REPLANTING ON COPRA PLANTATIONS

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ABSTRACT

A postal survey of the larger copra plantations in Papua New Guinea was undertaken in order to ascertain the level of replanting in recent years and the plantations' plans for the future. Results showed a very low level of replanting with no indication that this situation is likely to change in the near future. Reasons for this are considered and possible action to counter the trend is discussed.

INTRODUCTION

The report below presents the results of a survey of replanting of coconuts by plantations. The survey was carried out in late 1978 and took the form of a postal questionnaire sent to all plantations with a 1977 copra production level in excess of 100 tonnes (according to Copra Marketing Board records). Two hundred and five questionnaires were sent out and a total of 83 replies were received (40.5%). In addition, a summary of the situation on 29 Burns Philp plantations (14.1%) was received from Burns Philp New Guinea Ltd. The information provided by this company was not detailed enough to incorporate in the analysis of the other plantations but is referred to in passing in the text.

Of the plantations replying to the questionnaire, 26 were situated in East New Britain, 21 in Madang Province, 15 in New Ireland, 6 each in Central and North Solomons Provinces and 8 in other provinces. Twenty eight per cent of these plantations reported production in 1977 at below 200 tonnes, 29% recorded production between 200 and 300 tonnes, 26% between 300 and 500 tonnes and 17% reported production as being over 500 tonnes. Reported yields varied from less than 0.60 tonne/hectare (17%) to over 1.20 tonnes/hectare (20%). Maximum yields were in the region of 2 tonnes/hectare, mainly in the Madang Province.

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Plantations were also asked to provide information on the year coconuts were first planted on the property. All but three of the plantations were first planted prior to 1940 and 40 were first planted before 1920. Thus, it is evident that almost all plantations are now past the point when, if no replanting had taken place, the age of the trees would tend to cause the average yield to fall. It is generally accepted that output of tall varieties begins to fall off at around 30 years with the rate of decline increasing at around 50 years.

Only five of the plantations concerned were sole copra producers. Over half produce copra and cocoa (58.5%) and nothing else while a further 24.4% have both cocoa and cattle on the plantation together with copra. In 1972, Sackett and Williamson (1973) found that 20.8% of all plantations producing more than 100 tonnes of copra a year were sole copra plantations compared with the 6.1% of this survey. This almost certainly reflects the fact that several plantations have planted cocoa for the first time in the last few years which, in turn, is perhaps a reflection of the low profitability of copra and recent high returns from cocoa.

RESULTS OF SURVEY

Each plantation was asked about replantings and new plantings in the 1971-77 period and about plans for the 1978-82 period. The results show that there has in recent years been relatively little planting and that plantations do not presently intend that this situation should change in the near future.

Answers to the questions were combined in *Table 1* which gives the actual

and planned replantings and new plantings between 1971 and 1982.

When considerably more than half of the plantations record nil plantings between 1971 and 1982, a statistical comparison of planting in this period with other variables is rendered rather difficult. There is, for example, no evidence to support a relationship between yield and new planting. This could, of course, be what is expected. On the one hand, the more progressive plantations are likely to have a higher yield and are more likely to replant. On the other, there is less reason for a high yielding plantation to replant. It is noticeable, however, that of those plantations with a yield of less than 0.75 tonne/hectare, 74% report no plantings between 1971 and 1982 while only 57% of plantations with a yield of 1.05 tonnes/hectare or greater, report the same.

Because they are more likely to have trees in need of replanting, it might be thought that the older plantations would show greater evidence of planting activity between 1971 and 1982. However, the survey found no evidence for this.

Tables 2 and *3* show how few plantations have more than a small number of young palms. *Table 2* shows how many plantations have trees up to seven years old, and what proportion of the estates are accounted for by such trees, while *Table 3* shows the same for trees in the 8-14 years category.

Sackett and Williamson (1973) in a survey carried out in 1972, found that 9.8% of the land on plantations with production greater than 100 tonnes per annum was devoted to palms of 0-7 years old. Although the present survey was not designed to provide information comparable with that study, it is fairly clear from an inspection of *Table 2* that the present total can be nothing like as high as

Table 1. — **Actual and planned coconut plantings by plantations, 1971-82**

Hectares	Number of plantations	Percent
0	53	63.8
1-9	5	6.0
10-19	8	9.6
20-39	7	8.4
40-99	2	2.4
100-199	4	4.8
200 plus	4	4.8
Total	83	

Table 2. — **Proportion of planted areas devoted to palms 0-7 years old**

Percent of planted area	Number of plantations	Percent
0-4	56	70.0
5-9	14	17.5
10-14	5	6.2
15 and over	5	6.2
Total	80	

Table 3. — **Proportion of planted areas devoted to palms 8-14 years old**

Percent of planted area	Number of plantations	Percent
0-4	38	47.5
5-9	16	20.0
10-14	12	15.0
15 and over	14	17.5
Total	80	

9.8%. Seventy out of eighty plantations (87.5%) have less than 10% of their land given over to palms under eight years old and it is likely that, over all plantations, the area of palms less than eight years old is no more than 5% of the total hectares.

Further evidence of the decline in planting in the last few years can be gained by comparing *Tables 1* and *2*. This suggests that there was considerably more planting between 1964 and 1971 (i.e., palms now in 8-14 years age group) than between 1971 and 1978.

An analysis of the number of hectares which estates planted between 1971 and 1977 and intend to plant between 1978 and 1982 shows an average planting of 31.3 hectares over the period. However, if the two plantations which reported plantings between 1971 and 1982 in excess of 500 hectares are excluded from consideration, the average planting is just 19.2 hectares.

Burns Philp plantations have been slightly more active in replanting. Over six percent of the company's palms were under eight years old at the time the survey was carried out.

It was felt that one reason for a lack of replanting in recent years was probably the fact that estates might be waiting for hybrid seed nuts to become available. However, a significant number of plantations do not appear desperately keen to utilise these nuts as the response to the question, "Do you intend to plant hybrids when they become available?" shows (*Table 4*).

If an estate does not intend to plant hybrids, it can be reasonably assumed that it does not intend to plant at all. Thus, 17 out of 83 (20.4%) probably intend to carry out no replanting whatsoever, while a further 27 (32.5%) are undecided on this. Burns Philp plans to plant approximately 300 hectares of hybrids per annum in the next decade, "subject to the Government revising its arrangements for compensation to insure the company against loss".

Table 4. — **Plantations planning to plant hybrids**

	Number
Yes	32
No	17
Undecided	27
No Answer	7
Total	83

REASONS FOR LACK OF REPLANTING

Respondents were asked to reply to the following questions: "If you have not been actively replanting coconuts in recent years, what are the reasons for this?"

The main reason offered was the uncertainty that surrounded the future ownership of the plantation. Also on the theme of uncertainty, one or two answers implied that the planters doubted the future political stability of Papua New Guinea. Clearly, no plantation is going to invest large sums of money in new plantings if it is likely to be taken over by the traditional land holders before a reasonable return on investment can be secured.

A further reason given for a lack of replanting is the high cost of such an operation and the relatively low return from copra. Most long-term price projections for copra imply a slight decline in the 'real' price and thus caution on the part of plantations is probably justified, although a few estates are replanting extensively. It must be borne in mind, however, that extremely high prices for copra prevailed in late 1973 and 1974. There is little evidence to suggest that the extra income accruing to plantations as a result of these prices was invested, at least not in new coconut trees.

One reason for the lack of replanting could be the fact that cocoa is frequently intercropped with coconuts. It is not really practical to replant coconuts without first cutting out the cocoa and, as cocoa is normally more rewarding than copra, such an idea is unlikely to be considered. When cocoa is interplanted, the replanting options would appear to be twofold, i.e.:

a. Keep existing coconuts and replant the cocoa.

b. When the cocoa ceases to be economic, replace the coconuts and replant with cocoa.

Replanting would possibly have been somewhat higher in the last few years, were it not for the fact that reasonable quantities of hybrid seed nuts were to be available in the next few years. Several plantations stated that they were waiting for hybrids to become available before replanting. It is clearly pointless to plant established varieties if higher yielding varieties will shortly be ready for planting.

Some plantations expressed the opinion that the land was not suitable for replanting. This suggests that the enthusiasm for copra plantations in days gone by sometimes led the planters to utilise unsuitable land.

Other reasons offered for a lack of new plantings were that cocoa took priority, that the plantation was changing over to cattle and that the palms were too young to replant. Problems associated with the availability of quality management and of sufficient labour were also cited as being a disincentive to new investment.

CONCLUSIONS AND RECOMMENDATIONS

If Burns Philp plantations are excluded, a response rate of 47% was achieved by this survey. It might be argued that those plantations that took the trouble to fill out the questionnaires were not representative of the plantation sector as a whole. This would not be disputed but it needs to be pointed out that it is probable that plantations in the sample would be more "progressive" than plantations that either could not be bothered to fill in the form or did not maintain the necessary records to enable them to answer the questions. Thus, it can be reasonably assumed that the level of replanting among all plantations is no greater and is probably a good deal less than that revealed by the sample.

The picture that emerges from this survey is one of a declining industry. Replanting by plantations is not sufficient

to maintain the level of production in the future and it must be expected that the proportion of copra production contributed by the plantation sector (presently about 50%) will decline, albeit slowly.

Presumably, many of these plantations (along with others) will eventually be acquired by the traditional land owners. However, this is a slow process and while it is taking place, the value of the resource is declining. It is appropriate to ask whether it is in the best interests of Papua New Guinea to allow this to happen. It is certainly not in the interests of the traditional land owners, but they are powerless to do anything about it. Consideration must be given to ways in which plantations, which are presently being run down, can be maintained at an adequate level until such time as they are taken over. It is clearly better for Papua New Guineans to acquire profitable plantations that have witnessed some re-investment rather than plantations which have been run down.

The study has shown the need for firm policy with regard to the ownership of plantation land, a policy which has not been particularly evident up to the present. If the plantation sector is to be allowed to decline, then it must decline as the result of a conscious decision not as the result of neglect. The following courses of action are recommended:

a. A clearly defined acquisition policy must be developed *and* be effectively communicated to the plantation sector.

b. The terms under which plantations will be compensated on acquisition must be clarified. Particularly, attention should be paid to ensuring that any new investment by plantations is compensated and that plantations are aware of the way in which this compensation is to be calculated.

c. Ideally, the transfer of plantations to traditional land owners should be carried out on a free market basis. The Government should only be called in to value a plantation when no agreement can be reached.

d. Consideration should be given to loans for hybrid planting. The I.B.R.D. would be a possible source of finance for such an operation.

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