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THE DEVELOPMENT OF CASH-CROPPING IN PAPUA AND NEW GUINEA*

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Commerce in agricultural products began in Papua and New Guinea shortly before the annexation of both Territories in 1884 when Papua was claimed as a British Possession and New Guinea was secured by the Germans. In these earliest years from the 1870's on, what little trade there was consisted of the barter of native or "trade" copra for European tools and weapons, *etc.* It was only after the annexations that any more systematic development took place in the two Territories. The subsequent progress of cash-cropping[1] is a history of two systems operating and developing side by side: the plantation type of agriculture centrally controlled by European settlers, and the small-holder system, the evolutionary form of organisation for the indigenous farmer.[2] The central objective of this paper is to present some of the main features of this development.

Progress in the two Territories will be considered separately up till 1945 since until the end of the Second World War their Administrations and economic systems were in fact distinct and because such treatment provides a rather convenient opportunity to present regional comparisons of the development rates of the two "halves". The combined exports will then be briefly reviewed. We will not focus any attention on the subsistence sector in agriculture but it must nevertheless be kept in mind that it is only recently that the quantity of crops marketed for money has become at all significant in relation to the amount grown for subsistence purposes.

For both Territories the development of cash-cropping has mainly been the development of export crops. Each of the myriad of small socio-political units has traditionally been self-sufficient in food and consequently there was no widespread development of internal trade in foodstuffs. So, subject to qualifications for recent years, which will be considered later, we are able to identify the development of cash-cropping with that of agricultural exports.

Development in Papua

In terms of exports, the Papuan economy grew slowly between 1884 and 1939 (Table 1). There was a sharp fall in the depression years and

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1 The term cash-cropping is used here to refer to both plantation and small-holder production of agricultural crops for sale in the money economy.

2 For a useful introduction to the problems of small-holders in the production of tropical export crops, see Wickizer, V. D. "The small-holder in tropical export-crop production", *Food Research Institute Studies* (Stanford University, Vol. I, No. 1, February 1960), pp. 49-99; and for those of the plantation system, *ibid,* "The plantation system in the development of tropical economies", *Journal of Farm Economics,* February 1958.

the economy had not recovered to the heights of the twenties by the time the Second World War commenced. It has only been since the recovery after the War that any impetus has been discernible.

From 1895/96 to 1915/16 the small export trade was dominated by gold and there were only minor sales of agricultural products, copra and rubber. Following World War I, agricultural exports began to expand at an accelerated pace and to assert the dominance which they have subsequently maintained. The depression years witnessed some decline in their importance due to the fall in prices of copra and rubber. For copra, a reduction in the volume of exports accompanied the price fall, while interestingly, there was an increase in output of rubber. It was this latter rise, together with an increased output of gold, which prevented a more disastrous collapse in export income and in the economy during the depression.

After 1945, gold exports, which had regained some of their former importance during the thirties, virtually disappeared. This loss was counter-balanced by the growth of the re-export trade, in recent years the only companion to agricultural exports. Papua has exported only two agricultural commodities on any scale, coconut products and rubber. Copra held prime place from the beginning until the Second World War. Since then, they have shared export leadership evenly.

The volume of rubber production has risen steadily from around 1,000 tons at the end of the Second World War to 4,650 tons in 1961/62. Replacements for existing stands using high-yielding imported strains have accounted for most of the increase for there has been little real expansion in the industry postwar. Copra production has also shown output increases in this period but total production in 1961/62 was not much above the highest prewar production levels; plantings have been extended little beyond replacement requirements. Other crops have not contributed to exports in any significant way. There has been production of coffee since 1929/30 but there has been negligible expansion postwar. Cocoa exports appeared first in 1951/52 but like coffee, the commodity has not shown important advances in Papua. There have been experiments with crops such as rice, kapok, sisal hemp, tobacco and sugar but these have made little or no contribution on a commercial scale up to date. Sisal hemp for instance was first tried in 1911 but the industry slumped after World War I and despite the bounties given to encourage it, it faded out by 1928.

The Plantation Contribution before 1939

The annexation of Papua was not followed by any wholesale land rush. Before 1907 in Papua there was very little agricultural settlement by Europeans, and the total area under cultivation on plantations in that year was only 1,467 acres. During Sir William MacGregor's term as Administrator (1888-1898) the emphasis was on exploration and the introduction of *Pax Britannica* through the extension of Administrative control.[3] MacGregor was not averse to the idea of settlement, indeed he

[3] Murray, Sir Hubert. *Papua of Today* (P. S. King and Sons Ltd., London, 1925), p. 15. Also by the same author, *Papua or British New Guinea.* (T. Fisher Unwin, London, 1912), pp. 81-2.

TABLE 1

Value and Importance of Principal Commodities in the Export Trade of Papua

Year	Copra & Coconut Products £'000	%	Rubber £'000	%	Gold %	Re-exports %	Total £'000
1903/04	4	5	—	1	74	—	76
1904/05	6	7	—	—	74	—	76
05/06	9	12	1	1	73	—	80
06/07	7	12	1	2	62	—	64
07/08	8	9	—	1	66	—	81
08/09	13	7	—	—	69	—	80
1909/10	29	28	1	9	56	—	106
10/11	18	15	2	2	59	—	117
11/12	19	19	1	1	49	—	100
12/13	17	13	1	1	49	—	128
13/14	26	21	2	1	38	—	123
14/15	13	13	2	2	54	—	94
15/16	19	15	15	12	34	—	125
16/17	41	26	27	17	24	—	157
17/18	68	31	37	17	15	—	221
18/19	53	30	33	19	15	—	176
1919/20	124	46	42	15	8	—	270
20/21	66	38	29	17	6	—	173
21/22	87	40	6	3	31	—	220
22/23	112	64	6	3	13	—	179
23/24	137	57	33	14	3	—	239
24/25	173	47	69	19	4	—	368
25/26	204	30	195	28	4	—	686
26/27	188	42	156	34	7	—	454
27/28	201	57	102	29	2	—	350
28/29	230	68	49	14	2	—	337
1929/30	216	67	51	16	3	—	325
30/31	173	63	47	17	8	—	274
31/32	160	60	49	18	13	—	269
32/33	139	50	57	21	17	—	276
33/34	91	40	61	25	19	—	249
34/35	95	32	79	27	24	—	295
35/36	143	40	89	25	23	—	355
36/37	239	46	124	24	18	—	524
37/38	144	33	129	30	25	4	436
38/39	106	22	115	23	31	10	490
1939/40	104	20	152	30	27	9	511
40/41	119	24	172	35	27	6	493
41/42	56	n.a.	67	n.a.	n.a.	n.a.	n.a.
42/43	19	n.a.	90	n.a.	n.a.	n.a.	n.a.
43/44	114	n.a.	273	n.a.	n.a.	n.a.	n.a.
44/45	284	n.a.	375	n.a.	n.a.	n.a.	n.a.
45/46	119	n.a.	188	n.a.	n.a.	n.a.	n.a.
46/47	137	39	156	45	n.a.	n.a.	347
47/48	317	38	152	18	—	18	824
48/49	469	50	146	16	—	32	934
1949/50	633	52	361	30	—	16	1,203
50/51	750	39	802	42	—	16	1,923
51/52	1,083	39	1,244	45	—	15	2,789
52/53	1,176	51	736	32	—	15	2,323
53/54	911	47	613	32	—	16	1,921
54/55	1,208	46	954	36	—	12	2,653
55/56	1,390	41	1,387	41	—	12	3,365
56/57	942	34	1,149	42	—	18	2,766
57/58	847	31	1,115	41	—	25	2,776
58/59	1,303	36	1,152	32	—	29	3,605
1959/60	1,363	35	1,500	39	—	23	3,858
60/61	1,033	27	1,292	33	—	37	3,889
61/62	946	30	1,204	39	—	23	3,120

Sources: Commonwealth of Australia, *Annual Reports of the Territory of Papua, 1907 to 1940/41, 1946/47* to *1960/61*. Government Printer.
Smith, Hon. Staniforth, *Handbook of the Territory of Papua*. Government Printer, Melbourne. 1st ed. 1908, 2nd ed. 1909, 3rd ed. 1912 and 4th ed. 1927.

stated that he could not envisage the development of agriculture in Papua without the intervention of Europeans, but apparently prospects held little allure at that time. Subsequent Administrators, Sir George le Hunte Robinson and Captain Barton had no greater success and it was not until Hubert Murray took over in 1907 that settlement really began to forge ahead.

During the whole of his term (1907-1940) Murray followed a policy of encouraging the development of both European and native agriculture. For the sixteen years from 1907-1923, European settlement expanded at a rate which was never subsequently approached. By 1923 there was a total area of 61,000 acres under estate cultivation, of which over 46,000 were under coconuts, more than 7,000 under rubber and almost 6,000 were under sisal. After 1923 Murray's efforts to promote European settlement were almost fruitless and the demand for land virtually died away.

Several arguments have been proposed to explain this loss of interest. Many Territorials, Murray included,[4] blamed the stagnation on the effects of the Navigation Act, which forced the trans-shipment of all exports through an Australian port before they could be transported overseas. This did add to costs and helped to place Territory products at a disadvantage with other exporting countries,[5] but its influence was probably only marginal. Its repeal in 1925 certainly did not touch off any sudden flood of settlers. Some attempted to lay the responsibility for the situation at the feet of the Administration. Their accusation was that its land policy restricted the expansion of European agricultural settlement; but though it was true that Murray conscientiously protected native interests, it was more often accurate that there was a lack of suitable applicants than an absence of available land. Critics also arraigned the Administration for its native labour policy claiming that its effect was to limit the supply available for plantation work. However, it seems more likely[6] that the shortage resulted from an unwillingness on the part of the natives to engage in plantation employment.

There were undoubtedly deeper issues involved than these. For one thing, sharp reverses in rubber and copra prices during the twenties may have dissuaded settlers from attempting new ventures. Beyond the twenties, the stagnation can more assuredly be attributed to the depressed conditions affecting agricultural industries. On the production side, the Minority Report of the Royal Commission on the Navigation Act[7] suggests that even under the most favourable market conditions, Papuan producers were at a disadvantage with other exporters as a result of higher production costs. Thus there may have been a recognition of the limited profitability of these enterprises.

[4] *Ibid, Papua of Today*. pp. 142-5.

[5] *Royal Commission on the Navigation Act. Report to the Parliament of the Commonwealth of Australia*. Session 1923/24. Majority Report, Vol. II, 1923. pp. 1019-1120.

[6] Legge, J. D. *Australian Colonial Policy* (Angus and Robertson, Sydney, 1956), pp. 153-4.

[7] *Royal Commission on the Navigation Act. Report to the Parliament of the Commonwealth of Australia*. Session 1923/24, Vol. II, 1923. pp. 1019-1120.

Even by 1894 there were regulations designed to force the indigenous population into the money sector. Under Native Regulation No. II, the Administration was permitted to apply pressure to natives to plant coconuts, and this was enforced in practice by the magistrates. Under the Murray Administration the encouragement of native agricultural development was deemed necessary, as a force "tending to conserve and stabilize the native race."[8] Murray utilized the paternalistic and coercive methods of his predecessors to accomplish this.[9] The early regulations were replaced by the Native Plantations Ordinance of 1918 and later by the Ordinance of 1925-34[10] under which all "statutory workers"[11] were required to fulfil 60 days labour per annum on an area designated by the Government as a native plantation, by working on any of a variety of suitable crops. The proceeds were then divided between the workers and the Government, but it was stipulated that the Government's share could only be spent on projects concerned with native welfare.

The implementation of these policies produced no impressive results. Some coffee was produced at Sangara, *e.g.* £422 was distributed to growers in 1932 and £2,012 in 1940. The Mekeo scheme produced quantities of rice which realized £1,200 in 1943 and £1,169 in 1945, while in 1931-32, 86 tons of copra were marketed from the Eastern and South-Eastern Divisions. Despite the dearth of accurate information on native production it is clear that such sales were exceptional and were probably obtained at high cost to the Administration. Compulsion did in fact prove continually necessary even where some success was achieved in promoting planting and harvesting.[12] For the most part the attempts at coercion were unsuccessful or produced at best a limited response. In general, I suspect that the compulsion associated with the policy may have whittled away the initiative and enthusiasm of natives towards cash-cropping and may well have had the effect of driving them to a greater assertion of their traditional way of life.

[8] Murray, *op. cit. Papua of Today*. p. 274.

[9] It is worthwhile quoting Murray for a clearer idea of the attitudes which underlay his policy: "We cannot let them alone . . . Advice and exhortation have not very much effect on a Papuan. He will approve and vigorously applaud any new agricultural or industrial scheme that a Government officer may place before him, but he has not the slightest intention of carrying it out; and when the officer comes round again in six months' time he finds that nothing whatever *has been done . . . So we enforce our methods of economic and agricultural reform* by threats of imprisonment in case of disobedience; threats which I am glad to say *it is not always necessary to put into execution.* (My underlining.) See Murray, *op. cit. Papua of Today*. p. 274.

[10] Native Plantations Ordinance, 1925-34. *Laws of the Territory of Papua, 1884-1945*. Vol. IV.—Ordinance pp. 3475-3479; Regulations pp. 3480-1; Orders made pursuant, pp. 3484-3522. (Halstead Press, Sydney, 1949).

[11] Under the Ordinance the term "statutory workers" encompasses "every able bodied male villager between the ages of 16 and 36 years" but excludes Government and Mission workers, those under contract of service or who have been under contract within the preceding 3 months." (*Ibid*, p. 3476).

[12] There are many cases of native intractability in the face of the Ordinance and Regulations to be found in the *Annual Reports* (*e.g.* Commonwealth of Australia, *Annual Report of the Territory of Papua,* 1925/26. Government Printer, Canberra. p. 52). This Report discusses the reluctance to work the plantations. The only effective inducement was the threat of going to gaol. See also Mair, L. P. *Australia in New Guinea* (Christophers, London, 1948), pp. 83-91 for a more detailed account of the efficacy of these techniques of encouragement.

One estimate places the native-produced proportion of copra exports from the combined Territories at only 3-4 per cent of the total for the year 1934/35.[13] This source asserts in addition that the price elasticity of supply for native producers as a group was greater than for plantation producers, *e.g.* the drop in price which occurred in 1920 and 1921 in Papua apparently resulted in a reduction of sales by the natives to almost nil. Presumably the same phenomenon would have been true for the year 1934/35 when copra similarly experienced low prices, so the estimate of 3-4 per cent may be somewhat low by more average price levels. It is at any rate safe to assume that in the interwar period, the size of the native contribution was small. Indeed, the Director of Agriculture was moved to remark after a tour that "on the whole village agriculture is in a very backward state." Efforts on the part of the Administration had resulted in "an unfortunate disinclination to engage in cultivation."[14]

Development in New Guinea

The period from 1887 until 1910 was one of slow growth for New Guinea as it was for Papua (Table 2) but from 1910 onwards this similarity ends. New Guinea forged ahead of Papua and progress was maintained up to the beginning of the 1939/45 War with minor income reductions in only two of the depression years, 1929/30 and 1930/31. The effects of the 1939/45 War and Occupation were considerably more marked than in Papua and the recovery took some years. Nevertheless by 1949/50 the economy had regained and passed its highest level of prewar activity and a period of relatively fast growth followed until 1959/60.

A dissection of total exports by commodities suggests three fairly distinct periods (Table 2). From 1915/16 (or possibly before) to 1922/23 the export trade was almost entirely composed of agricultural commodities. In the period from 1923/24 to 1939/40, gold was exported in significant amounts, a most convenient event since quantities were sufficient to sustain exports in a period when agricultural prices fell to extremely low levels. For a number of years during the thirties gold did in fact become the principal commodity exported.

The third period encompasses the post-war years and in general terms it has been characterized by a decline in gold exports (to only 6 per cent in 1961/62), the appearance of some diversification generally, *e.g.* timber and re-exports within the agricultural sector. As a whole, agricultural products regained much of the importance they enjoyed before the depression and for the last three years they have provided over three-quarters of total export income.

The early development of agricultural exports in New Guinea reads as a rather monotonous story of the dominance of copra and coconut products, at least until after the Second World War. In the 1870's there was some commerce in "trade" copra which was exchanged by the natives for tools, weapons, *etc.* This continued, together with the development of some plantations after the Germans took over in 1884, but it was not until 1919/20 that copra production began to rise steeply. From then on output increased despite the price fluctuations of the early twenties and the low price levels of the depression. In volume and

[13] Klein, W. C. "Economic advancement of New Guinea", *Asiatic Review,* Vol. 33, 1937, pp. 571-2.

[14] *op. cit. Annual Reports of Papua, 1923/4,* pp. 39-40.

value copra exports reached their prewar maxima in 1936/37 when prices temporarily returned to a higher level.

During the 1939/45 War the coconut plantations of New Guinea were damaged and neglected and production did not recover to prewar levels for several years. By 1950/51, with copra prices high, output once again began to expand and later on overtook the prewar record

TABLE 2

Value and Importance of Principal Commodities in the Export Trade of New Guinea

Year	Copra & Coconut Products £'000	%	Cocoa %	Coffee %	Timber %	Re-Exports %	Gold %	Total £'000
1915/16	161	89	5	—	—	—	—	180
16/17	207	69	3	—	—	—	—	299
17/18	370	91	3	—	—	—	—	405
18/19	244	90	3	—	—	—	—	270
19/20	145	88	2	—	—	—	—	849
20/21	644	95	1	—	—	—	—	674
21/22	474	95	2	—	—	—	—	499
22/23	620	98	1	—	—	—	—	631
23/24	687	96	1	—	—	—	2	719
24/25	816	95	1	—	—	—	2	859
25/26	1,017	92	1	—	—	—	2	1,105
26/27	850	79	—	—	—	—	18	1,080
27/28	1,176	80	—	—	—	—	17	1,471
28/29	935	82	—	—	—	—	16	1,146
1929/30	873	88	—	—	—	—	10	997
30/31	754	82	—	—	—	—	14	919
31/32	682	62	—	—	—	—	36	1,109
32/33	619	39	—	—	—	—	59	1,581
33/34	368	21	—	—	—	—	77	1,766
34/35	412	18	—	—	—	—	81	2,341
35/36	832	32	—	—	—	—	66	2,573
36/37	1,233	39	—	—	—	—	60	3,389
37/38	923	31	—	—	—	—	68	2,980
38/39	798	27	—	—	—	—	72	2,961
1939/40	597	16	—	—	—	—	82	3,674
40/41 } 46/47 }	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
47/48	626	32	1	—	—	—	44	1,927
48/49	1,555	49	1	—	—	18	31	3,202
49/50	2,390	57	1	—	—	13	29	4,235
1950/51	3,437	63	2	—	2	7	25	5,437
51/52	3,723	57	2	—	—	11	26	6,518
52/53	4,948	58	2	—	1	11	25	8,491
53/54	6,536	55	3	—	—	6	15	9,384
54/55	5,772	62	5	1	10	5	14	9,192
55/56	6,260	63	4	1	11	7	11	9,886
56/57	6,162	60	4	2	11	7	12	10,312
57/58	5,333	55	8	2	13	8	9	9,628
58/59	7,212	57	12	4	11	6	6	12,692
1959/60	8,936	60	11	5	11	6	4	14,962
60/61	6,737	53	13	9	9	7	7	12,717
61/62	5,894	46	15	12	9	7	6	12,781

Sources: Commonwealth of Australia, *Annual Reports to the Council of the League of Nations on the Administration of New Guinea, 1921 to 1940.* Government Printer, Canberra.
Commonwealth of Australia, *Annual Reports from the Trust Territory of New Guinea to the General Assembly of the United Nations, 1945/46 to 1960/61.* Government Printer, Canberra.

figure. There were only minor exports of other products up till 1939, *e.g.* cocoa, coffee, peanuts and tobacco. Between 1915/16 and 1925/26 there were exports from cocoa plantations established by the Germans, but these dwindled and finally petered out in the mid-twenties.

From 1945 onwards the coffee and cocoa industries began to show quite rapid progress. In volume terms there was an increase from just over 100 to around 10,000 tons. The coffee industry was slower to expand and it was not until 1954/55 that its contribution to export income became appreciable. Production rose from about 100 tons in that year to over 3,000 tons in 1961/62. Despite fluctuating fortunes in the market, peanuts have recently commenced to make a contribution.

The Plantation Contribution before 1939

Foreign agricultural settlement began with annexation by the Germans in 1884 and considerably more land was subsequently alienated in New Guinea than in Papua under the Australians. Even so, by 1909 there were only 45,064 acres under estate cultivation, of which almost 40,000 were planted to coconuts. During the 1914/18 War a further expansion of acreage cultivated took place, as the German settlers anticipated that compensation would be all the greater for this development when their properties were finally expropriated.[15] After the War the properties were managed by the Australians and were ultimately sold, mostly to Ex-Servicemen, in 1924.

Most of the expansion which took place was in coconut planting. Other crops were tried during the period of German control but they did not achieve much importance, either then or after the Australian takeover. The Germans tried cotton and tobacco, sisal hemp (which virtually disappeared about 1913), rubber (which achieved its maximum export value in 1913), coffee and cocoa. Of these cocoa was the most significant contributor but exports from the original German plantations fell to insignificance by the mid-twenties.

No large scale movement of Australian capital into New Guinea followed the transfer of control. Buyers purchased the Ex-German properties on 20-year repayment terms, so there was little introduced on this account. Furthermore the area under plantations did not increase substantially from 1924 until the commencement of the Second World War mainly as a consequence of the adverse effects of the depression. It is true to say then that up till 1939 Australia was in possession of a plantation industry which involved the minimal amount of her own capital.

Since 1945 there has been further but limited plantation expansion, principally in cocoa and to a lesser extent in coffee. For instance between 1950/51 and 1960/61 the area planted to cocoa rose from 7,320 to 78,441 acres and that under coffee from 370 to 7,415 acres. The area under coconuts, adversely affected by the War, was scarcely different in 1961 from the pre-War level.

The Native Contribution before 1939

When the German New Guinea Company was the administering body from 1884 to 1902, native interests with respect to land were less

[15] *Royal Commission on late German New Guinea, Final Report to the Parliament of the Commonwealth of Australia.* Session 1920/21. Vol. III, 1920, pp. 1539-1622.

carefully safeguarded than they were in Papua.[16] Subsequently, while the Territory was administered by the German Government, native land rights received more protection under new legislation though all areas given by the Company as freehold were confirmed by the Government.

Under the Germans, natives were compelled to grow food crops and coconuts for sale and a large proportion of the copra sold in the early years came from production on native groves, in excess of subsistence needs. Native produced copra remained an important proportion of copra exports up to the First World War since there were few plantations at that time. It was still true during the War since the German plantations were only just beginning to bear fruit.[17] The native contribution is estimated to have been 1,350 tons in 1884, rising to 2,280 tons in 1896,[18] and to 5,000 tons in 1913.[19] Most of the native copra was grown and sold by the Tolai from the Gazelle Peninsula of New Britain, the most advanced group in economic terms in New Guinea.

When the Australian Naval and Military Expeditionary Force administered the Territory (1914-20) after taking over from the Germans there was no definite policy formulated or followed with respect to native development.[20] There was in some instances a continuation of the German tradition of requiring villagers to grow coconut groves and there was some interest in Murray's plan for enforcing planting but this apparently waned before there was much application.

Estimates of the later native contributions to exports, during the years leading up to 1939, are very fragmentary and inconclusive. The 1929/30 *Annual Report*[21] states that for the most important area of New Britain, native sales of copra "probably exceeded" 1,200 tons. In the description of other districts it did not suggest any other sales of importance. In 1937/38 there was an estimate of 22,220 acres of native coconut groves in bearing for the whole of New Guinea (as against 253,235 acres bearing for plantations). If we take the average native yield for that year in the Rabaul District and apply it to the acreage for the whole Territory, a total production estimate of only 2,666 tons is obtained. The 1937/38 *Report* placed the quantity produced in the Rabaul area at only 887 tons and this district had over one-third of the total area in bearing. The 1938-39 figure[22] for the area of native groves in bearing was only a little greater than the previous year. This suggests little expansion in production was taking place.

Epstein[23] estimates Tolai copra production to have remained at about 15 per cent of total copra exports between 1913 and 1950 and to have represented about 80 per cent of all native copra produced on the Bis-

[16] Mair, *op. cit.* Chaps. 4 and 5. A more detailed discussion of this point is given here.

[17] Rowley, C. D. *The Australians in German New Guinea* (Melbourne University Press, Melbourne, 1958).

[18] Blum, H. *Neu Guinea and der Bismarck Archipel* (Schonfeldt and Co., Verlag, Berlin, 1900), p. 157.

[19] Hahl, A. *Deutsch-Neuguinea.* (D. Reimer, Berlin, 1942).

[20] Rowley, *op. cit.* p. 243.

[21] Commonwealth of Australia. *Annual Reports on New Guinea. op. cit.* 1929/30. p. 60.

[22] Commonwealth of Australia. *Annual Reports on New Guinea,* 1929/39, *op. cit.* p. 91.

[23] Epstein, T. S. *European contact and Tolai economic differentation: a model of economic growth,* Australian National University (Mimeo), 1961. Revised estimates received by private communication, January 1963.

marck Archipelago. This estimate does appear somewhat of an overstatement in view of the above evidence.[24] Evidence seems to support the view that, with the exception of the early period up till the end of the 1914/18 War, there was only a small proportion of native-produced copra in the total for the Territory, and in particular during the years of low prices.

Exports from the Territories Combined

From the foregoing sections several features become apparent in a consideration of the exports from the combined Territories. The first is the markedly greater size of the New Guinea contribution for all but the earliest years. Pre-1939 they rose to as high a proportion of the total as 89 per cent and since 1952/53 they have been consistently three to four times greater than Papuan exports. Agricultural exports are crucial in both Territories, so the same is true for the combination. Within the agricultural category the dominant position of copra and coconut products is another outstanding feature and it is only the diversification in New Guinea since 1945 which has changed this picture. Crops other than coconuts yield now more than one-third of the total export income of the Territories and should continue to increase this proportion.

Plantation and Smallholder Contributions after World War II

The War produced a new surge of economic activity in its aftermath. The hostilities had forged more widespread contact with the natives and it created an important demonstration effect of material goods. It rudely wrenched large numbers away from their traditional way of life and, most important, it inculcated new wants which stimulated spontaneous economic activity amongst them. In less constructive channels, these material yearnings became manifest in "cargo cults" but they also came to provide some of the impetus for the important postwar development of cash-cropping.

For the first time the Commonwealth Government became active in developing a clear policy towards Territorial responsibilities and in providing means for its execution. A more constructive policy of native development together with increased financial assistance has resulted in the encouragement and extension of economic activity amongst the natives through the expanded facilities of the Administration.

Since 1945 the seat of policy-making has switched more to Canberra as a consequence of the new importance placed on Territorial development at national and international levels. The dual policy of encouraging both European and native development has been retained but with a markedly greater emphasis on measures for improving the lot of the native. This new emphasis has brought in its train certain repercussions which have not been encouraging for the plantation owner or for the prospective settler. The expanded opportunities of employment for the native with the Administration and commercial enterprises have provided more competition in the labour market, and with rising wage levels, have

[24] Furthermore native reactions to price slumps appear to have been stronger than those of the plantation, hence for the years of low prices during the early twenties and the Depression, their contribution was probably small. This would have been the case for the years 1930, 1935 and 1940 which Epstein uses in her figures. In any event for the natives to maintain the same proportion of a rising level of copra production it would have been necessary for them to engage in planting expansion which does not appear to have occurred.

increased the cost of this labour. Furthermore, the encouragement of native enterprise, especially in cash-cropping, has reduced the native labour supply.

A postwar factor which has inhibited the expansion of plantations has been investment insecurity, stemming partly from the likelihood of independence and more recently from fears as to the territorial ambitions of Indonesia. Another factor has been the unfavourable market prospects for a number of New Guinea's export crops. The problems are so critical for coffee, for instance, that the Administration has refused applications for extensions to plantations. Overall then it is not surprising to find that there is much business pessimism among the planters.

Despite the resurgence of agriculture in the composition of exports in the postwar period there has been no matching increase in its importance in the economy as a whole. In fact, there has been a fall in the proportion of income accruing to Europeans engaged in primary enterprises between 1950/51 and 1959/60 (Table 3). The principal cause was the faster growth of commercial enterprise in the period.

In 1950/51 natives received only a third of the income generated in the Territories, although their earnings in the primary sector were not far below one-half of the total. Most of this agricultural income was earned as wages and keep on plantations. A comparison of the sizes of the European and native surpluses serves to underscore the dominance of plantations in agriculture at that time. Agriculture was the most important source of income for natives; the only other source of note was employment with the Administration.

During the following nine years, the growth of income was a little faster for Europeans than for natives. Despite an increase in absolute income received by natives within all categories, their share fell in each except for primary enterprises, where they maintained their position. It is important to note that within the primary sector, there was a sizeable swing towards self-employment (cash-cropping). By 1959/60 native-produced surplus had achieved equality with wages and keep from agriculture as a source of money income.

Copra provided 60 per cent of native income from cash-cropping in 1959/60, another 10 per cent came from cocoa and 3 per cent from coffee (Table 4). An assortment of minor crops (peanuts and passion-fruit) and truck crops contributed the rest. Mr. White estimated[25] that export crops contributed roughly 15 per cent of this while the bulk of it came from the sale of truck crops. Thus in this year, the value of internally-consumed food crops produced by natives, which passed through the market, was approximately £800,000. European farmers also produced a minor quantity for the internal market.

In 1959/60, native farmers earned about 15 per cent of total export income, almost double their contribution of nine years previously. By 1961/62 their share of coffee income had risen to almost one-half and to about one-fifth of the cocoa and copra proceeds. They produced all the passion-fruit income and shared in the peanut sales.

[25] Private communication, January 1963.

TABLE 3

Territory of Papua and New Guinea: Private Income and Outlay

	1950/51		1954/55		1959/60	
	£m.	%	£m.	%	£m.	%
A. NATIVE INCOME						
1. Primary Enterprises—Wages and Keep	1·8	13	3·0	12	3·5	9
2. Primary Enterprises—Native Produce Surplus	0·7	5	1·5	6	3·5	9
3. Public Authorities—Wages and Keep	1·2	9	1·0	4	2·4	6
4. Commercial Enterprises—Wages and Keep	0·4	3	0·8	3	0·8	2
5. Missions—Wages and Keep					0·3	1
6. Domestic Service—Wages and Keep	0·3	2	0·7	3	0·5	1
TOTAL NATIVE INCOME	4·4	33	7·0	29	11·0	29
B. EUROPEAN LABOUR INCOME						
7. Primary Enterprises	1·1	8	1·7	7	2·8	7
8. Public Authorities	2·3	17	3·1	13	7·0	18
9. Missions	0·3	2	0·6	2	0·9	2
10. Commercial Enterprises	1·6	12	3·4	14	6·3	16
TOTAL EUROPEAN LABOUR INCOME	5·2	39	8·8	37	17·0	44
C. PRIVATE EUROPEAN SURPLUS						
11. Primary Enterprises	2·2	16	5·3	22	4·4	11
12. Commercial Enterprises	1·6	12	3·0	12	6·2	16
TOTAL PRIVATE EUROPEAN SURPLUS	3·8	28	8·3	34	10·6	27
TOTAL INCOME	13·4	100	24·1	100	38·6	100

Sources: Unpublished research on the Social Accounts of Papua and New Guinea—for 1950/51 by Prof. T. W. Swan of the Australian National University, Canberra; for 1954/55 by Mr. Simpson of the Dept. of Territories, Canberra, and for 1959/60 by Mr. R. C. White of the Reserve Bank of Australia.

Concluding Remarks

The foregoing analysis has served to indicate how short a history commercial agriculture has had in Papua and New Guinea. Expansion of any magnitude has been a feature of only the last 18 years. Development before this postwar period reflected for the most part the activities of a small number of European planters. The inflow of foreign capital for this agricultural development was small and quite a large proportion of it had its origins outside Australia.

Despite the forbidding nature of much of the terrain, there are still sizeable areas available with agricultural potential. There is a store of unutilized labour[26] which could gradually become available for its exploitation. Unhappily at a time when this expansion is beginning to take place, the market prospects for the products concerned are far from bright. For coffee there is a considerable world surplus, for cocoa there is the same threat of one and the coconut industry is experiencing generally depressed price levels.

[26] Fisk, E. K., "Planning in a primitive economy: Special problems of Papua-New Guinea", *Economic Record,* Vol. 38, No. 84, December 1962.

TABLE 4

Sources of Native Income for 1959/60 in Papua and New Guinea

Surplus—Primary Enterprises	£m.	%
Copra	2·141	19
Cocoa	0·370	3
Coffee	0·120	1
Rubber	0·003	—
Other	0·942	9
Sub-total	3·576	32
Export Duties	—0·078	
Copra Fund	—0·007	
Sub-total	3·491	
Mining	0·061	
TOTAL	3·552	32
WAGES—		
Public Service	2·404	22
Plantation Products	2·925	27
Other sources	2·143	19
TOTAL	7·472	68
GRAND TOTAL	11·024	100

Sources: White, R. C., *op. cit.*

Lateness of development as an exporter under these circumstances can be a disadvantage. For instance, in coffee the glut in supply has led to market sharing arrangements. These have allowed for a limited short-run expansion in Papua and New Guinea's marketings but do not provide for any in the longer term. Quotas are inevitably based upon an historical pattern of market shares, and any country newly entering the market is badly placed to lobby for a share which will allow for future expansion.

Agricultural development in the Territories faces problems on both sides of the counter. On the supply side, future development will be generated in the main among native small-holders, since expansion in plantations has virtually come to a halt. One task is, therefore, to extend commercial agriculture to incorporate many who have not previously been involved, *e.g.* in 1959/60 only about half of the male labour force was engaged in money-making activities.[27] The other problem is to encourage those currently engaged to expand their scale of operation for most of them are only marginally involved as yet. On the marketing side, the difficulties lie in deciding in what direction this expansion should point. The main emphasis must continue to be in export crops; another avenue will be increased regional specialization and marketing of food crops for the internal market. But the predominance of the subsistence unit, variations in dietary composition within the Territories and the limited degree of native urbanization, will make the rapid achievement of such specialization a difficult task.

[27] Hasluck, Paul. "The economic development of Papua and New Guinea", *Australian Outlook,* Vol. 16, No. 1, April 1962.