

*PATANA FIRES IN ESTATES AND WATER CATCHMENTS

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In spite of many resolutions of committees in the past and individual efforts of owners, the control of grass fires in patana lands has proved to be a hopeless task so long as *illuk* and *mana* grasses provide the main plant cover. The amount of damage done to tea and rubber by the concentrated erosion from recently burnt patana land uphill above the plantation constitutes a serious problem. Every fire exposes a fresh earth surface which is immediately washed down the main drainage channels, gouging them out to greater depths, or flooding across any path or road to erode the crop itself. Frequently tea bushes and rubber trees are actually destroyed by fire, but this direct damage is only a very small item of loss compared with the resultant erosion.

As a result of visits to a large number of estates I am convinced that many individual owners and superintendents would be prepared to tackle the patana fire problem if they thought they had any hope of success, but there is a general atmosphere of defeatism on this subject, due largely I think to the complete failure of control measures on public patana lands. Private owners feel that the problem is beyond them and that they cannot keep fire out of their own patana blocks.

As long as *illuk* and *mana* are the main plant cover this is true. So our problem is to replace these by something less inflammable at a cost per acre which the management would consider as justifiable expenditure for the area which directly concerns them.

It does not require complete afforestation to subdue these grasses but it does need a change in what the Botanists call *ecological progression*. These grasses are only a climax or final product as long as fire occurs annually and no other plant can do any better, but a trench and ridge dug truly along the contour will trap sufficient water to allow other things to grow. The plants most likely to conquer the patana grasses and replace them are trees, not other grasses. Few of the local native trees are of much use as pioneers, so we have to try foreign importations. For the hotter and lower grasslands the best choice probably is *Leucaena glauca* and for land in the mist belt or anywhere above 3500 ft., *Acacia decurrens*. The latter tree has shown a remarkable capacity to seed itself in burnt patana in the neighbourhood of Ohlya and Hakgala. For middle elevations and land not too badly eroded, *Alstonia scholaris* should give good results as it has already done in the Hantane patana at the head of the

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Kandy Municipal Water Catchment at about 2,200 feet up to 3,000 feet. The Reserve of Udawattakele immediately above Kandy town contains profuse natural seeding of this tree. Lantana and another much detested weed *Clusia rosea* (Jamaican balsam or wild fig) might have their uses as a means of subduing the patana grasses in the middle elevations but they are useless things and once they take charge it might be difficult to replace them by anything more useful.

Economically the chief justification for afforesting patana lands is for fuel supply, and for this purpose both *Alstonia* and *Acacia decurrens* are good because they coppice freely and can therefore be cut over on a short rotation of 6 or 8 years in firewood coupes without exposing the soil unduly. The proposal therefore is that individual owners or companies who have blocks of patana in their own keeping should dig contour trenches 30 to 35 feet apart. Trenches should be 1½ feet deep and 2 feet wide at the bottom with the soil built up into a broad flat berm on the downhill side of the trench. The length is immaterial and rock surfaces should of course be left. Cross blocks of soil should be left in the trench every 10-12 feet to stop the water from slopping over in case mistakes in alignment take the line off the contour. Sowing or planting should not be done until the trench system has been tested by a heavy shower and weak and low points repaired. Sowings or transplants should be placed towards the top of the berm so that the young plants do not get drowned.

I should be glad to hear from any planter who has attempted any such work in patana land or who wants advice on this problem.