In completely fire-protected forests the following measures are prescribed:—

(i) The first consideration is the isolation of the forest from the surrounding country. This will be effected by clearing the exterior fire lines of all inflammable material to a width determined by local circumstances, ordinarily not less than 40 or more than 100 feet. Not later than the month of December where necessary two guide lines will be cut, one on either side of the area decided on for the fire line. The width of guide lines will depend on the height of the grass through which they run and they must be carefully cleared. This work must be completed by the end of December.

Exterior lines include coupe lines which form the boundary between the areas. In adjoining areas, no fire lines will be cleared, but a guide line will be cut and burnt and the fire allowed to burn itself out, under control and supervision of a Forester, a Head Guard or at least the Beat Guard.

(ii) Interior fire lines will be similarly treated, but will usually be narrower than exterior lines.

(iii) As the season advances, the grass in the centre of the fire lines will dry and should either be burnt of standing or cut close to the ground over the whole width of the line. If the latter course is followed, the cut grass should be spread over the fire lines between the guide lines and burnt as soon as dry.

(iv) Dry leaves and other dry material on fire lines must be collected from time to time and deposited along the edge of the fire lines; but the burning of such material on the lines after the hot weather has commenced, is strictly prohibited.

(v) Except with the express order of the Divisional Forest Officer and in the presence of the Range Officer or other subordi-
nate authorised by the Divisional Forest Officer, no fire lines shall be burnt after March 31st.

(14) In generally protected areas no guide lines are cut. The fire is allowed to burn under control so as to interpose a wide burnt strip between the area and the surrounding country. The grass must be burnt as soon as it is sufficiently dry, and the operation must be carried out by stages. To control the operation the Divisional Forest Officer will receive, from the 1st December or such earlier date as he may fix, a fortnightly report from the Range Officer concerned showing the progress made in burning. The date by which burning must be completed will be fixed by the Conservator and a report will be made to him of the progress made and of the reasons for delays, if any, by the Divisional Forest Officer a fortnight before the date so fixed. After the date fixed operations must ceases except with the special sanction of the Conservator.

(15) Existing fire lines will be utilised as far as possible. New lines will not be made without the sanction of the Conservator.

**Fire Watchers or Fire Guards**

(16) It is the duty of Fire Watchers or Fire Guards constantly to patrol the fire lines in their beats, to keep them entirely free from inflammable material, to prevent the carrying or making of fire within or in the vicinity of the protected area, to give immediate notice of the occurrence of a fire to the beat officer, to collect assistance and themselves to aid in extinguishing any fire that may occur.

Fire Watchers must always be on their beats. Divisional Forest Officer will see that proper Machans for the men to sleep on by night and fair accommodation below for cooking by day are provided at suitable places. Fire stations must be situated on elevated spots, so that the watchers may command a good view of the forest they are watching.
Fires

(17) Any Forest Ranger, Deputy Ranger, Forester, Head Guard or Forest Guard who may see smoke rising anywhere in or near the forest shall at once collect such aid as is immediately available and proceed in person to the spot. He must not sit quiet and send someone else to enquire or report. The forest official who arrives at a spot where a fire is burning shall at once proceed to extinguish it. If the fire is outside his own beat or range, he will continue there till relieved by the local men. When he will return to his own beat or range, unless the fire is so strong as to demand all possible help. This rule applies to the first two classes of forest.

(18) The greatest care must be taken that fires are thoroughly extinguished and all smouldering materials absolutely quenched. Filling earth over such materials will be found very effective. No official shall leave the burnt locality till the Senior Forest Officer present has satisfied himself that no smouldering material remains.

(19) All men, except right-holders and graziers assisting in extinguishing fires in Government forest (including forest villagers) shall be paid according to the amount of assistance rendered, at rates fixed by the Divisional Forest Officer in consultation with the Collector or Tehsildar.

Responsibility

(20) The Range Officer is held personally responsible for the efficiency of fire protection in his range.

Where protected forests of two ranges adjoin, the responsibility for efficient protection and clearing of the common fire line will rest with one of the Range Officers to be selected by the Divisional Forest Officer, the Conservator or two Conservators in consultation according to whether the two ranges belong to the same division, two different divisions of the same Circle or two different Circles. These orders will be in writing and kept in the file of standing orders.
(21) The Divisional Forest Officer is personally responsible for carrying out efficiently the fire protection measure ordered in his division. He must satisfy himself that the exterior fire lines have been properly cleared and thoroughly burnt before danger from external fire arises, and that at the same time all interior fire lines are in good order. He must, by continual inspection, assure himself that the protective staff is efficient, and he must continue to attend to this work until the arrangements for the efficient protection of the forests from fire are completed. He must, during his tour, satisfy himself by constant enquiries that no fires in protected areas have gone unreported, and that the areas of reported fires have been accurately estimated. These checks require extensive and through personal inspection by him.

Fire Reports

(22). The Range Officer shall report the outbreak of a fire to the Divisional Officer at once, using special despatch if the fire extends over a large area. The Range Officer must provide for rapid communication between himself and his staff in fire protected areas so that no delay may occur in his receiving report of the outbreak of a fire and in transmission by him of such intimation to Divisional Officer. The inspection of the area burnt and submission of a full final report with a sketch map by the Range Officer shall not without valid excuse be delayed for more than a fortnight after the outbreak.

(23). The Divisional Officer will submit monthly (in the prescribed form to the Conservator a summary of fires showing the serial number, date of occurrence, cause, area burnt, extent of damage, and measures taken to bring it under control.

(i) Maps showing the results of fire-protection shall be prepared and maintained.

(ii) Records of fires are to be maintained on a separate 1" map, to be known as fire maps where 1" mile maps are available maps of any other small scale available may be used. Two copies of these maps should be maintained in
all divisions one cut and folding, to be taken in camp by the Divisional Forest Officer and the other to be kept at the head quarters as a permanent record.

(iii) The following system of shading will be employed in all the divisions:

<table>
<thead>
<tr>
<th>Block Shading</th>
<th>Red Shading</th>
<th>Type of Shading</th>
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</thead>
<tbody>
<tr>
<td>Fires occurring in</td>
<td>1958</td>
<td>1963</td>
</tr>
<tr>
<td>1959</td>
<td>1964</td>
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<td>1960</td>
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<td>1961</td>
<td>1966</td>
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<tr>
<td>1962</td>
<td>1967</td>
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</tbody>
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(iv) These fire maps shall be made for one decade at a time, and at the beginning of a new decade a fresh set of maps shall be prepared, employing the same system of shading.

(v) Fires of 50 acres or more shall be entered on these special fire maps.

(vi) Fires shall be entered annually, and the maps kept up to date. Conservators shall inspect the maps during their tours and at office inspections.

(vii) Fire maps shall not be kept in compartment histories, but a brief reference to fires that occur shall be made in the history of the compartment concerned.

(24) Areas deliberately burnt for silvicultural reasons, e.g., to destroy felling debris or to stimulate reproduction or as a measure of protection from hot weather fires will not be reported unless they spread into a protected area. Deliberate burning is only permissible if prescribed by a Working Plan or sanctioned by the Conservator. A brief reference of such burnings shall be made in the history of the compartment concerned.
(25) (1) In order to determine the vulnerable areas from the point of view of fire protection in each division, the Divisional Forest Officers will maintain fire maps for the whole of his division in 1" to 1 mile scale or even in smaller scale if 1" to 1 mile maps are not available. The map may be divided into $\frac{1}{2}$" squares. If the map happens to be on the scale of 2" - 1 mile each square will represent 1/16th of a square mile or 40 acres. If the scale is 1" = 1 sq. mile each $\frac{1}{2}$" square would represent 160 acres. On this map the Divisional Forest Officer would plot in each year as accurately as his observations allow, the area burnt, in the manner indicated below:

(2) The first year's fires will be marked in horizontal lines, the secondary's fires whether occurring in the same or not will be marked in vertical lines, the third year's fires will be marked in right diagonal lines, the 4th year's fire in left diagonal lines and 5th year's fires with dots. If these fires occur in the same area more than once, these markings will overlap those previously made. That is to say, if there be a fire in the 2nd year the vertical lines will super-impose the horizontal lines. If again a fire occurs in the 3rd year the markings will be super-imposed with right diagonal lines, and so on. Every 6th year separate map will be used and the same scheme of marking will be followed.

(3) These fire maps should be submitted by the Divisional Forest Officers at the time of Office Inspection by the Conservators. The Conservators will enter suitable remarks in the Inspection Register to show whether these fire maps are being maintained properly or not. If these maps are maintained properly, it would be easy for the Divisional Forest Officer to know at a glance which parts of his forests are most vulnerable from the point of view of forest fires and he can easily make arrangements for their protection in time and in advance, say, by departmental burning.

(C. C. F's S. O. No. Misc./922 dated 6. 2. 56)
PROFORMA

Report on Fire

Date of Occurrence

Date and time of receipt of information of the occurrence at the Range Office

Approximate area in acres burnt

Cause of Fire (Accidental, incendiary or crossing over from adjoining area)

Steps taken to extinguish

Time taken to bring it under control

Assessment of damage caused