

I N T R O D U C T I O N

The object of this report is to compare the labour requirements and costs of cultivation of Cocoa and Coconuts on a number of estates in Trinidad and Tobago. It is in no way a statistical survey, estates used being those whose owners were willing to co-operate by allowing access to their records and accounts. All were obtained by private contact through members of the College.

The main areas of Cocoa cultivation are in the Central Range, the western end of the Northern Range and along the Southern Range of Trinidad. In Tobago Cocoa is grown in the Central and North Eastern districts. The majority of the estates visited were in the Central Range of Trinidad. The main areas of Coconut cultivation are along the East Coast, and in the South Western and North Western tips of Trinidad (1). In Tobago they are grown particularly in the South West and along the Windward Coast. Estates were visited in all the main areas in Trinidad and in the South West of Tobago. In all, nineteen separate estates were visited; nine separate Cocoa estates, nine separate Coconut estates and one which grew both crops. This gave a total of ten separate units of each crop totalling 3,052 acres of Cocoa and 5,262 acres of Coconuts.

Of the estates used all except one had more than 100 cultivated acres of either crop. Cocoa and Coconuts form respectively 52% and 30% of the tree crops in Trinidad and Tobago on holdings of more than 100 acres (2). The total acreages on these holdings are 47,227 of Cocoa and 29,575 of Coconuts. These are shown split to size groups in Appendix A. The aim of the report is to investigate the costs of production and labour requirements in the cultivation of the two crops on some of these holdings.

The total costs of Cocoa cultivation in Trinidad were studied in some detail by workers under Shephard in 1923/4 - 1929/30 (3). From 126 estates comprising 32,220 acres an average annual expenditure of \$20.22 was calculated. (Price of cocoa : 11 cents per lb.). He analysed the contribution of individual items to the total, and showed that labour directly involved in cultivation and harvesting of the cocoa contributed 52% of that cost.

The labour requirement can be split to :-

- (a) The total demand per acre per year;
- (b) The spread of that demand over the year.

On the latter point the same worker gives some information in a later report (4). The monthly fluctuations in labour use on a large Cocoa estate are shown as percentages of the mean for the whole year. The original units are labour units but, unfortunately, the original records are not shown in the report. The total profile of the estates is shown for 1911/13 and 1925/27, and that of one estate in 1925/27 is broken down, in a histogram, to the various operations : cutlassing, draining, trimming/pruning, picking, breaking/extracting and drying. Shephard concludes that the December to March period is one of above average requirement due to reaping, while the August period is of average requirement due to cutlassing. A below average requirement extends over the remainder of the year. The standard deviations of the four-weekly units of labour range from 39% to 10% according to size of estate, cocoa price and the supply of casual labour : greater fluctuation with small estates, low prices and a good supply of casual labour.

In approaching the problem at the present time the effect of the rehabilitation scheme (5) must be considered. This encouragement of replanting on estates has produced more work for both the slack and peak periods. The bulk of the improvement work comes in the wet season and would be expected
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to fill Shephard's April-July trough. At the same time, it would accentuate the increased demand already incurred in August. The latter point is demonstrated in an example given by Jolly (6).

In the literature there are a number of recent separate assessments of the labour units required for, and the costs of, the establishment of clonal cocoa (7, 8, 9). However, few, if any, costs and labour units are given for the year to year cultivation and harvesting of established cocoa. One source gives a requirement of 20 man-days, excluding harvesting and cracking, and a cost of \$34.60 per acre for supervision, materials and overheads - cocoa 20 years old, 200 lbs. per acre (10).

Little information is available on Coconuts. In terms of spread of labour requirement Shephard (4) demonstrates the more even monthly requirement of a regularly bearing crop. The profile is for one period (1925/27) on one estate of 1800 acres.

Total costs and labour requirements are shown in (10). These are for 20 year old coconuts planted 25 ft. x 25 ft. A figure of 32 man-days per acre is given for cultivation and harvesting, but excluding draining. Other costs associated with transport and cultivation : \$33-\$45. These and other costs quoted will be discussed later with the results of this report.

(a) Fortnightly labour abstract sheets. One copy is kept on the estate and the other sent to the Port-of-Spain office. These show the cost of each operation over the fortnight.

Examples of these sheets, with criticisms, are shown in Appendix D.

(b) The books from which these are compiled. Every day each labour driver records the work done by each man under him. This, with the wage rate, is entered for each man in another book by the overseer or book-keeper. The summary is compiled and labour paid fortnightly.